

This issues taken up in the many papers of this proceedings, show how the global challenges facing the Mediterranean not only can be addressed through different approaches but also must be so if we are searching for a comprehensive understanding of economic and social development of these societies.

Martin BAK JØRGENSEN, PhD, Aalborg University, Denmark

MEDITERRANEAN: PAST, PRESENT, FUTURE

Katica JURČEVIĆ
Ljiljana KALITERNA LIPOVČAN
Rino MEDIC
Ozana RAMLJAK (Eds.)

MEDITERRANEAN: PAST, PRESENT, FUTURE


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held at the Island of Vis, Croatia, September 18–21, 2024

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Katica Jurčević, Ljiljana Kaliterna Lipovčan, Rino Medić, Ozana Ramljak (Eds.)

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Preface

The Mediterranean, as a geographically, culturally, politically, and historically significant region encompassing the coastlines of three continents — Europe, Asia, and Africa — has for centuries functioned as a pivotal crossroads of civilizations, commerce, intellectual exchange, and artistic expression. Its complex and multilayered historical legacy is manifested not only in enduring cultural traditions but also in the region's remarkable capacity for adaptation and transformation across time. In the contemporary context, the Mediterranean constitutes both a repository of cultural heritage and a dynamic arena in which diverse social, political, and environmental challenges give rise to innovative ideas, political frameworks, technological advancements, and sustainable development models. It is precisely the interplay between historical continuity and modern innovation that renders the Mediterranean a unique and instructive case of identity preservation amidst global change. The future trajectory of the Mediterranean will critically depend on a comprehensive understanding of its historical depth, present complexities, and future potential, as well as on the development of sustainable frameworks for regional cooperation, environmental stewardship, and inclusive growth aimed at mitigating existing tensions and fostering long-term stability in this historically dynamic area.

This book, as fifth in edition *Mediterranean Issues*, brings together 83 papers written by respectable international authors, presented at the 5th International Multidisciplinary Scientific Mediterranean Island Conference — MIC Vis 2024, organized by VERN' University and the Institute of Social Sciences Ivo Pilar, under the high patronage of the President of the Republic of Croatia and the town of Vis. The conference was held on the Island of Vis on September 18th — 21st 2024. The aim was to provide an international, intercultural, and global perspective on a variety of topics related to the Mediterranean. It explores the region's role and position in the modern world, while also examining its development prospects. The goal is to inspire new approaches to the key challenges facing the Mediterranean, its past, present, and future, including its islands and surrounding areas.

The Book is organized into two parts: Mediterranean issues and Other issues. Mediterranean issues contain 7 chapters: 1. Arts and Literature; History; 2. Demography; Migration; 3. Energetics; Renewable Energy Sources; Agriculture and Fisheries; 4. Media and Communication; Business and Economics; Education; Public Services; Sport; 5. Sociology and Psychology; 6. Sustainable Development; 7. Tourism.

Editors

MEDITERRANEAN ISSUES

A Vivid Red Lighthouse

ARTS AND LITERATURE; HISTORY



Beverly Vis

Zlatko ĐUKIĆ,
The Faculty of Humanities and Social Sciences,
Josip Juraj Strossmayer University of Osijek, Croatia

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THE MIGRATION MOVEMENTS OF THE GREEK COLONIZATION IN THE MEDITERRANEAN AND THE INFLUENCE OF GREEK COLONISTS DURING THE DEVELOPMENT OF AGRICULTURE IN THE EXAMPLES OF THE ADRIATIC ISLANDS OF VIS, HVAR AND KORČULA

A b s t r a c t

Based on earlier research, the authors present the impact of migration and colonization movements from the eastern Mediterranean area towards the Adriatic islands of Vis, Hvar and Korčula. At the same time, they pay special attention to the relations of the settled Greek colonists with local Illyrian population and especially their influence on the development of agriculture on the mentioned colonized Adriatic islands. Using both ancient and recent historical sources, the work tackles the importance of multicultural influences on the life of the island population. The work observes the development of the legal system under the influence of Greek culture, in terms of imparting knowledge about agrarian relations. On the aforementioned Croatian islands, this knowledge about agrarian relations was preserved not only in antiquity but also through customary law among new Croatian settlers in later historical times. The authors compare the legal provisions of the Hvar and Korčula statutes, especially those regarding provisions on agriculture. The effect of these legal norms on the development and sustainability of agricultural land points us to the continuity of the communal arrangement created on the earlier substrate of ancient island life. Preserved customs based on the ancient legal tradition of arranging agricultural parcels remain to this day a unique example of the way of life of local communities on the Croatian islands of Vis, Hvar and Korčula, and are also included in the UNESCO list of cultural heritage.

Key words: *migrations, colonization, Mediterranean, Adriatic Sea, ancient customs law, statutes, Vis, Hvar, Korčula, ancient agriculture, social history*

INTRODUCTION

The Mediterranean is not merely a contemporary geographic area where diverse ethnic communities coexist; it is also a millennia-old historical space characterized by frequent migratory movements of numerous populations. Over centuries, the region became a meeting point for various cultural, social, and economic exchanges of people and goods. Through maritime and overland trade routes, material goods, as well as knowledge and innovative solutions were exchanged between indigenous populations and those arriving through migration. Observing the enduring transfer of various types of knowledge since Antiquity until today reveals how cultural practices were invariably shaped and influenced by diverse historical forces. As such, the Mediterranean basin is one of the world's socio-historically most fertile areas, where new agrarian techniques and comprehensive organizational frameworks of human society took shape. This paper aims to highlight the significance of recognizing the social effects of historical migratory movements on the transfer of knowledge. Our primary goal is to depict the millennia-long roots of the gradual, yet momentous, adoption of advanced agricultural techniques, particularly as mediated by migrants from ancient Greek urban centers to new areas of settlement along the eastern Adriatic coast and islands. This study also examines the crucial role of the Adriatic island ecological space, as agriculture and mariculture were indispensable not only for the survival of newly arrived Greek colonists, but also for the overall island population. The second part of the paper focuses on the settlement of Croats on these Adriatic islands, marking the beginning of a historical period in which Croatian ethnic populations adopted knowledge through the intermediary of the Romanized indigenous island population. Croats standardized their own customary law related to agrarian relations very early on, which is also outlined in the first legal regulations of the Croatian *urbars* and the medieval statutes of the Dalmatian island communes. Medieval historical-legal documents thus serve as a foundation for researching not only agrarian relations in Croatian history but also as a guide to cultural practices of the past. It is also important to emphasize that all historically recorded legal documents, from Antiquity to the present day, provide a clear indication of the island population's high awareness of the consistent preservation of earlier inherited cultural practices.

THEORETICAL FRAMEWORK

In this paper, our approach to the topic at hand is interdisciplinary because we aim to present a more dynamic socio-historical picture of past times. We analyze written sources to investigate those components of human activity in the past that show us the complex interdependence of the island population with the limited natural environment of the Dalmatian islands. Thus, the past is observed not as a mere one-dimensional set of events but as a long socio-historical process. Such processes arose with the help of the transfer of various forms of cultural knowledge in the past. In this re-

gard, we theoretically rely on the ideas of the French social historian Fernand Braudel. As early as 1969, in his work *History and the Social Sciences*, Braudel offered a critique of classical historiography that emerged at the end of the 19th and the beginning of the 20th century. He perceptively observed that the insistence on studying “event-based history” lacks certainty because such history is short-lived (Braudel, 1983, p. 101). Similarly, in the introduction to his book *Civilizations and History*, Braudel warns of the correct understanding of two similar yet substantively different concepts, namely civilization and culture. He emphasizes that in considering “long-term history,” one must take the geography of the space and the role of the population inhabiting that space into account. This understanding of space is extremely important to us when analyzing historical migratory movements that influenced the transfer of knowledge in the past. In this sense, Braudel emphasizes that these boundaries are not rigid barriers but are favorable in acculturation processes for the exchange of cultural material. Civilizations represent the historically longest-lasting process in which the historian observes the different historical tempos of cultural construction (Braudel, 1990, p. 63). The same author emphasizes that ancient Mediterranean civilizations simultaneously exhibit longevity and stability because they are structured by their abstract but also enduring schemes that characterize long-lasting periods that compel us to think and explain concepts and use historical interpretation (Braudel, 1990, pp. 63-64).

ANCIENT GREEK MIGRATIONS AND COLONIZATION FROM THE EASTERN MEDITERRANEAN AS A BASIS FOR THE TRANSFER OF NEW AGRICULTURAL KNOWLEDGE TO THE ADRIATIC ISLANDS OF VIS, HVAR, AND KORČULA

With their settlement in new living spaces, migrants inevitably enter into close interaction with the already present native population. Thus, even at this initial stage, the first acculturation processes between different ethnic groups and/or communities begin to develop. A similar pattern of acculturation processes is observed during Antiquity and later periods, starting with the arrival of Greek colonists, through the Roman conquest of Illyricum, and up to the settlement of Croats during the medieval period on the southern and central Dalmatian islands of Vis, Hvar, and Korčula. These historical processes shaped the social and economic structures of these island communities. Over time, the population gradually transmitted their experiences from generation to generation, not only among members of their own ethnic community but also to other neighboring non-Hellenic peoples. In this way, they created conditions for a new multiethnic and multicultural symbiosis between the incoming and native populations of the Dalmatian islands of Vis, Hvar, and Korčula.

During the significant Greek colonization at the end of the 4th and the beginning of the 3rd century BCE, the migrating populations brought various forms of material

and immaterial cultural knowledge, from planning and architectural construction of Greek Adriatic poleis, the introduction of new agricultural crops, to new cadastral way of measurement land parcels crucial for use of the limited island ecospace. The Hellenistic cadastral way of measurement has been preserved almost intact to this day on the Croatian Adriatic islands of Vis, Hvar, and Korčula. It is important to highlight that such interventions in the island's ecospace were meticulously planned and legally regulated between the incoming colonists and the native population. The first written historical-legal document on the Adriatic coast *The Lumbarda Psephisma* pertains to an agreement between the native Illyrian Korkyra inhabitants and the Greek colonists from Issa. Danijel Đino and Alka Domić Kunić attribute this to the fact that during colonization, the process of forming a "colonial middle ground" occurred. They conclude that this process of negotiated acculturation resulted in mutual knowledge exchange, creating a hybrid culture. In such two-way cultural exchanges, the boundaries between different ethnicities disappear. Therefore, there is no distinction between "inferior" indigenous ethnic communities and "superior" Hellenistic cultural influences. Instead, a continuity of knowledge transmission from prehistoric times, mediated by Greek colonial culture, is evident (Ibid.; p. 51). This is particularly confirmed by the authors in the cases of Vis and Hvar, as the identity of these colonial island communities transformed into a specific local culture formed through the combination of indigenous and Greek-Hellenistic elements (Ibid.; p. 52). Regarding the exchange of experiences between the native and colonized populations of the island communities of Vis, Hvar, and Korčula during Antiquity, it is important to observe the adoption of advanced and rationally structured agricultural techniques for the centuriation of island agricultural lands.

Greek centuriation, and later Roman colonial centuriation, influenced the social and economic sustainability of the island ecospace for centuries to come. Ancient historical sources frequently highlight the importance of Greek colonization of the Adriatic islands. The first Hellenistic colonization occurred at the end of the 6th and the beginning of the 5th century BCE on the island of Korčula. For these written sources, there is no conclusive archaeological evidence. However, for the western part of Korčula near the settlement of Lumbarda, there is material proof of Greek colonization during the 4th and 3rd centuries BCE.

Grga Novak believes that the ancient polis of Issa (Vis) was settled by Greek colonists between 397 and 390 BCE (Novak, G.; 1961, pp. 169-187). A key resource for the survival of ancient Issa, alongside the island's population's strong orientation towards trade and mariculture, was the agricultural land around present-day Vis and Komiža. The Vis Plain was carefully planned and divided into land parcels by the Greek colonists, and this division is still clearly visible. In this context, it is essential to highlight *The Lumbarda Psephisma*, which specifically relates to the meticulously planned and executed division of land parcels. *The Psephisma* is historically significant because it indicates that the colonists who settled on Korčula came from the already colonized

Issa, and that the Issaeans had reached an agreement with the native Illyrian leaders on Korčula. This agreement supports the previously stated thesis by Danijel Đino and Alka Domić Kunić that it established a model of coexistence within the local colonial environment. In this context, the founders of the colony received land both within and outside the city walls. Ownership was determined by lot, and the colonists had to swear not to further subdivide the land; otherwise, the land would revert to the polis.

The same authors highlight the fact that recent aerial images of Korčula confirm the regularity of the dry-stone walls on the island, providing clear evidence that centuriation was implemented there following the earlier model from Vis (Solarić, M., and Solarić, N.; 2009, p. 85). Nevertheless, the best-preserved ancient land survey is found on the island of Hvar. In this regard, Marin Zaninović points out that the existence of the ancient cadastral division in the Hvar Plain was already noted early on by historian and archaeologist Don Šime Ljubić (Zaninović, M., 1996, pp. 28-29). Zaninović also references *The Lumbarda Psephisma* when discussing the centuriation of the Hvar Plain, emphasizing that, similar to Issa and Korkyra Melaina, the Greek colonists in Pharos received land within the fortified settlement for house construction as well as surveyed arable plots within the plain.

Regarding the colonial *chora* of Hvar, i.e., the Stari Grad Plain, Miljenko and Nikola Solarić note that the early ancient way of measurement the plain, remains until today. It was previously assumed that the dry-stone walls date from the Roman period, but recent research has confirmed that they should be associated the initial parceling of the island's agrarian ecospace. They also state that the plain was divided into 73 rectangular parcels measuring 1 *stadium* by 5 *stadia*, i.e., approximately 181 m x 905 m, with very few parcels divided into 181 m x 181 m, which roughly corresponds to later Roman measurements. They emphasize that this dry-stone construction represents an identical ancient measurement system used in Greek *poleis* and that it has remained intact on Croatian islands for a full 24 centuries (Solarić, M., and Solarić, N.; 2009, pp. 64-65). In conclusion, when comparing the current state of the islands' arable land with ancient way of measuring land on Korčula, Vis, and Hvar, the Greek influence is readily apparent. This influence persisted, extending into the Roman colonial era and was transmitted to the new Croatian settlers during the Middle Ages.

EFFECTS OF MEDIEVAL AND EARLY MODERN NORMS ON THE PRESERVATION OF AGRICULTURAL ISLAND SPACES: A COMPARISON OF HISTORICAL SOURCES FROM THE STATUTES OF HVAR AND KORČULA

The link between legal history and agricultural island space in the Middle Ages is rooted in the protection of agriculture. This includes the prohibition of the import or export of agricultural products that were essential for island life. Medieval communal stat-

utes often aimed to prevent potential damage to agricultural crops or their produce, in order to deter those who might intentionally or accidentally cause harm to someone else's olive grove, orchard, vineyard, pasture etc. The medieval ecological space of Hvar, Vis, and Korčula is described and legally protected in the Statutes of Korčula and Hvar, which governed the aforementioned Dalmatian island communes. One of the central aspects of the legal regulation concerned the statutory norms of agrarian issues that were frequently encountered in daily life, such as ownership and possession of land, as well as the sale and export/import of agricultural products to and from the islands. Strict sanctions for intentionally caused damage to agricultural crops and similar activities are also outlined in these legal documents.

AGRICULTURE ON THE ISLAND OF KORČULA ACCORDING TO THE KORČULA STATUTE OF 1265

The Korčula Statute of 1265 is our oldest legal collection. (Korčula Statute, 1995, p. 7). Analyzing this Statute, it is clear that the foundation of the economic life of the medieval Korčula Commune was agriculture, specifically farming and livestock breeding (Korčula Statute, 1995, p. 31). The majority of the island's population at the time lived off of viticulture, forestry, and animal husbandry. Korčula had enough wine and livestock for its own needs, but it had to import grain. The Statute contained numerous provisions on farming, viticulture, agrarian legal relations, livestock breeding, forestry, fishing, domestic crafts, finance, various communal levies, food supply for the commune, defense of the city of Korčula and the entire island, maintenance of public order and peace, urban planning, construction, health, and ecological issues. Provisions on grain trade stand out, with encouragement for its import, as well as regulations on wine trade, and the prohibition of its import (Korčula Statute, 1995, p. 33). Wine was the main export commodity (Korčula Statute, 1995, p. 32). The Korčula Statute of the 13th century is a unique monument to the meeting of cultures, a symbiosis, and the interaction of Croatian and Romanic inhabitants of the island. Based on the established ancient agrarian relations, they continued to build new socio-historical relationships in the medieval period, clearly visible in the Korčula Statute of 1265 (Korčula Statute, 1995, p. 66).

AGRICULTURE ON THE ISLAND OF VIS ACCORDING TO THE HVAR STATUTE OF 1331

The port of Hvar has a favorable geographical and navigational position, but during the 11th and 12th centuries, a new urban settlement developed in the same location, as a result of the intensified development of medieval maritime trade (Hvar Statute, 1991, p. 9). Maritime trade contributed to the development of numerous new rural and urban communes on almost every central Dalmatian island. These settlements were usually

located near the sea and fertile fields. The medieval Hvar commune included, besides Hvar and Vis, the smaller associated islands, meaning that Hvar had access to land totaling about 200 km² and a large part of coastal sea (Hvar Statute, 1991, p. 17). Analyzing the provisions of the Hvar commune statute, it is evident that viticulture was the most important branch of agriculture. Wine was produced in large quantities, while documents of the Hvar commune reveal that oil and figs were the only agricultural products produced specifically for the market. Shipbuilding and barrel production were also developed. During this period, Hvar minted its own currency, called Bagatin, which was in use until the end of the 15th century (Hvar Statute, 1991, p. 19). It is also evident that the ancient system of land parcel management was partly preserved, as the commune owned about two-thirds of the land on both islands, while the rest was owned by the Church and the nobility (Hvar Statute, 1991, p. 19). Fishing was continuously improved, and by the mid-15th century, summer fishing using seine nets (*trata*) was fully developed (Hvar Statute, 1991, p. 24). In conclusion, we can emphasize that over the long course of history, the Hvar Statute exemplifies the continuity of care for the island's ecological space from ancient to medieval times. Elements of the preservation of the Hvar and Vis fields, highlighted in the Hvar Statute, are recognized as valuable even today, not only by legislation of the Republic of Croatia, but they have also been included in UNESCO's list of intangible cultural heritage.

CONCLUSION

In this work, starting from Braudel's theoretical approach, we presented our insights by constructing a dynamic picture of past events that influenced numerous generations of the population of the central Dalmatian islands of Vis, Hvar, and Korčula. We emphasized how knowledge about agrarian relations was transmitted in long-term socio-historical processes. During these early Greek colonizations at the end of the 4th and the beginning of the 3rd century BCE, the interaction between the colonizing and the native Illyrian population on these Adriatic islands initiated processes of acculturation and merging of the two ethnic communities into a unified island community. A crucial role in this was played by the agricultural knowledge, which was preserved and passed on to future generations of inhabitants. By the 1st century CE, the Greek cultural and social influence was further built upon and developed by the knowledge gained during the imperial Roman period, which was subsequently carried forward during the Croatian medieval periods. The statutory laws of Korčula and Hvar are particularly significant for understanding the state of the islands' agriculture. Therefore, we can conclude that Croatian island cultural heritage, as an integral part of Mediterranean identity, holds great importance for the overall European and world cultural legacy. This is because the modern cultural identity and the preservation of the island's ecological space—some of which is included on UNESCO's list of protected tangible and intangible nat-

ural and cultural heritage—further support the thesis that the Mediterranean should be viewed within a theoretical context of analyzing the interrelation of long historical periods acculturation encounters between the Mediterranean East and West.

R e f e r e n c e s

- Braudel, F. (1990). *Civilizacije kroz povijest*. Biblioteka Posebna izdanja, Globus, Zagreb
- Braudel, F. (1983). *Historija i društvene nauke. Dugo trajanje*. Prijevod Mirjana Gross. *Časopis za suvremenu povijest*, ČSP 15(2), Zagreb, pp. 99-122.
- Cvitanić, A. (Ed.) (1991). *Hvarski statut*. Književni krug.
- Cvitanić, A. (Ed.) (1995). *Korčulanski statut*.: Književni krug.
- Đino, D., & Domic Kunić, A. (2013). *Rimski ratovi u Iliriku — Povijesni antinarativ*, Knjiga 10, Biblioteka Lucius, Školska knjiga, 239 p.
- Gabričević, B. (1968). *Antički spomenici otoka Visa*. Prilozi povijesti umjetnosti u Dalmaciji, 17(1). Hrčak ID 146461. Retrieved from <https://hrčak.srce.hr/146461>.
- Marković, M. (2004). *Hrvatski otoci na Jadranu*. Naklada Jesenski i Turk, Zagreb, 220 p.
- Novak, G. (2004). *Prošlost Dalmacije, Knjiga prva — Od najstarijih vremena do Kandijskog rata*. Split, Marjan tisak, 186 p.
- Solarić, M., & Solarić, N. (2009). *Lumbardska psefizma: najstariji dokument o podjeli zemlje u Hrvatskoj iz početka 4. ili 3. stoljeća pr. Kr.*8(12), Zagreb, pp. 78-88. Hrčak ID 48186. Retrieved from <https://hrčak.srce.hr/48186>.
- Solarić, M., & Solarić, N. (2009). *Iskolčenje zemljišnih čestica i najstariji kameni međaš u Hrvatskoj iz 4. stoljeća prije Krista. Kartografija i geoinformacije*, 8(12), Zagreb, pp. 58-77. Hrčak ID 48185. Retrieved from <https://hrčak.srce.hr/48185>.
- Zaninović, M. (1996). *Od Helena do Hrvata*. Školska knjiga, Zagreb, 434 p.

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VIS IN ANTIQUITY

Abstract

This paper examines the historical and cultural development of the island of Vis (ancient Issa) during antiquity, focusing on its role as a Greek colony and its interactions with neighbouring regions and peoples. The research relies on historical texts, archaeological evidence, and numismatic studies to analyse the formation and evolution of Issa as a Greek colony. It uses epigraphic evidence, such as the Lumbarda Psephisma, to understand the socio-political and economic structures of the colony and its relations with indigenous Illyrian populations. The paper shows us that Issa was established as a Greek colony by Dionysius I of Syracuse in the 4th century BCE. It served as a naval base, trade hub, and intermediary between the Greeks and Illyrians. Issa founded other settlements, including a colony on Korčula (as evidenced by the Lumbarda Psephisma), which reflects its economic growth and territorial expansion. It quickly developed into an independent polis with its own coinage, indicating economic maturity. It maintained a cooperative yet distinct relationship with Syracuse and later Greek colonies. The colony sustained peaceful interactions with Illyrian tribes, leveraging its naval superiority to establish dominance in the Adriatic. Issa's establishment and governance influenced the historical development of the Dalmatian coast, setting precedents in trade, law, and cultural integration. The paper concludes that Issa was a highly advanced and strategically significant city-state, demonstrating resilience, innovation, and leadership in the ancient Mediterranean world.

Key words: Island of Vis, Illyrians, archeological findings, Greek colonies, Issa

INTRODUCTION

Based on archaeological finds in the Markova and Grapčeva caves on the island of Hvar, the history of human habitation on the island dates back to the Neolithic period, around 6000 BCE (Visković, 2019, pp. 9-10). However, the most notable evidence confirming the island's habitation includes stone piles (burial mounds) and various artifacts dated to the Bronze and Iron Ages (Visković, 2019, p. 10). Further, the word "Issa" means "fortified place," possibly near a body of water (Novak, 1961, p. 15). The cult of Aphrodite of Pherae was historically worshiped on the island of Vis, highlighting an intimate connection between Issa in the Adriatic and the Thessalian city of Pherae (Novak, 1961, p. 15). According to Strabo, the Greek island of Lesbos, the third-largest island in Greece, was once called Issa, while the city on the small islet opposite it was

known as Antissa (Novak, 1961, p. 16). Other sources point to a pre-Indo-European name for the island of Vis (Issa), as well as the proximity of Neolithic settlements on the island of Hvar and connections between these settlements and the Aegean coast of Thessaly, linking Vis to northern-central Greece—Thessaly (Novak, 1961, p. 16).

Jonias' rule over Vis began in the 5th century BCE, possibly even earlier (Novak, 1961, p. 17). During this period, his influence expanded to encompass more territory, eventually reaching the Ionian Sea, over which control and authority were established. It is possible that this state stretched similarly to the later state of Demetrius of Pharos, who established his capital in Pharos on the island of Hvar and ruled the central Dalmatian islands near Vis, as well as certain areas inland in the central and southern parts of the Adriatic, and possibly the Ionian Sea (Novak, 1961, p. 17).

By founding a colony on the island of Vis, Dionysius significantly strengthened his dominance in the Adriatic. The Greeks settled in only one area on Vis, fortifying it immediately while maintaining ties with the older Issaeian population, as evidenced by the depiction of the Illyrian ruler Jonias on Greek coins (Novak, 1961, p. 17).

Commanding the strongest navy in the Greek world, Dionysius required a strategic position to secure his fleet, and the harbour of Vis was ideal for anchoring a large number of Syracusan triremes.

THE ISSAEAN STATE

Dionysius the Elder, in creating his empire on the Adriatic Sea, acted in several ways. He introduced new settlers to existing communities while supporting colonists in settling and adapting to new lives in unfamiliar territories.

When founding new “poleis,” these were not entirely autonomous but depended on Syracuse — the city that founded them — in numerous matters (Novak, 1961, p. 24). Unlike older Greek colonies that maintained religious ties to their distant mother cities, Dionysius' Adriatic colonies were also politically connected, particularly in areas significant to Dionysius himself.

Greek colonization involved waves of migration from mainland Greek cities, leading to the establishment of cities in foreign territories across the sea (Miličević-Bradač, 2010, p. 41; Malkin, 2003, p. 60). Adriatic Greek colonies, while maintaining close ties with Dionysius' empire, developed as independent “polis” cities. Dionysius populated them predominantly with Syracusans (residents of the ancient city on the eastern coast of Sicily), including in the colony of Issa. Meanwhile, on Pharos, he settled Ionian settlers from Paros, offering logistical support for the city's development and, when necessary, defending them against local tribes (Novak, 1961, p. 24). Dionysius' colonization policies primarily served his own interests but also indirectly benefited his capital city of Syracuse. A significant intervention by Dionysius' eparch from Issa protected

new Greek settlers on Pharos and ensured their further development. Greek colonies on the Adriatic matured soon into independent “polis” cities (Novak, 1961, p. 24).

The eparch of Dionysius in Issa refrained from interfering in the internal affairs or constitutions of “polis” cities, which often differed from one another but took inspiration from their mother cities. These newly established cities quickly developed their internal governance and, over time, became autonomous cities. Issa is a prime example of such independence, as it minted its own coins as early as the first half of the 4th century BCE — a practice also adopted by Pharos (Novak, 1961, p. 24).

Issa was founded as a Syracusan naval base and trade centre, acting as an intermediary between the Illyrians on the Dalmatian mainland and Syracuse, while serving as a hub for Syracuse’s Adriatic trade network. Issa established trade relations with neighbouring Illyrians and explored ways to create secure outposts for its ships, merchants, and goods along the mainland Adriatic coast.

In the 4th century BCE, conditions along the Dalmatian coast were too unstable for Issa to establish its own colonies there (Novak, 1961, p. 25). At that time, the only Greek colony on the Dalmatian mainland was Heracleia (Herakleia) (Pavlek, 2017, p. 15), mentioned alongside Issa and Pharos by Pseudo-Skylax, who, around 335 BCE, noted: “Heracleia is known to us from its coins, which were mostly found on Hvar and Vis” (Novak, 1961, p. 25). According to Pseudo-Skylax, Heracleia was located somewhere along the coast between Šibenik and Trogir (Novak, 1961, p. 25). Heracleia quickly disappeared, as evidenced by Apollonius of Rhodes, who wrote in the 3rd century BCE but no longer mentioned it (Novak, 1961, p. 25).

ISSA ESTABLISHES ITS OWN COLONIES

In the 4th century BCE, Issa established a colony on the eastern tip of Korčula to facilitate trade with the Illyrian regions southward from the peninsula of Pelješac (Novak, 1961, p. 25). The name of this Issaeian colony on Korčula is unknown, but its foundation is documented by a significant inscription discovered near Lumbarda on Korčula. This inscription, dated to the 4th century BCE based on its epigraphic features, is considered one of the oldest written monuments in the region. It is the first historical-legal document from the Adriatic coast, recording an agreement between the local Illyrian population (the Korkyrans) and Greek colonists from Issa. The document, engraved in stone and known as the “Lumbarda Psephisma,” marks the beginning of written history for the Adriatic islands and Croatian territories (Novak, 1961, p. 25).

The Lumbarda inscription outlines land distribution among the settlers, detailing the division of territory for those who arrived, settled the land, and fortified the city, as well as the allocations for those who would arrive later (Novak, 1961, p. 25). In three columns, based on the three Dorian tribes (phylai), the names of the initial colonists are listed. Some names are preserved in full, while others are partially legible. At least

200 adult men, the colony's founders, were entitled to land shares. These colonists came from Issa to Korčula (Novak, 1961, p. 25). With a comparable number of women and children, the population reached approximately 600 — a sufficient size to establish a new “polis”. Many colonists were related by blood. The Dyman tribe lists Aristarno's son, four Aristenos, and two Dionysioses. The Hylea tribe records two sons each of Zoilos, Aristenos, Euarchos, and Mnasteros. Finally, the Pamphyla tribe mentions two sons of Sallinos and Damatrios (Novak, 1961, p. 25). The Lumbarda monument is dated by the Issaeon hieromnamon Praxidamos. The inscription indicates that agricultural land was already under the control of Issaeon colonists and supervised by Issaeon logistai. Additionally, it records a negotiated agreement between the logistai and an Illyrian named Pyllos and his son Dazos, representing the native population of Korčula, the agreement on land division was later ratified by a public assembly (Novak, 1961, p. 26).

By the 3rd century BCE, and no later than the first half of the 2nd century BCE, Issa established two *factoriae* (*factoriae* denotes a larger trading post of European merchants in overseas countries, managed by a factor.) on the Dalmatian mainland: Tragurion and Epetion. Polybius notes that by around 160 BCE, these outposts belonged to Issa (Novak, 1961, p. 26). Before 230 BCE, Issa is not known to have established any mainland settlements.

In the 4th century BCE, Issa developed into an autonomous and independent “polis,” expanding its territory, which initially encompassed only the island of Vis and smaller neighbouring islands, to include Korčula or at least its eastern part (Brunšmid, 1898, p. 69). Simultaneously, Pharos developed nearby. According to Novak, who in 1950 compared coins from the Vienna numismatic collection with contemporary coins attributed to Korkyra, or Corfu (the northernmost Greek island in the Ionian Sea), and casts produced in Zagreb of two Korkyrean coins, he concluded that these coins did not belong to Korkyra — Corfu. Instead, they were minted in a “polis” on the periphery, which could only be Korkyra Melaina (Korčula), where one such example was found on the island (Novak, 1961, p. 26).

Based on the findings of coins typologically dated to the 4th century BCE, it has been proven that an autonomous “polis,” Korkyra Melaina, indeed existed on the Adriatic Sea, lending full credibility to the accounts of older writers. However, the confirmation of Korkyra Melaina's existence during the time of Pseudo-Skylax holds limited significance, as the same source explicitly and unequivocally identifies Issa and Pharos as Greek islands with Greek cities, a distinction not made for Korkyra Melaina (Novak, 1961, p. 27).

Apollonius of Rhodes, writing in the mid-3rd century BCE, does not mention Korkyra Melaina in his descriptions of conflicts between Rome and the Illyrian queen Teuta. Similarly, Korkyra is not mentioned during the entirety of the conflict between Ro-

me and Demetrius of Pharos (Novak, 1961, p. 27). The first reference to Korkyra as a city comes from Pseudo-Skymnos, writing in the late 2nd or early 1st century BCE—significantly later, over two centuries after the time to which the two coin specimens from the Zagreb Archaeological Museum are dated (Novak, 1961, p. 27). Considering the discovery of several hundred coins from Pharos, as well as a comparable number from Issa, more than a hundred from Heraclea, and around fifty from Dimos, yet only two to four potential examples of coins from Korčula, it can be concluded that if Korkyra Melaina existed as a “polis,” its existence must have been very brief (Novak, 1961, p. 27).

THE COEXISTENCE OF ISSA WITH THE ILLYRIANS

On the Dalmatian coast, Illyrian tribes lived undisturbed for centuries. However, the 4th century BCE presented significant challenges, marked by the incursion of the Celts into the northwestern Balkan Peninsula (Novak, 1961, p. 27). A group of Celts reached as far as the Neretva River, defeating and pushing the Ardiaei to the southern side of the Neretva while also extending their control westward. As a result, the Delmatae and Liburnians came into contact with the Celts, a process that had begun by the 3rd century BCE. This is one of the key reasons why the Delmatae cannot be regarded solely as an Illyrian tribe, as they became significantly intermixed through coexistence with the Celts (Novak, 1961, p. 27). It remains unclear how the Celts and Illyrians merged into the Japodes, a group particularly recognized as an Illyro-Celtic people. Strabo himself refers to them as such (Novak, 1961, p. 27).

In the 4th century BCE, Issa maintained good relations with its neighbouring Illyrians, primarily due to its naval strength, which had developed after achieving independence from Syracuse. The neighbouring Greek colony of Pharos, an independent state, also possessed its own fleet. The same can be said for the Greek cities of Dimos and Heraclea, and possibly even for Korkyra Melaina (Novak, 1961, p. 28).

Issa, like other Greek cities on the Adriatic, owned ships modelled after those of the broader Greek world. Meanwhile, the Illyrians of that time possessed only small vessels that were no match for the well-organized triremes and other warships of the Greeks. During the 4th and much of the 3rd century BCE, the Illyrians in southeastern Europe were not organized into states but lived in tribal societies (Novak, 1961, p. 28).

In this environment, Issa and other Greek cities were well-organized “poleis,” dominating Adriatic navigation. Their primary concern was combating piracy. Piracy, defined as unauthorized violence at sea or on other transit routes, was often driven by material gain (Brajković, 1975, p. 592; Đukić, 2015, p. 65). In contrast, privateering, conducted under authorization, involved armed actions at sea to plunder enemy vessels or disrupt maritime traffic as acts of reprisal (Brajković, 1983, p. 44; Đukić, 2015,

p. 65). Issa and its neighbouring cities were frequently successful in countering piracy, though they occasionally suffered losses of ships, cargo, and crew. Pirates not only attacked at sea but also targeted coastal cities, prompting Greek cities to fortify themselves with walls and always remain prepared for defense.

By the mid-3rd century BCE, the Ardiaean tribe, located in what is now the Neretva region, united with several neighbouring tribes along the eastern Adriatic coast and its hinterland to form a state (Novak, 1961, p. 28). The first known ruler of this newly established state was Pleuratus, king of the Ardiaei. Over time, the new state expanded its territory, incorporating other Illyrian tribes into its domain. King Pleuratus was well-known among the Greeks, and the Illyrian state did not limit itself to internal affairs but also engaged in Greek political matters, which were often very complex. The Illyrian state formed an alliance primarily with Macedonia.

CONCLUSION

The introduction provided an overview of the founding of the city of Vis, including the meaning of its name and the cult of Aphrodite of Pherae. The second section, titled The Issaeian State, described the conditions and circumstances surrounding the establishment of new “poleis,” their roles, and their connections to their mother city. The third section, Issa Establishes New Colonies, highlighted Issa’s clear dominance in antiquity and its capacity and need to establish new colonies due to limited territory and the pursuit of economic advancement.

Upon the examination of all the information about the ancient city of Issa, it can be concluded that the inhabitants of Issa were highly advanced compared to their neighbours. They knew how to manage daily life, having learned through history to take responsibility for the security of their city, their families, and their destiny. For these reasons, following the example of larger city-states, they eventually introduced their own currency to facilitate trade. As their population grew, and due to territorial limitations and efforts to maintain economic prosperity, Issa established colonies.

The paper Vis in Antiquity and its subsections contain a wealth of historical facts addressing the historical challenges of founding new cities. The authors believe that the issues discussed in this work have been appropriately presented, considering the historical periods in which these developments occurred. The primary goal of this work was to clarify certain periods and phases in Issa’s history during antiquity to shed light on various aspects of the history of the city of Vis. This paper is recommended to anyone engaged with the history of the city of Vis, particularly during antiquity, as well as the history of the Illyrians and the broader region discussed. It is also of value to legal scholars and historians.

References

- Brajković, V. (1975). *Gusarstvo*, Pomorska enciklopedija sv. 2., Zagreb: Leksikografski zavod Miroslav Krleža.
- Brajković, V. (1983). *Piratstvo*, Pomorska enciklopedija sv. 6., Zagreb: Leksikografski zavod Miroslav Krleža.
- Brunšmid, J. (1898). *Inschriften und munzen, Der griechischen stadte Dalmatiens*. Wien: K.U.K. HOF- UND UNIVERSITAS-BUCHHANDLER.
- Đukić, Z. (2015). *Pomorske djelatnosti u zakonicima staroga vijeka*. Beli Manastir: Zavod za baranjsku povjesnicu.
- Malkin, I. (2003). *Myth and territory in the Spartan Mediterranean*. Cambridge: Cambridge University Press.
- Miličević-Bradač, M. (2010). *Grčka kolonizacija na Sredozemlju*. u: *Antički Grci na tlu Hrvatske: [katalog izložbe: galerija Klovićevi dvori 14. listopada — 12 prosinca 2010]*. Zagreb: Galerija Klovićevi dvori.
- Novak, G. (1961). *Vis, Knjiga prva, Od VI. st. pr. n. e. do 1941. godine*. Zagreb: Izdavački zavod jugoslavenske akademije.
- Pavlek, B. (2017). *Herakleja — Heraklov grad*. Zagreb: 32 Nova serija — Latina & Graeca.
- Visković, E. (2019). *Prilozi poznavanju prapovijest grada Hvara — arheološko istraživanje u kući Galić. Prilozi povijesti otoka Hvara (Vol. XIV, No. 1 p. 9-35)*. Hvar: Muzej hrvatske baštine. <https://hrcak.srce.hr/file/331259> .

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TRANSLOCALITY AND DIASPORA FROM THE CROATIAN ISLANDS¹

Abstract

Emigration is a key process in the social development of the Croatian islands. However, the population that has emigrated does not cease to have an impact on the development of island communities. Many return occasionally or regularly, and they affect these communities even from abroad through their intensive relationships. Strong local, regional, and national identities among emigrants simultaneously result in their becoming connected on this basis in the countries to which they emigrate. However, in the long term, the dominant value systems on which certain identities are built in the country of origin may come into conflict with those in the diaspora, which are primarily marked by the moment of their creation. This was the case among some emigrants from Dalmatia in Australia and New Zealand when Yugoslavia collapsed and Croatia gained its independence in 1991. Most members of this diaspora had left their home country in the first half of the 20th century; considering the socio-political changes that took place in Croatia in the meantime, their local and regional identity has become more emphasised than their national identity. In this context, the paper aims to emphasise the importance of the element of translocality in the concept of transnationalism.

Key words: *islands, diaspora, translocality, transnationalism*

INTRODUCTION

Emigration across national borders is a topic that has attracted the most attention in the Croatian humanities and social sciences in the context of analysis of the social development of the Croatian islands. Research has mainly focused on analysing the causes of emigration and the subsequent socio-political development of diasporic communities in the destination countries; much less interest has been shown in the issue of the influence of diaspora on the development of the islands through various transnational activities. However, this process is not unilateral, simultaneously encompassing the influence of the community of origin of members of the diaspora, which has also been

¹ This paper is the result of research conducted under two scientific projects: "Croceania — Research on emotion in the (re)construction of the diaspora identity: Croats in Australia and New Zealand (1945—1991)", founded by the Croatian Science Foundation, and: "TYPEs: Types of Youth Participation in Croatian Society", an internal project of the Ivo Pilar Institute of Social Sciences, which is being carried out as part of the development and implementation component of programme funding. The project is financed by the European Union — Next/ GenerationEU. The views and opinions expressed are those of the author exclusively, and do not necessarily reflect the official position of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.

neglected within the Croatian academia, particularly in the field of historiography. The importance of these aspects of the phenomenon of transnationalism is especially apparent in the case of radical socio-political changes in the home country, as was the case with Croatian history in the 20th century and the changes symbolically contained in the years 1918, 1941, 1945, and 1991.

Transnationality has thus in general been quite a neglected phenomenon in Croatian historiography, while the identity of the diaspora is usually approached as a fixed phenomenon instead of a fluid social construct (Hrستیć & Marinović Golubić, 2019). In this context, the goal of this paper is to examine Dalmatian communities in Australia and New Zealand, whom the members of Croatian clubs claim are not a part of the Croatian diaspora and deny to an extent their Croatian identity. The majority of the members of the Dalmatian clubs under analysis hail from the Dalmatian islands — mostly Korčula, Brač, Hvar, and Vis, the Makarska Riviera and its hinterland. The focus will be on club members originating from the aforementioned islands. They tend to emphasise the regional and local character of their origins; this means their Croatian national identity is less emphasised than that of other groups of diaspora that formed later. The analysis will contribute to a better understanding of the phenomenon of transnationalism by emphasising the importance of translocal relationships and local identities of emigrants and their descendants. In these terms, it must be noted that one of the main criticisms of the concept of transnationalism is the problem of the presence of methodological nationalism in research. Emphasising a phenomenon's translocality negates a part of this criticism as it does not hold state borders as key elements within the concept, which is important considering the long history of migration processes and the mutability of state borders. Emphasis will also be placed on the importance of the dynamics and fluidity of the diasporic identity throughout its historical development — a topic that has not yet been adequately addressed in the Croatian historiography.

DALMATIAN CLUBS IN NEW ZEALAND AND AUSTRALIA AND THE PHENOMENON OF TRANSNATIONALISM

The history of emigrations from Dalmatia — especially the Dalmatian islands — to Australia and New Zealand began in the 19th century. By World War II, these were already established communities significantly integrated into their host societies. Simultaneously, emigrants continued to maintain ties with their home country on both the individual and collective level. These communities largely grew on the basis of chain migration, which best testifies to the intensity of contact. Emigrants were mostly young males whose departure itself directed the development of the islands of origin and had powerful long-term consequences. However, emigrants continued to directly influence their communities of origin from abroad through the intensive contact they maintained. Interest in the situation in the home country at the time was particularly evident in sup-

port for the establishment of socialist Yugoslavia. This was in accordance with the dominantly left-oriented political affiliation of this diaspora, as well as the prevailing sensibilities within the host societies into which the emigrants sought to integrate as thoroughly as possible (Drapac, 2017; Čizmić, 1981; Jelich, 2008; Marković, 1973; Trlin, 1979; Šutalo, 2004; Tkalčević, 1992).

According to census data, 3,090 people from the former Yugoslavia lived in New Zealand in 1945 (Statistics New Zealand, 2024a). At the time, six Yugoslav clubs were in operation throughout the island country (Jelich, 2008). The 1947 Australian census registered 5,866 Yugoslav-born people, the majority of whom were involved in the activities of around 30 Yugoslav clubs in the country (Šutalo, 2004). In both cases, the absolute majority were ethnic Croats, most of whom were from Dalmatia. Immigrant clubs were the most visible form of transnational activity of the members of this diaspora. However, this very identity reconstructed through these clubs would lead them into conflict with an absolute majority of post-World-War-II emigrants from Yugoslavia, among whom Croats were again the majority. This was especially pronounced in Australia, which registered mass immigration of Croats from the 1950s to the 1970s.

According to the 1991 census, 160,480 Yugoslav-born persons lived in Australia. Historian of the Croatian community in Australia Ilija Šutalo (2004) concludes on the basis of analysis that roughly one third of new immigrants were Croats who, as opposed to earlier generations, came from all historical Croatian regions, not only Dalmatia. The majority of them were strongly anti-Yugoslav, which led them into conflict with the previously formed Yugoslav community. Such strong stratification was not evidenced in New Zealand, as there was no mass immigration after World War II. Accordingly, the 1991 census lists 2,379 persons born in Yugoslavia (Statistics New Zealand, 2024b). Of course, these numbers should only be taken into account as a broad indicator of the size of particular diaspora, as one's having immigrated from a given country does not imply one's belonging to the diaspora community. Many expatriates refused to identify themselves according to their home country, or were simply not involved in activities tied to the diaspora. On the other hand, as this is a long-term process, many members of the diaspora toward the end of the 20th Century were the descendants of emigrants, born in the host countries. Diaspora is thus in this context defined as a category of practice, in accordance with Rogers Brubaker's (2005) definition of the phenomenon. It is noteworthy, however, that according to the most recent censuses, there were 164,362 persons of Croatian ancestry in Australia in 2021, while there were 2,936 Croats and 5,886 'South Slavs' (the majority of whom originate from Croatia/Dalmatia) in New Zealand in 2018, as well as 207 declared Dalmatians (Australian Bureau of Statistics, n.d.; Statistics New Zealand, 2024c). There are more than 250 Croatian societies, clubs, and various types of organisation currently active in Australia today, while there are only 8 such clubs in New Zealand (Jelich, 2008; Lovoković, 2008; Šutalo, 2004).

After the foundation of Croatia in the early 1990s, some clubs whose organised activity dated back to before World War II and which had previously included the moniker 'Yugoslav' in their names expressed their regional Dalmatian identity as their new primary identity, as it was closer to them and firmer than the national identity of the state being created on the foundations of the previous one. Aside from this, their activities continued to pay tribute to the culture and traditions of all parts of the former Yugoslavia, as is especially apparent in their folklore activities. These clubs are primarily located in rural parts of New Zealand and Australia, or in Auckland (New Zealand) and the broader Perth area (Western Australia), where the earlier wave of diaspora remained more strongly connected and the influx of post-World War II immigrants was smaller (Asić, 2016; Trlin & Tolich, 1995). Considering the historical circumstances and inter-ethnic relations in the former Yugoslavia, the activities practised by this diaspora are practically unimaginable amongst the remainder of Croatian diaspora. This has resulted in a degree of conflict and the negation of the Croatian identity of the Dalmatian clubs amongst the remainder of the Croatian diaspora. However, it is undeniable that the members of these Dalmatian clubs continued to maintain intensive contact with their country of origin, especially with the local communities they originated from. This is apparent in all materials collected during the research, which will be discussed later. Members of this population practice traditions from their specific region of origin in their everyday lives, thus directly or indirectly nurturing the Croatian part of their identity.

This situation poses a challenge before the concept of transnationalism as an explanation of complex cross-border links between diaspora and their country of origin (Vertovec, 2008). At its core, the concept often erroneously presumes a space delineated by two state borders, (Featherstone, 2022), thus equating the borders of a particular society to its state borders and ethnic borders to the national identity of migrants. In this context, national identities are viewed mainly as ahistorical and trans-historical fixed phenomena, and not as fluid social constructs (Mongia, 2018), as is also greatly the case in Croatian historical research on the diaspora (Hrستیć & Marinović Golubić, 2019). This type of challenge to transnationalism corresponds with the broader framework of critiques of methodological nationalism in research on transnationalism.

Within the framework of transnationalism in the narrow sense, placing a greater emphasis on the translocal aspect of the diaspora limits the negative impact on the interpretation of the situation surrounding the aforementioned Dalmatian clubs. Transnational practices should not only be seen as based in nation-states as their sole geographical framework, but on the local or regional level as well (Featherstone, 2022). This kind of approach to research enables a deeper contextualisation and better understanding of the highly flexible, fluid identities of diaspora. As a result, the issue of the belonging of the aforementioned Dalmatian clubs to the Croatian diaspora, their self-

identification, and how they are perceived by opposing clubs and communities loses importance to a degree, at least in the analytical sense.

TRANSLOCALITY AND DIASPORA FROM THE CROATIAN ISLANDS IN AUSTRALIA AND NEW ZEALAND

Translocality in the narrow sense of the word is reflected in the numerous ways members of the diaspora participate in two distant local communities — their community of origin and the one in which they live. The Croceania and TyPES projects have undertaken broad research ensuring deeper insight into a wide range of translocal activities of diaspora tied to Dalmatia, and especially the Dalmatian islands. Analysis encompassed a large amount of archival material from archives in Croatia (Croatian State Archives in Zagreb, State Archives in Dubrovnik — Archival Collection Centre Korčula-Lastovo), Serbia (Archive of Yugoslavia, Diplomatic Archives of the Serbian Ministry of Foreign Affairs), Australia (National Archives of Australia — Perth, Adelaide, Melbourne, Canberra and Sydney; archives of diaspora communities), and New Zealand (Archives New Zealand — Auckland and Wellington, archives of diaspora communities). Research also encompassed a large number of periodicals available in libraries in Croatia, Australia, and New Zealand. Furthermore, the Croceania project has so far included 24 oral history interviews with members of Dalmatian communities in Western Australia and New Zealand. Considering the character of this paper and the limited length of text, deeper analysis of translocal practices and their reflection on the local communities of origin or on the diaspora itself is not possible. As a kind of conclusion to this paper, the breadth of the phenomenon will be briefly described.

Aspects of translocal action in diaspora are most visible during its organisation on the basis of local and/or regional origin. The traditions of the “old country” are thus transferred into new surroundings; the most illustrative example of maintaining a connection with the local community of origin is the construction of a stone loggia by the Spearwood *Dalmatinac* club in Fremantle at the initiative of immigrants from Blato on the island of Korčula, inspired by a Baroque structure from 1700 on the town’s main square (Kalogjera, 2020). On the other hand, the impact of diaspora on the development of local island communities is most visible in examples of financial and material aid — especially less visible financial aid delivered privately as support to family and loved ones. The advertising activity of the island communities in the countries to which they emigrated is also noteworthy, as they are currently appealing tourist destinations. A number of related economic initiatives have been implemented on the basis of co-operation between these two communities. The importance of social and cultural remittances must also be emphasised — the ideas, values, norms, and social capital that circulates between two localities, resulting in social change. This type of translocal practices results in the creation of a kind of migrant mentality, especially among youth

on the islands. However, their emigration — whether temporary or permanent — does not mean the end of their influence on the development of island communities, but rather the beginning of their connection to the communities they create throughout the world.

In the context of the topic of transnationalism and the identity of Dalmatian communities in Australia and New Zealand in the future, the question arises as to how intensive connections between Dalmatian clubs and the local communities of origin will influence the identity of this diaspora. This is especially interesting as concerns young people, who are increasingly taking over the management of the communities from those who were involved in what was often fierce conflict with members of opposing groups within the diaspora. It remains to be seen whether modern Croatian reality will result in the Dalmatian clubs coming closer to the remainder of Croatian diaspora, causing them to more strongly emphasise the Croatian identity as their country of origin, or they will maintain the outlook as it is.

References

- Australian Bureau of Statistics. (n.d.). Cultural diversity: Census. Retrieved October, 11 2024, from <https://www.abs.gov.au/statistics/people/people-and-communities/cultural-diversity-census/latest-release>.
- Asić, S. (2016). Vapaj iz daljine: Hrvati (Zapadne) Australije (1976.—2016.) (A cry from afar: Croatians of (Western) Australia (1976—2016)). Despot Infinitus.
- Brubaker, R. (2005). The 'Diaspora' Diaspora. *Ethnic and Racial Studies*, 28(1), 1-19.
- Čizmić, I. (1981). Iz Dalmacije u Novi Zeland. Zagreb: Globus.
- Drapac, V. (2017). Croatian Anti-Fascism in the Second World War: An Australian Perspective. *Australian Journal of Politics and History*, 63(2), 163-186.
- Featherstone, D. (2022). Pre-national transnationalism and translocalism. In B. S. A. Yeoh, & F. L. Collins (Eds.), *Handbook on Transnationalism* (pp. 30-44). Edward Elgar Publishing.
- Hrstić, I., & Marinović Golubić, M. (2019). Od kronologije prema teorijskim konceptima — iseljenička problematika u hrvatskoj historiografiji na uzorku radova objavljenih u Časopisu za suvremenu povijest (From chronology to theoretical concepts — emigration issues in Croatian historiography based on a sample of papers published in the Journal of Contemporary History). *Časopis za suvremenu povijest*, 51(2), 361-383.
- Jelichich, S. (2008). *From Distant Villages: the lives and times of Croatian settlers in New Zealand, 1858—1958*. Pharos Publication.
- Kalogjera, D. (2020). *On the Road of No Return*. Europa print.
- Lovoković, F. (2008). *Hrvatske zajednice u Australiji: nastojanja i postignuća* (Croatian communities in Australia: efforts and achievements). Central Council of Croatian Associations in Australia.
- Marković, L. (1973). Pod australskim nebom. Zagreb: Izdavački zavod Jugoslavenske akademije znanosti i umjetnosti.
- Mongia, R. (2019). *Indian Migration and Empire: A Colonial Genealogy of the Modern State*. Duke University Press.

- Statistics New Zealand. (2024a). *The New Zealand official yearbook, 1946*. Retrieved October, 11 2024, from https://www3.stats.govt.nz/New_Zealand_Official_Yearbooks/1946/NZOYB_1946.html.
- Statistics New Zealand. (2024b). *National summary (Census 96)*. Retrieved October, 11 2024, from <https://cdm20045.contentdm.oclc.org/digital/collection/p20045coll18/id/272/rec/1>.
- Statistics New Zealand. (2024c). *Croatian*. Retrieved October, 11 2024, from <https://www.stats.govt.nz/tools/2018-census-ethnic-group-summaries/croatian>.
- Šutalo, I. (2004). *Croatians in Australia: Pioneers, Settlers and their Descendants*. Wakefield Press.
- Tkalčević, M. (1992). *Hrvati u Australiji* (Croatians in Australia). Matica Hrvatska.
- Trlin, A. (1979). *Now Respected: Once Despised*. The Dunmore Press.
- Trlin, A., & Tolich, M. (1995). Croatian or Dalmatian? Yugoslavia's Demise and the Issue of Identity. In S. W. Greif (Ed.), *Immigration and National Identity in New Zealand* (pp. 217-252). The Dunmore Printing Company.
- Vertovec, S. (2009). *Transnationalism*. Routledge.

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CORVUS ALBUS ABOUT TWO PHOTOGRAPHS IN AN (ALMOST) FORGOTTEN ALBUM [RESEARCH MATERIALS ON THE WORK AND LIFE OF AURÉLIA DE SOUZA (1866-1922)]

Abstract:

As part of the preparation of the catalogue *raisonné* dedicated to the Porto artist Aurélia de Souza, it was not possible to include in the catalogue of her vast oeuvre all the materials collected during the research. Many valuable clues that could be drawn from some of the documents left behind for the time being are still waiting to be explored. This text is a brief reflection on the artist, now considered one of the most important figures in Portuguese culture at the turn of the 19th to the 20th century, based on the fragments of material mentioned above, namely two photographs from the family archive.

Key words: *Portuguese painting, fin de siècle, Aurélia de Souza, Sofia de Souza, family album*

INTRODUCTION

As part of the preparation of the catalogue *raisonné* dedicated to the Porto artist Aurélia de Souza,¹ it was not possible to include in the catalogue of her vast oeuvre all the materials collected during the research. Many valuable clues that could be drawn from some of the documents left behind for the time being are still waiting to be explored. This text² is a brief reflection on the artist, now considered one of the most important figures in Portuguese culture at the turn of the 19th to the 20th century, based on the fragments of material mentioned above, namely two photographs from the family archive.

In this study, beyond the intention of introducing this artist to an international audience, I aim to achieve two objectives. First, I seek to demonstrate the connection be-

¹ Evocative catalogue *raisonné* marking the centenary of the death of Aurélia de Souza (1866—1922), organized and edited by the Museu Nacional Soares dos Reis and the Institute of Art History, FCSH NOVA, Lisbon.

² This work is funded by national funds through FCT — Foundation for Sciences and Technology, I. P., under the project [2023. 01492.BD].

tween the artist's plastic works —whose distinctive personality is reflected in the metaphorical title of this article³— and her unexplored photographic experiments. At the same time, I aim to highlight the potential for further research into the artistic interactions of the Souza sisters, which may yield unexpected insights. The methodological approach involved analyzing photographic materials from the family archive, brought together for the first time, and comparing them with the artist's well-known pictorial works. This led to an understanding that a photographic document, like a visual text, contains a narrative that, when intersecting with the materiality of the image, can complement or even alter its interpretation — arguably, the most valuable aspect of this publication.

Aurélia de Souza, the daughter of Portuguese emigrants to Chile,⁴ was born in Valparaíso⁵ on 13 June 1866. At the age of four, however, her family had returned to Portugal, settling on the outskirts of Porto. Her academic career began⁶ at the *Academia Portuense de Belas-Artes* (Fine Arts Academy of Porto),⁷ where she was a pupil of Marques de Oliveira (1853—1927). From there, without having completed her final year, she travelled to Paris to join the famous *Académie Julian*,⁸ where she studied under Jean-Paul Laurens (1838—1921) and Benjamin Constant (1845—1902).

In the early years of the 20th century, Aurélia de Souza returned to Porto after a long study trip through Europe. She set up her studio at Quinta da China, a family estate consisting of a farm with a poetic name and a century-old house overlooking the Douro, located on the environs of the city of Porto. This place — a green and almost hermetic world — became her *homeland* and her *dwelling* and it was from here that the painter would practise her art for another two decades, until her death.⁹

As an anonymous critic once described, Aurélia de Souza's work essentially centres around four themes — “the painter, flowers, birds and children”¹⁰ — although,

³ The expression “white crow” (from the Latin, *corvus albus*), which in other languages translates as “black sheep”, designates a person who stands out from the crowd, who distinguishes themselves from those around them. Any negative charge (mythical, mystical, religious) associated with this bird, present in various beliefs of different peoples, is irrelevant in this case. It all comes down to the notion of the “norm”, whether it's a crow, which (as is the norm for its species) has to be black, or a sheep, which (as is the norm) has to be white. Being a “white crow” means being different, rare, exceptional.

⁴ The painter's parents, António Martins de Souza and Olinda Peres de Souza had six daughters and one son. Mrs Olinda had another son from a second marriage.

⁵ The city of Valparaíso is located 120 kilometres from the capital, Santiago de Chile.

⁶ Before that, she had private lessons with the painter Caetano da Costa Lima (1835—1898), a former student at the *Academia Portuense de Belas-Artes*. For further information, see: Oliveira, 2006.

⁷ 1893—1899.

⁸ 1899—1901.

⁹ For further information, see: Oliveira, 2006.



Fig. 1 — CR n° 5. *Self-Portrait With Red Jacket* (c.1900). MNSR, n° inv. 878 pin

judging by the latest inventory of the artist's work, who, according to Raquel Henriques da Silva, "is a unique case in Portuguese painting, of contemporary 'rediscovery' and valorisation" (Silva, 2024, p. 798), her work represents a diverse range of themes.

In fact, the complete oeuvre of the painter, which exceeds four hundred works in the catalogue *raisonné*, presents a variety of genres: portraits/self-portraits, everyday scenes, landscapes, still-lives, religious and mythological paintings, drawings and illustrations. We cannot, however, ignore the selection of themes that was proposed by the aforementioned critic, one of de Souza's contemporaries, that we are now going to explore.

If her self-portraiture, featured prominently in José-Augusto França's, *A Arte em Portugal no século XIX* (Portuguese Art in the XIXth century), published in 1966, was internationally recognised and then later deservedly placed among the most significant self-representational works in Western painting from the turn of the 19th to the 20th century¹¹ (fig. 1), the portraits¹² and, above all, the series of children's portraits¹³ began to attract attention as the centenary of her death approached.

¹⁰ Subtitle of the article *Aurélia de Souza, pintora admirável* ("Aurélia de Souza, admirable painter"), by an anonymous critic, published on 15 July 1936 in the newspaper *Journal de Notícias*, Porto.

¹¹ For further information, see: the *Self-portrait with red jacket* (c. 1900) selection for the exhibition *1900: Art at the Crossroads*, presented at the Royal Academy in London and the Guggenheim Museum in New York in 2000, and for *500 Self-Portraits* published in 2000 with an introduction by Julian Bell.

¹² See: Silva, 1992; Oliveira, 2006.

¹³ For further information, see: Komissarova, 2021.



Fig. 2 — Family group, 1909. Unknown author. CMP/MdP — CMOS

Similarly, the common-place phrase, “painter of flowers”,¹⁴ shouldn’t lead us to underestimate the quality of her still-lives, which make up a significant part of the Aurelian oeuvre. In fact, the artist has not lost this historically approved title at all: all Aurelian still-lives are works that we, contemporarily, would also like to see on the walls of our homes. Although the connections between this *genre* and the artist’s *genre* of choice¹⁵ — the portrait/self-portrait — arouse reflection outside the comfort zone of painting traditionally relegated to the domain of the female universe, they demand answers to questions about the symbolic and self-representative nature of these images. However, her expertise as an animalist has not previously been mentioned or recognised.

In fact, apart from the impressive trio of black dogs frozen in a sinister alert pose around the prostrate body of *Jezebel* (CR n° 316),¹⁶ the bucolic goat wandering through the green alleys of *Quinta da China* (CR n° 152), the sheep of *Santinha d’Arifana* (CR n° 326) and the donkey pulling a cart through the *Étaples market* (CR n° 226), there are few representations of the animal world in her work. As for the birds mentioned above, they’re most likely one of the works¹⁷ that were exhibited during

¹⁴ “(...) considered by the critics of the time to be a painter of flowers”. Silva, *Aurélia de Souza*, 28.

¹⁵ In both cases, the object/subject represented is in pose, both are products of elaboration/enactment.

¹⁶ The abbreviation “CR n°” refers to the numbering assigned to the work in Aurélia de Souza’s catalogue *raisonné*. Photo credits © Rui Pinheiro: IMG.1,4,5,6; © CMP/MdP — CMOS: IMG.2, 3.

¹⁷ According to a record of the 7.º *Exposição d’Arte* (7th Art Exhibition) (...), the work was exhibited for the first time in 1893. Aguiar, “*Os materiais e a técnica*”, vol. 2, 365.



Fig. 3 — Sofia Martins de Souza (1870—1960), *Self-Portrait with Hat*, 1900.
CMP/MdP — CMOS, n° inv. 78.34.12

the artists' lifetime and which the aforementioned anonymous critic could also have seen in the posthumous exhibition of 1936. Judging by the inscription on the back of the painting made by the author herself, it was entitled, *O meu galinheiro* (My hen house) (CR n° 143).

On the assumption that both the chicken coop and the grove of trees portrayed by the artist (where, as in nature, we find another bird almost invisible in the greenery), were located at Quinta da China, her residence and her lifelong source of inspiration, I've analysed images from the photo archive documenting the life of the artist and her family. I've selected two photographs¹⁸ taken in 1909, most likely on the same day — judging by the position and composition of the group of people dressed in the same clothes in both photos.

The first image (Fig. 2) that has already been reproduced on several occasions, shows a group of family members around the matriarch, Mrs Olinda Peres de Souza (1841—1910).¹⁹ The photograph, most likely taken by Aurélia de Souza, is often referred to as “with bird”, because Sofia Martins de Souza²⁰ is holding a bird, of which

¹⁸ Published in Catalog (2016, p.158) and Raquel Henriques da Silva's monograph (Silva, op. cit., 13).

¹⁹ In this image, as well as family members and those close to her, we find her mother, Mrs Olinda Peres de Souza, and four of Aurélia's five sisters — Helena de Souza Dias Ribas, Elvira de Souza (?), Luísa Martins de Souza, Sofia Martins de Souza.

²⁰ Sofia Martins de Souza (1870—1960), a Portuguese painter, Aurélia de Souza's sister and also her fellow student at the *Academia Portuense de Belas-Artes* and at the *Académie Julian*.



Fig. 4 — CR n° 405. *Femme qui passe*, c.1900. Private Collection



Fig. 5 — CR n° 17. *Portrait of Sofia Martins de Souza*. Private Collection

we don't know if it was alive or if Sofia, an inexhaustible source of positive energy, always ready to play pranks, was holding an embalmed creature.

As a matter of fact, Sofia, (one of the de Souza sisters, Aurélia's most faithful study companion, "her inseparable friend of every hour"²¹ and throughout her life), was also a notable artist. In an extravagance bordering on the extreme, she decided to present herself in her masterpiece *Autorretrato*²² (*Self-portrait*), with an exuberant high-brimmed hat, remotely reminiscent of an exotic bird, resting directly on the head of the woman with the slightly snub nose (Fig. 3).

The second photograph,²³ apart from the significant absence of Sofia and the presence of Aurélia (which supports a hypothesis on the authorship of the photographs), shows the same group and the same bird, this time, teeming with life. Although the photograph is in black and white, we can recognise the bicoloured bird (black and white, with a white tail and black head,²⁴ i.e., the white-bellied crow or *corvus albus*)

²¹ Costa, 1937, p. 64.

²² The two self-portraits by Aurélia (fig. 1) and Sofia, painted around the same time (c. 1900), are considered to be the sisters' masterpieces. Aurélia de Souza's internationally recognised *Self-portrait with red jacket* (c.1900) is, nevertheless, considered by many to be one of the most beautiful portraits in Portuguese painting.

²³ Given the poor quality of the second photo, it couldn't be reproduced here. Published in Raquel Henriques da Silva's monograph (Silva, op. cit., 13).

²⁴ According to non-expert analysis, this is a raven (*corvus albus*), white raven, pied crow or jackdaw — a bird characterised by its bicoloured plumage, with a white underside of the tail and a black head.



Fig. 6 — CR n° 404. *Bird*, 1894. Privat Collection

posing in front of the group, likely keeping close to its guardian, which in turn indicates that it is Sofia who is behind the lens.

What can we say about Aurélia? She was 43 at the time, distant but attentive, as she always seems to be in family photographs. The ambiguity of her appearance, absent-minded but caring at the same time, (perhaps this last characteristic became more and more evident as the matriarch, Mrs Olinda, whose strength was fundamental to this family, grew older, which is evident in this image), should not deceive us with regard to her infallible artistic acumen, activated by all this *mise-en-scène*.

Was it the same bird, or the same *pair*, and their relationship - the domesticated creature and its guardian — which was immortalised in the drawing *Femme qui passe?* (The woman who passes) (Fig. 4).

A comparison between this drawing and one of the portraits made by Aurélia of Sofia Martins de Souza (Fig. 5), featuring the extravagant hat so appreciated by Sofia, as well as the presence of the bird accompanying the woman, suggest so. And although the uncertainty regarding the chronology of the images does not support it, the evidence of a reciprocal professional relationship/interaction between the two sisters, does. Lastly, going back to the time of the painter's studies at the *Academia Portuense de Belas-Artes*, another Aurelian bird should be mentioned: a small drawing (Fig. 6), dated 1894.

In Aurélia de Souza's work, which is often deeply symbolic, a melancholic trait of the author herself inevitably²⁵ ends up developing into a strong self-representational

²⁵ It is true that melancholics themselves have often chosen melancholy as the object of their research/object of study.

aspect.²⁶ In this context, the small drawing under study, reaching the limits of this melancholy, probably represents one of the most tragic images ever made by Aurélia de Souza.

Coming back to the second photograph in the (almost) forgotten album, we can assume that Aurélia, with her absent gaze, took the bird's place by mere chance. But it's also true that her marked "difference" from her peers becomes even more noticeable in the company of a real white crow. After all, the *corvus albus* is a metaphor for a rare and exceptional creature, just as Aurélia de Souza was in her time.

SUMMARY

The work of Aurélia de Souza, the first woman artist of stature to appear on Portuguese soil two centuries after Josefa de Óbidos (1630—1684)²⁷ — thus forming an impressive axis of female names in Portuguese painting — leaves such an unmistakable and powerful mark that the appearance, in the same century, of two great stars of the national female artistic constellation — Maria Helena Vieira da Silva (1908-1992)²⁸ and Paula Rego (1935—2022)²⁹ — appears as an inevitability.

Aurélia de Souza's masterpieces - the portraits and, more specifically, the self-portraits, which emerged as an isolated event in the painting of her time and made her stand out among her contemporaries, have already deserved the attention of scholars and will undoubtedly motivate future research. They were not the focus of this short study, which, due to its format, but also deliberately, was limited to specific elements of a survey carried out as part of the preparation of this artist's catalogue *raisonné*.

However, just as the unquestionable supremacy of Aurelian (self-) portraiture in relation to her other works does not alter, for example, the relevance and complexity of her still-lives, neither does the importance of the details scattered throughout the (so-called) lesser pictorial materials (sketches, fragments) and photographs (family archives) admits that we underestimate them or isolate them from the overall panorama of images and documents that help us to know this "austere and unconventional"³⁰ figure better.

²⁶ For further analysis, see: Oliveira, 2006; Komissarova, 2023.

²⁷ Josefa de Ayala Figueira, known as Josefa de Óbidos (1630—1684) — daughter of the Portuguese painter Baltazar Gomes Figueira and Catarina de Alaya Camacho Cabrera Romero, a native of Andalusia - was a painter who developed her artistic activity in Portugal. From the 17th century onwards, she was considered the prototype of Portuguese 17th century culture.

²⁸ Maria Helena Vieira da Silva (1908—1992) was a Portuguese painter, naturalised French. One of the greatest names in Portuguese painting.

²⁹ Paula Rego (1935—2022) was a Portuguese-British painter. Along with Maria Helena Vieira da Silva, she is the most acclaimed Portuguese painter worldwide.

³⁰ Taken from Silva, op. cit., 16.

This study, which has enabled a more precise identification of one of Aurélia de Souza's works and provided evidence of an artistic relationship between the two sisters, aimed to convey an idea how fruitful the articulation between the analysis of the pictorial works gathered in the *catalogue raisonné* and the subtle evidence found in the photographic material from a family archive could be.

References

- Acciaiuoli, M., & Babo, M. A. (2001). *Arte e Melancolia*. Instituto de História da Arte/Estudos de Arte Contemporânea.
- Aguiar, M. (2012). *Os materiais e a técnica de pintura a óleo na obra de Aurélia de Souza e a sua relação com a conservação*. (Unpublished doctoral dissertation). Universidade Católica, Porto.
- Bell, J. (2011). *500 Self-Portraits*. Phaidon.
- Costa, J. (1937). *Aurélia de Souza: A sua vida e a sua obra*. Imprensa Portuguesa.
- Komissarova, E. (2021. Jan.-Jun.). Gente de Palmo e Meio. In 19&20. Rio de Janeiro. Available at: http://www.dezenovevinte.net/obras/ek_asouza2.htm, Accessed March 07, 2024.
- Komissarova, E. (2023). *Triade. Uno studio di tre autoritratti di Aurélia de Souza*. In Gianfranco Ferraro (Ed.). *Altraparola: La Figura di Sé* (n_10. pp.121-138). Edizione Efestò.
- Silva, R.H. (1992). *Aurélia de Souza*. Lisboa: Inapa.
- Silva, R.H. (2023). *Variações: Arte Portuguesa Séculos XIX-XX*. Documenta.
- Oliveira, M. J. (2006). *Aurélia de Souza em Contexto da cultura artística no fim de século*. Imprensa Nacional-Casa da Moeda.

Catalogues:

- Ponte, António (coord.). (2022). *Catálogo de Exposição Aurélia de Souza (1866—1922) Vida e Segredo*. Porto: Museu Nacional de Soares dos Reis.
- Sampaio, V. O., & Pina, J. (1936). *Catálogo de Exposição de Homenagem Póstuma à grande pintora D. Aurélia de Souza*. Porto: Palácio de Cristal.
- Silva, R. H., & Komissarova, E. & Machado, A. P., & Aguiar, M. (2024). *Catalogue raisonné on Aurélia de Souza (1866—1922)*, e-book, Porto: MNSR/CMP. Available at: https://institutodehistoriadaarte.com/wp-content/uploads/2024/07/asouza_book_af_compressed.pdf
- Vicente, Filipa Lowndes (coord.) (2016). *Aurélia de Souza (1866—1922) Mulher-Artista*. Porto: Tinta da China.

Abbreviations:

- CMP/MdP — CMOS Câmara Municipal do Porto, Museu do Porto, Casa Marta Ortigão Sampaio.
- MNSR — Museu Nacional Soares dos Reis.

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CARNIVAL, ANGEL, AND DUST — RANKO MARINKOVIĆ'S SHORT STORIES IN ANTUN VRDOJAK'S FILM

Abstract

The film *Carnival, Angel, and Dust*, directed by Antun Vrdoljak, is based on the stories of the same name written by the writer Ranko Marinković and published in his book — the collection of short stories — “Hands”. The paper will present the fundamental issues relating to the adaptation of literary works and by using the example of the adaptation of Marinković's short stories, it will examine the specific model of transferring a literary work into a film. The question of the “filmic nature” of Marinković's literature will also be addressed; namely, intertwining a realist weave with modernist and postmodernist psychological threads, intellectualist reflection with meticulous observation of trivial everyday life, Mediterranean spleen with a universal feeling of loneliness, searching, disappointment, bounded by the borders of a Mediterranean island, as a chronotope, but also as a determinant that shapes mentality, worldview and identity. Marinković offered to his reader a prose that, primarily, delves deeply into human nature, recognizing individual destiny as a metonymy of collective destiny. Therefore, the possibilities of its adaptation into audiovisual media and the way Antun Vrdoljak accomplished it in this film will be explored. Particular attention will be paid to the analysis of specific island humor, pungent, cruel, merciless, sarcastic, grotesque. Through the study of characters and described dramatic situations, the present motifs of loneliness, misfortune, and death, in the atmosphere of a small environment, a closed island community where it is impossible to hide one's intimacy, communities often prone to cruelty, it will be verified how humor and sarcasm become crutches for life, resistance its seriousness, fatality and finality, with an almost cathartic effect.

Key words: *Ranko Marinković, Antun Vrdoljak, short story, film, adaptation*

INTRODUCTION

Adaptation, as a process of transferring a literary work into a film, is a complex procedure fraught with numerous challenges stemming from the fundamental differences between the two media. A key premise of this process is the existence of “communication between the source and target text within a new socio-cultural context” (Perdikaki, 2017, 265), and adaptation can be viewed “as a kind of intersemiotic translation, as it involves the transfer of meaning between two different media” (Perdikaki, 2017, 265).

Each such transfer raises questions about the relationship to reality, mimesis and diegesis, as well as issues of time, space, focalization, mediation, differing approaches to source material, the differences between literary and film language, and modalities of transmission. When it comes to the prose of Ranko Marinković, one must also consider the fundamental feasibility of adapting his literature into film. Marinković intertwines realistic foundations with modernist and postmodernist psychological threads, intellectual contemplation with meticulous observation of seemingly trivial everyday life, Mediterranean melancholy with a universal sense of loneliness, searching, and disillusionment — all framed within the boundaries of a Mediterranean island as both a chronotope and a defining element shaping mentality, worldview, and identity.

Marinković's prose, that delves deeply into the human condition, recognizing individual fate as a metonymy for the collective experience. How director Antun Vrdoljak approached this challenge — as both the screenwriter and director of the film *Carnival, Angel, and Dust*, based on three eponymous island novellas from Marinković's anthology collection of short stories *Hands*¹ — forms the central issue of this paper. It is also interesting that Marinković himself, in his youth, was intrigued by the possibilities of what was then a new art form — film², and the temporal coincidence of these creative pursuits is certainly significant.

ON THE CINEMATIC IN MARINKOVIĆ'S STORIES "CARNIVAL, ANGEL, AND DUST"

Marinković's literature intertwines realistic foundation with modernist and postmodernist psychological threads, an intellectual reflection with meticulous observation of seemingly trivial everyday life, and Mediterranean spleen with an universal sense of loneliness, searching, and disillusionment. His prose is framed by the boundaries of a Mediterranean island, not only as a chronotope but also as a determinant shaping mentality, worldview, and identity.

How suitable this prose is for translation into the cinematic medium, what challenges the film director encounters along this path, and to what extent Marinković himself, as a narrator, was familiar with cinematic expressive tools, is an intriguing question.

In his essays, Marinković writes about the nature of film as a medium capable of mastering time and space. He is fascinated by film as a brilliant storyteller that "opens

¹ The collection took its present form in 1962. More: Peterlić, A. (2004). *Ranko Marinković kao filmolog* in: *Komparativna povijest hrvatske književnosti ; zbornik radova VI*. (Europski obzori Marinkovićeva opusa). Split: Književni krug Split, pp. 29-46.)

² It is a lesser-known fact that Ranko Marinković is one of the pioneers of film theory in Croatia. Between 1938 and 1941, he wrote five articles on film, with his most significant essay, *On the Mechanics and Poetics of Film*, published in 1951 in the Zagreb journal *Filmska revija* (Ranko Marinković, *O mehanici i poeziji filma*, "Filmska revija", no. 1, Zagreb 1951.)

up highly diverse temporal perspectives, transforming minutes into years and years into minutes, penetrating the soul of the image and expressing, without words, invisible emotional states through visual imagery" (Marinković, 2007, p. 76). He observes that "this present moment of ours in the cinema continuously shifts its plane and perspective of perception, and our entire activity essentially boils down to searching for an interesting and exciting vantage point, to our illusory movement through the space of the projected image, where we exist in the role of observers" (Marinković, 2007, p. 69).

Concepts such as "observer," "vivid point of view," and "constant change of perspective" are terms that can be applied both to Marinković's literary poetics and to the process of finding the appropriate concept for the film adaptation of his works. Choosing the right point of view, clearly understanding the core motives of the narrative, developing characters, and building upon the atmosphere of the literary work are key elements in the creative process. Marinković possesses an analytical mind, and his perception is never confined to a single perspective. He insightfully delves into the smallest nuances of his literary characters, examining each personality from multiple angles. He seeks to experiment, transitioning from the dramatic and psychoanalytical to the comic and absurd, driving both his and the reader's imagination into increasingly virtuosic digressions. He observes by combining all possibilities — zooming in, zooming out, observing with a keen eye, accelerating or slowing down the rhythm of what is being observed (Frangš, 1979).

The demands that Marinković's prose places on a film director are exceptionally high. On one hand, the filmmaker must be a master of portraying the emotional states of a whole spectrum of vivid Mediterranean characters. He has to be attuned to Marinković's island humor — acerbic, sarcastic, ruthless, mocking, and full of sharp-witted remarks³. At the same time, he has to be courageous and skilled enough to use cinematic techniques to surprise, capture, and effectively bring to life the full range of Marinković's sudden shifts in the plot and character behavior. Only then he can offer an inspired and fresh cinematic interpretation of Marinković's artistic universe, which is never dull or predictable.

Antun Vrdoljak, in his reflections on Marinković's work, writes that Ranko Marinković's literature is "in direct opposition to film, which some consider the art of images and photography."⁴ This observation of an experienced filmmaker, who adapted two of Marinković's works into feature films and two television series, reflects the challenge of finding the right cinematic approach to Marinković's prose.

³ As it is noticed, "Both satire and analysis are activities of the intellect, and if Marinković's humor stemmed solely from the combination of rationally observed rather than emotionally experienced elements of reality, they would not suffice for him to rise to the level of emotion and artistic vision." (Frangš, 1998, p.398)

⁴ Vrdoljak, A. (2011). "Ranko, kako sam ga zapamtio", Vijenac, br. 453. Available at <https://www.matica.hr/vijenac/453/ranko-kako-sam-ga-zapamtio-479/> (20.11.2024.)

Vrdoljak's relationship with Marinković's prose is imbued with a sense of reverence; he approaches Marinković "above all as a admirer of Ranko's magical sentences."⁵ This raises legitimate questions on how much Antun Vrdoljak, as director, screenwriter, and Marinković's personal friend, is willing, able, or even desires to intervene in the literary source material. Should a film merely serve as a literal illustration of a literary work, or is it expected to construct a new, authentic world through its own expressive tools?

The omnibus *Carnival, Angel, and Dust* belongs to the category of so-called illustrative adaptations⁶, characterized by a close adherence to the literary source material and a faithful translation of the text into film. It is a solid cinematic achievement, directed in a classical style with traditional methods of film expression. However, this approach doesn't fully explore the audiovisual potential of Marinković's prose, which inherently features playfulness, creative exploration, careful introspection, and curiosity.

The film, released in 1990, is based on three Marinković's eponymous short-stories. Vrdoljak introduced the character of the Writer as an observer and protagonist of the island stories, "borrowing" him from the novella *Zagrljaj*. The writer provides a framework for the events in the film; he comments on them, either on-screen or through off-screen narration, and serves as a kind of omniscient presence, alternating between describing situations and interpreting the thoughts swirling in the minds of the characters. Alongside the element of the island's specific geographical setting, the writer's role is to connect the three standalone stories into a cohesive cinematic whole, forming an omnibus.

However, the writer's presence in the film is dramaturgically inconsistent. He is most prominent at the very beginning, where he voyeuristically observes the sea, the small harbor, the stone square, and the streets of the island town through slightly parted curtains. He descends among the locals, searching for inspiration for his writing. As the film progresses, his role is reduced to sporadic quotes lifted directly from Marinković's novellas, and his literary function as a guide and commentator, becomes an increasingly burdensome element as the film unfolds. His presence feels almost formal and is not integrated meaningfully into the film's situations, leaving the impression of an external, incongruous element.

The film lacks Marinković's playful wit, the way he approaches and then distances himself from the object of observation, circling it with unexpected mental agility and surprises. This essential liveliness of spirit — so characteristic of Marinković — is noticeably absent.

⁵ Ibid.

⁶ Čegir, T. (2011). "Marinković i film", *Vijenac*, 453. Available at: <https://www.matica.hr/vijenac/453/marinkovic-i-film-480/> (22.10.2024.)

CARNIVAL

The first film story, *Carnival*, takes place during carnival season, a time when cold and darkness dominate even the warm Mediterranean, and when people may lose control and act wildly. Two friends, Visko and Nano, social outcasts and something of town eccentrics, become the princes of the carnival but find themselves on opposite sides, eventually getting into a fight themselves, yet finally showing more dignity and humanity in their own authentic way than the educated city elites. In the ensuing chaos, reminiscent of the physical chases and brawls typical of slapstick comedy from the silent film era, one can easily recognize Chaplinesque elements⁷. These are evident in both the literary work and its cinematic adaptation, as “in their most obvious form, that of physical comedy, burlesque, and grotesque (tinged with melancholic reflections)” (Kragić, 2010, p. 90). Furthermore, the histrionic portrayal of Nano Bardela in the film is a direct homage to Chaplin, reflected in everything from facial expressions to his oversized black trousers, suit, shoes, and hat pulled down over his head.

Vrdoljak finds his strongest footing as a director in this story, perhaps because he shows an intimate understanding of the depicted characters and the mentality of small-town communities, full of gossip, petty cunning, outbursts of aggression, but also a quick-wittedness born of the need to survive and adapt. Marinković's dialogues are precise and impactful, but it is his meticulously choreographed staging of character movements and glances — his *mise-en-scène* — that is the most impressive, and Vrdoljak successfully transposes all of that to film.

Visually, *Carnival* is the richest story in terms of locations and costumes. The stone streets, squares, staircases, and balconies provide an ideal cinematic backdrop, while the carnival costumes enhance the visual richness of the scenes. This story also achieves the best rhythmic balance between interior and exterior scenes, the interplay of atmospheric intimacy and public, comedic, and farcical moments, as well as the dynamic movement of individuals and groups of people.

ANGEL

In the central story *Angel*, the terminally ill sculptor Alber Knez lies in bed, waiting for death to come. In attacks of lucidity or paranoia, the master suspects that his young wife Frida is cheating on him with the sculptor's apprentice Lojza, and this issue of trust, wrong life judgments in relationships with those closest to him, and these tormenting thoughts do not give him peace. He recalls his first meeting with the young

⁷ Marinković wrote the following about Chaplin's films: “Chaplin's films are full of falling, blows, beatings, thumps, and all sorts of bodily abuse. The hitting is merciless, wherever it lands: the opponent must be subdued physically, like a ferocious object... and through this base and brutal torment passes the poetically elevated, dreamlike figure of the tramp with the naïve soul of a child.” (Marinković, 2007, 79)

widow Frida, who orders a tombstone statue for her late husband from him, their first glances at the memorial service in the church, falling in love and joy. Here too, Vrdo-ljak makes extensive use of Marinković's line in dialogue and voice-over. The master's thoughts and memories intertwine, with the observations and comments of the omnipresent writer. However, excessive use of voice-over that explains or announces what we will see in the scenes slows down the pace and suffocates the film's atmosphere, doesn't give the viewer space to build on what is shown with their own emotional experience, doesn't allow the film to breathe with its own language. Such literary underlining of film scenes especially doesn't work in describing human relationships, which lack the decision to place glances and touches, the choreography of the characters' movements and their spatial relationship, meaning that the immanent filmic is superior to the written. Here, the use of voice-over, no matter how bravura Marinković's sentences are, suffocates the filmic.

Marinković also provides an optical hint at how the main character Albert Knez sees the world around him, it is a helpless horizontal position that changes the world, that makes everything around him grow. "But he would like to oppose himself in his thoughts, to look things in the eye from his normal perspective, from his height of one meter and eighty in slippers, to regain his optics, his sense of space and the volume of matter under his fingers". (Marinković, 2019, p. 122). And these views, these angles are missing in the film, they are not used enough. The master was filmed from a normal perspective, just like Frida and Lojz around his bed. This television framing and the choice of a single perspective, and the use of mostly medium lenses, that give the impression of spatial distance from what is shown, reduce the expressiveness of the characters and take away a possible more visually and conceptually playful interpretation of the central film space of the sickroom, but also of the physical and mental state of the main character. The stage design could have been played out even more in the fantastic direction of reviving scenes from the master's past or subconscious, in the fever of the sickroom. This direction is only indicated in the film. Namely, in one of the rare director's interventions into the content of the novella, there is an original film and dramaturgical motif. The Master, in fact, sees the figure of his deceased first wife, Magda, who, like a ghost from Shakespeare's tragedies, warns the Master of deceit and betrayal. In this style, the first horror shot is of Magda with a chisel stuck in her forehead, then in surreal situations when the Master discovers her lying next to him in a sickbed, and later in the stone courtyard of the workshop when she warns him of Frida's cunning and infidelity, and in a cinematically impressive scene, the Master, through the flames of candles that "emerge" at the bottom of his bed, sees through the ajar door of another room a coffin and the dead Magda in it, and Lojza riveting the coffin, unrealistically loudly, as if he were hitting a sculptor's chisel on a stone.

This scene and the director's procedure of introducing the unreal into the space of the sickbed and the entire interior, suddenly makes the whole more visual and cin-

ematic, but this procedure is introduced insufficiently and too late. There remains a regret for a generally more modern film and dramaturgical approach.

DUST

In the film story *Dust* the problem of excessive quoting of Marinković's sentences literally collapses the film's impression, leaving the story in an airless space between literature and the visual media.

The main character of the novel, Tonko noble Jankin, a clumsy eccentric whose hobby is collecting old keys and whose fiancée left him eleven years ago, to whom, as the writer will say at the beginning, long years of solitude have brought "the ability to turn every inner experience into reality. The only reality he knew". With this description, Marinković himself offers a solution or at least a serious incentive for the possible concept of a film adaptation and this novella. The main character's impression of reality is seriously damaged, and the receipt of a letter from his ex-fiancée Ana throws him into a cycle of love memories and turbulent mental states. He relives the situations with Ana, falls into a tangle of self-condemnation, remorse, anger, disappointment, hope, falling in love, and thoughts of revenge. His naive, immature, almost childlike thoughts collide with something much more serious in life, and possibly even tragic. And that balance of emotions and film genres is an extremely potent starting point for the film. But again, the film is inconclusive, the action is interrupted again and again by Tonko's monologues, which, as in *Angel*, only to an even greater extent, repeat or announce what is in the film image. This duplication of narratives, is repeated too often in this film story and becomes tiresome, taking away its rhythm and authenticity.

Successful cinematic solutions, are too rare, like the combination of a French blockbuster and the dreamy dance of Tonko and Ana on the seashore, or the creative use of camera movement in the long shot in which the camera approaches the mysterious package that Tonko brought to Ana's apartment suggesting it is a dynamite. In that same long shot, Tonko takes a package that is ticking loudly, sits down and opens it. The ticking stops — in the box are Ana's love letters to Tonko, a dynamite that can destroy Ana's marriage.

As in *Angel*, the main character doesn't leave his house for a good part of the plot, so the two film stories are very similar in terms of photography and lighting, and more hermetic in terms of atmosphere and number of locations than *Carnival*. The relationship between the studio interiors and exterior locations, is not used potently. There is no recognizable Mediterranean atmosphere of a hot summer, no potentially effective contrast between the island's nature and the darkened space of Tonko's house, so an important visual-aesthetic dimension is missing.

CONCLUSION

With his literary works, but also his essayistic reflections on film, Ranko Marinković left a significant mark that doesn't fade even today. Vrdoljak's adaptation of three short stories from Marinković's collection of short stories *Hands*, the film omnibus *Carnival, Angel and Dust*, is an interesting film achievement in which one can observe all the challenges of adapting demanding aesthetically polished prose in film. The director who adapts Marinković's prose has the privilege of both being guided by a firm narrative hand, sometimes with a pure audiovisual approach, as well as being encouraged to find new creative solutions. This is a literary opus that doesn't age and that is ready for a fresh contemporary film interpretation.

References

- Čegir, T. (2011). Marinković i film (Marinković and film). *Vijenac*, 453.
<https://www.matica.hr/vijenac/453/marinkovic-i-film-480/> (Accessed: 22.10.2024).
- Frangeš, I. (1979). Ranko Marinković, *Croatica*, 10(13-14) 7-32.
- Frangeš, I. (1998). Zbilja i mašta u Zagrljaju (Reality and imagination in Embrace). Zagrljaj Ranka Marinkovića u Frangeš, I., Žmegač, V. (Ed.), *Hrvatska novela: interpretacije*. Školska knjiga
- Kragić, B. (2010). Marinković na filmu (Marinković in film). In Fiamengo, J. (Ed.), *Suvremenost Ranka Marinkovića: zbornik radova sa 4. Dana Ranka Marinkovića u Komizi*, 13. i 14. 9. 2008., Komiza: Grad Komiza, str. 89-92.
- Marinković, R. (2019). *Ruke* (Hands). Kostrena: Lektira d.o.o.
- Marinković, R. (1951). O mehanici i poeziji filma (About the mechanics and poetry of film). *Filmska revija*, br. 1, Zagreb 1951.
- Marinković, R. (2007). *O mehanici i poetici filma u: Nevesele oči klauna* (On the mechanics and poetics of film in: The Cheerless Eyes of the Clown). Školska knjiga.
- Perdikaki, K. (2017). Filmska adaptacija kao prijevod: Analiza adaptacijskih pomaka u ekranizaciji romana U dobru i u zlu (Film adaptation as a translation: An analysis of adaptation shifts in the film adaptation of the novel For good and for evil). *Anafora*, 4 (2), 265-265 na <https://doi.org/10.29162/ANAFORA.v4i2.5> (pristupljeno 22.11.2024)
- Peterlić, A. (2004). *Ranko Marinković kao filmolog // Komparativna povijest hrvatske književnosti; zbornik radova VI. (Europski obzori Marinkovićeva opusa)* (Ranko Marinković as a film scholar // Comparative history of Croatian literature; Proceedings VI (European horizons of Marinković's Opus). Književni krug Split, str. 29-46
- Vrdoljak, A. (2011). Ranko, kako sam ga zapamtio. *Vijenac*, 453. Available
<https://www.matica.hr/vijenac/453/ranko-kako-sam-ga-zapamtio-479/> (Accessed: 20.11.2024.)

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INTERLOPERS ('GRENZGÄNGER') BETWEEN THE OTTOMAN HINTERLAND AND THE ADRIATIC ISLANDS: THE CASE OF THE FRANCISCANS ACCORDING TO OTTOMAN SOURCES

Abstract

Franciscan friars crossed from Ottoman Dalmatia to the islands held by Venice (and beyond to the Italian peninsular) in order to study and gain employment and higher office, only to return to the church province of Bosna Srebrena with the purpose of officiating as priests 'back home'. Ottoman documents would suggest that this process of returning into the Ottoman realm with a western education did not always go smoothly and was sometimes opposed by the Franciscan hierarchy. Conversely, Franciscan friars were occasionally sent across the border into Venetian territory by high-ranking Ottoman officials such as fortress commanders (*dizdar*), for example as 'search parties' with instructions to locate Ottoman prisoners-of-war held in Venetian custody and ransom them with the (financial) help of Franciscan monasteries nearby. The paper will use Ottoman sources to investigate Franciscan mobility across the Darulharb/Darulislam divide as a typical 'grenzgänger' phenomenon which has been little studied.

Key words: *Ottoman Empire, Venice, Franciscans, Skradin, Ljubuški fortress commander, Dalmatia*

INTRODUCTION

MIC-VIS stands for the Adriatic Sea and its Islands, so for any student of Ottoman history it is *a priori* difficult to contribute substantially to its past, because the Ottoman Empire in these parts was (largely) landlocked, separated from the Catholic world, its principal enemy, by what in retrospect may be seen as 'a zone of fracture' (Pedani), even some kind of Iron Curtain. But was this really a closed border between this longest-lived Muslim empire in history and the Christian powers?¹

¹ A recent discussion of the Adriatic as a disputed frontier can be found in Maria Pia Pedani, "Beyond the Frontier: the Ottoman-Venetian Border in the Adriatic Context from the Sixteenth to the Eighteenth Centuries," in: Almut Bues (ed.), *Zones of fracture in Modern Europe, Baltic Countries-Balkans-Northern Italy* (Wiesbaden, 2005), 45-60.

In this contribution I deal with Ottoman Catholic subjects who reached out towards the Catholic world of the islands and the Adriatic sea on a special mission, being entrusted by Ottoman officials from their home region in Herzegovina to look for Muslim prisoners of war detained by Venetian troops in a fortress re-conquered from the Ottomans shortly after the fall of Klis in 1537.²

Who were these Catholic subjects of the Sultan sent out as go-betweens to ransom three Ottoman Muslim prisoners of war after a voyage by sea through the (Venetian controlled) waters of the islands of Korčula, Hvar, Brač and Šolta, and onwards on dry land through Ottoman territory? For the answer we shall look into a case of Franciscan agency on behalf of Ottoman military officials for the ransoming of three Muslim prisoners of war taken captive (apparently) by Venetian troops immediately after the Ottoman siege and final conquest of the fortress of Klis on 12 March 1537. Probably as a kind of divertive or revenge operation, the Venetian general Girolamo Pesaro (1481–1550) had the Ottoman port of Skradin sacked, in the course of which operation Skradin fortress, as well as the town's defensive installations, were raised to the ground on order of the government of the Serenissima. According to the account of the famous chronicler Gašpar Vinjalić, this happened before the end of the year 1537.³

The ransom case is documented by a small number of Ottoman instructions from the Franciscan monastery of St Mary in Zaoštrog,⁴ which appear to be supported by some more Ottoman documents from the Venetian state archives. It opens with a note (*tezker*) dated 21-30 April 1538 in which the governor of the Ottoman province of Hersek (Herzegovina) called Hamza Bali formulates his request, styled an 'entreating leaf' by its issuer,⁵ in the following way: Fra Đure (i.e., Friar George), the bearer of the document and without any doubt a Franciscan friar, is entreated by Hamza Bali Beg to make inquiries in the lands of the infidels, together with two (unnamed) companion friars, about the whereabouts of three Muslim captives by the names of İlyas Ket-hüdaoğlu Bali, Mehmed *kethüda*, and Behlul *dizdar* — with the briefing to ascertain

² For an earlier version of this ransoming story in Croatian see: "Zanimljiv događaj nakon turskog osvajanja Klisa 1537. Hercegovački franjevci pomažu pri otkupu muslimanskih ratnih zarobljenika iz mletačkoga zarobljeništva", in: *Bosna Franciscana* 61 (Sarajevo, 2024), 133-141.

³ See the illustrated brief account of 'the liberation of Skradin' in Gašpar Vinjalić, *Kratki povijesni i kronološki pregled važnih zbivanja koja su se dogodila slavenima u Dalmaciji, Hrvatskoj i Bosni 1514.—1769*. Preveo, dodao podnaslove i uputnice na vrela Bruno Pezo; uskladio s izvornikom i popratio objašnjenjima Vicko Kapitanović (Split, 2010), 37.

⁴ For an earlier reference to this episode see Dijana Pinjuh, *Vjerske prilike kod Katolika u Hercegovini (od Turskog osvajanja do konca 17. stoljeća)*. Doktorska disertacija, Sveučilište u Zagrebu, Hrvatski studiji (Zagreb, 2013), p. 101. Pinjuh reads the friar's name as 'perhaps Fra Grgur'.

⁵ Franciscan monastery of St Mary in Zaoštrog, document AT Z32 (for a full transcription and translation see the first document in the Appendix).

whether they are alive or dead, and what price would need to be paid for their ransom should they still be among the living.

The second document from Zaostrog monastery is an undated letter issued by Aydın, deputy commander (*kethüda*) of Ljubuški fortress in southern Herzegovina.⁶ Fra Yuray (for 'Friar George'), so the letter, the 'most-respected of all the monks in Herzegovina' was being sent out by the Ljubuški authorities because of some captives being detained in the fortress of Skradin. He is directed to proceed to the edge of the Cetina area (marking the border with Bosnia) where he is to make landfall. In case Friar George needed to approach the Franciscan monasteries of Visovac and Karin (in the hinterland of Skradin) for any (moral or financial) support from their co-friars, the officials of the executive (the *voyvoda* and *subaşı*) or any other Muslim, or indeed any *martolos* detachment operating in these districts is warned not to hurt or trouble him.

The three captives (İlyas Kethüdaoğlu Bali, Mehmed *kethüda*, and Behlul *dizdar*) must have been officers from among the higher-ranking fortress personnel. Given the date of Bali Beg's letter, it is obvious that they are bound to have fallen into the hands of their captors at a minimum of several months before the last decade of April 1538 (the letter's date of issue). In fact, if they are indeed identical with those mentioned as 'some captives presently detained in the fortress of Skradin', they are likely to have been detained around the time when the Ottomans briefly lost this important port to the Venetians after the fall of Klis in the spring of 1537, and must have been captured before the troops of general Pesaro razed Skradin fortress to the ground by the end of that year. Their capture is likely to have happened in the context of the land-based operations under Ghazi Hüsrev Beg leading to the conquests of Solin (the former Roman provincial capital of Salona) and then Klis in the vicinity of Split, or indeed in the events that ended with the Venetian storming of Skradin (mentioned already) in the aftermath of the fall of Klis fortress on 12 March 1537.

Whatever the exact circumstances of 'our' Ottoman fortress commanders falling into enemy captivity, it is both the agents and the process of their ransoming that will attract our particular attention. Instructed initially by Hamza Bali Beg, the Ottoman governor of Hersek province, to inquire about their whereabouts in Venetian-held enemy country, Fra Đure (later styled Fra Juraj) is eventually dispatched by the deputy (!) *dizdar* of Ljubuški fortress, Aydın, with a letter of Safe Conduct to protect him along his way against Ottoman executive officials, Muslim opposition and *martolos* detachments. The Safe Conduct even specifies the eventuality of Fra Đure/Juraj (Friar George) having to look for assistance from some of his co-brethren: The nearest Franciscan monasteries, those of Visovac situated on an island in Krka river, and Karin at some distance to the northwest towards Obrovac, were both on Ottoman, not Venetian territo-

⁶ Franciscan monastery of St Mary in Zaostrog, document AT Z403 (for a full transcription and translation see the second document in the Appendix).

ry. Such thoughtful consideration seems to suggest a particular commitment on the part of the Ljubuški deputy (!) *dizdar*, posing the question: Why after all is this action emanating from Ljubuški, and why should it be the deputy (!) *dizdar* who takes the initiative, not the fortress commander himself? Might (some of) the captives perhaps have been the deputy's comrades-in-arms from Ljubuški? The reader will remember that one of the captives is 'fortress commander' (no less) Behlul *dizdar*.

Lacking information about the former postings of Behlul *dizdar*, we can only speculate about the answer to this question. Interestingly, the phrasing of the Safe Conduct itself sheds some (rare) light on the attitude of such Muslim 'ransom commissioners' towards their Christian 'go-between' who were charged with approaching the (for want of a better term) 'enemy clients' in this ransom project: "He who has been sent from here to there", so goes the letter referring to Friar George, "was sent to those regions [...] with much indebtedness [on our part], [and acting] under his noble motives nobody is to maltreat the said friar"!

Unfortunately, the Safe Conduct which Aydin Ağa issued as deputy *dizdar* of Ljubuški fortress is undated, so we cannot be sure that it fits our chronology smoothly. But there is another letter by him in the Zaoštrog collection of Ottoman documents. In this *tezker*e (Zaoštrog Z33), Aydin Ağa grants permission to a number of inhabitants from Zaoštrog who had fled across the sea in the course of the war (looking for shelter in the area under Venetian administration) to return to the Ottoman lands and be faithful subjects of the Padishah again. Although the topic of this letter has nothing to do with the subject of 'our' Muslim prisoners of war, its date, albeit incomplete, is significant. It gives the Muslim year 944 of the hegira, the same lunar year as that in Hamza Bali Beg's instruction, beginning with 10 June 1537.

It looks as if there was a 'happy end' to the story. Thanks to the relative scarcity of the name 'Behlul', a man of that name can be traced into the immediate period following this episode. Only a few years after the events described, and following the Veneto-Ottoman peace treaty of 20 October 1540, a receipt (kept in the Venetian state archives) that had been issued in Slavic by Hüsrev Beg, the famous Ghazi Hüsrev Beg, governor of Bosnia, seems to link back to the events described. Under the date of 18 December (no year), it was signed and sealed by a number of officials for having pledged a sum of money. Among the guarantors is a certain 'Behlil kliški dazdar', i.e. Behlul, *dizdar* of (at this time) Klis fortress.⁷ A similar receipt from the *documenti tur-*

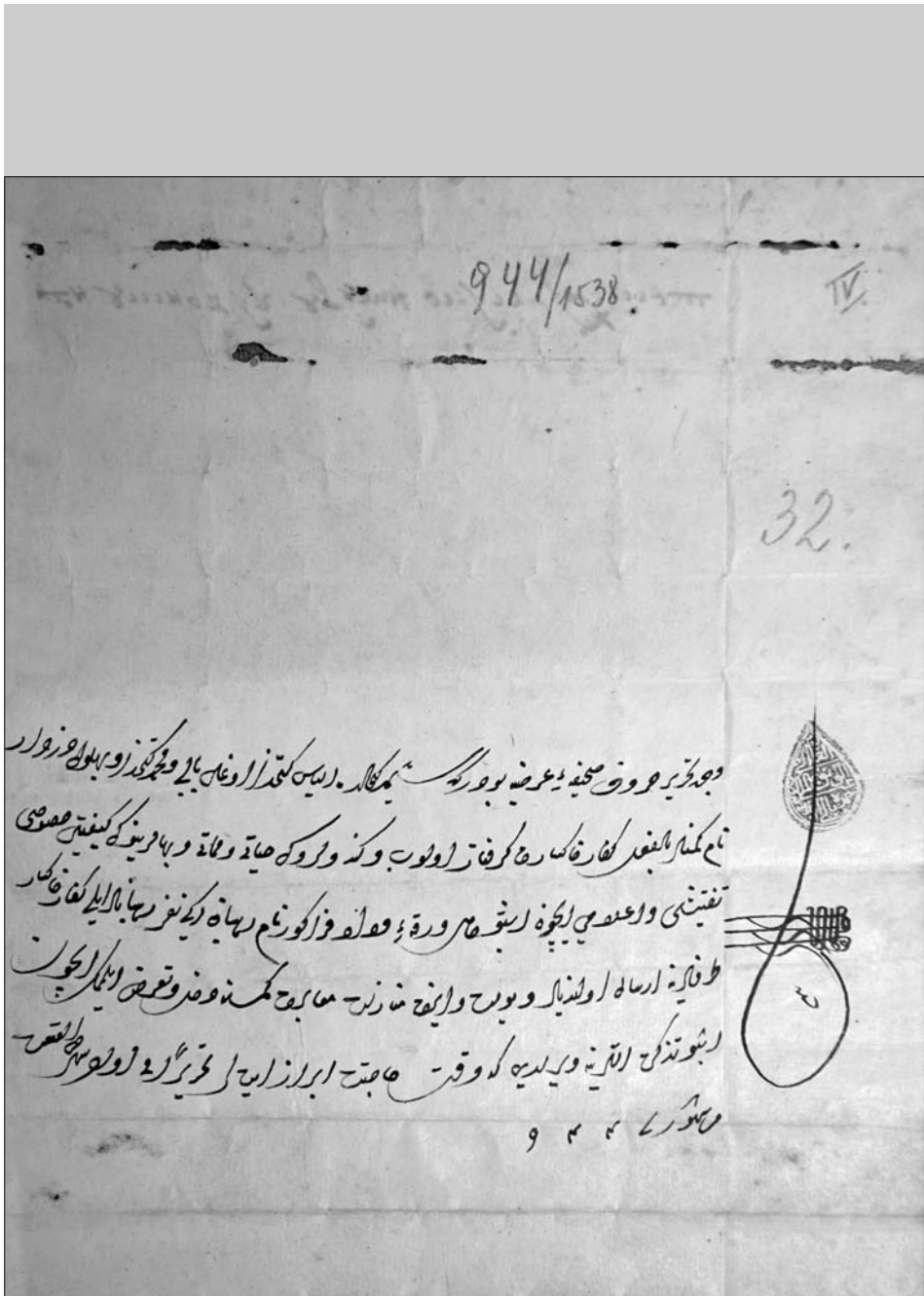
⁷ Archivio di Stato di Venezia, miscellanea documenti turchi 445: 18/12/1540. The text in Bosančica reads as follows (transcription Tomislav Perković, Livno): Husrev begov, j Čanfizan vovoda Behlil kliški dazdar i azab aga kaea agla primismo dvanadeste kovčega od gospodina Ivana neggo srekretareo presvitle gospode bnetačka zabiene i zavezane i zapečaćene a u čih dukate kako nam kaza rečeni šekretareo a da ih pošalemo gospodinu Alvizu Baduveru [Baduer] poklisaru pnetackomu u Čarikrad a da ih on virda kakoe naredba gospode pnetacke. — Upiša se ova kniga u Klisu, decenbara osminaesta dana [no year].

chi collection in the Venetian state archives, also issued in Slavic and dated 20 January 1542, was drawn up and sealed by Hamza Beg, *kethüda* of the successor to Hüsrev Beg, the Bosnian *sancakbegi* Ulama Pasha, and Behlul Ađa, referred to (again) as one of the guarantors as 'Behlimaga dezdar kliški'.⁸

So, whether by the able agency of Friar George, or in consequence of the new peace treaty, or indeed both, at least one of 'our' (former) captives appears to have been able to continue his military career at the highest level, now as the *dizdar* of the fortress of Klis, centre of the newly established sanjak of the same name.

⁸ Archivio di Stato di Venezia, miscellanea documenti turchi 465: 20/01/1542. Here, the Bosančica text (as transcribed by Tomislav Perković) reads: Mi Hamza beg čiehaja od čestitoga Ulama bega [Ulama Beg] baše bosanskoga i Behlimaga dezdar kliški i Aliaga azapaga, primismo od g.na baila bnetačkoga g.na Ieronima Zane, kovčega šest dobro zatvorenih i zavezanih, a unutra reče das u dukate koe se ima se pridati rečenomu g.nu bailu u Čarigradu, a da ih negova milost pride onomu komu naredi prisvitla g.na bnetačka. — Bi upisana kniga ova u Klisu, dva dni po našem bariamu. Na dvadeset dana zenara miseca kasrtianskoga [...] tisuća petsat i četrdeset i dva lita [20. 1. 1542].

APPENDIX



Zaostrog Z32, recto

Z 3 2 T r a n s c r i p t i o n :

Hüve

[*Pençe* and seal on right margin:] Hamza Bali Beg

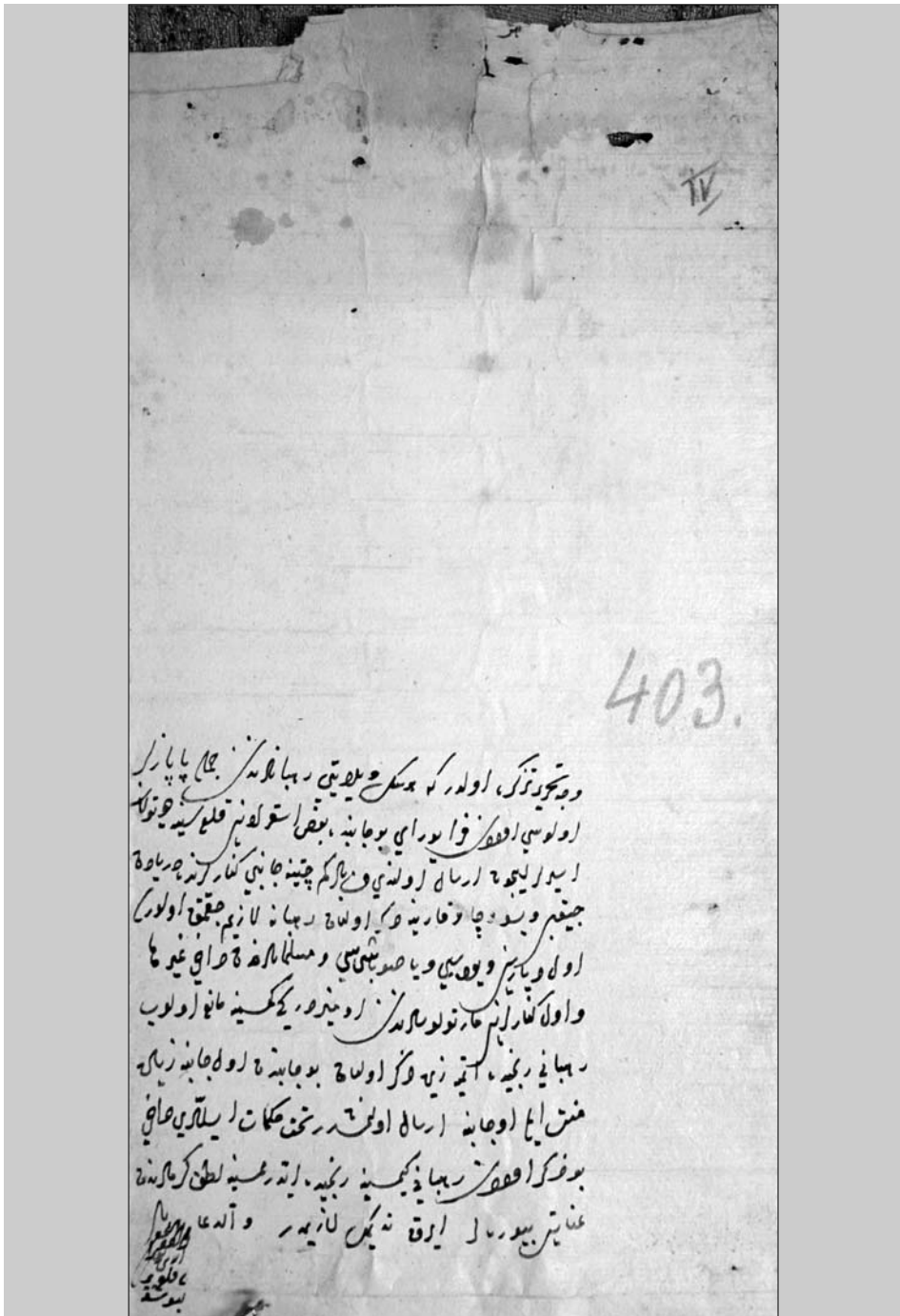
- (1) Vech-i tahrir-i huruf-i sahife-i arziye budır ki şimdikihalde İlyas kethüda oğlu Bali ve Mehmed kethüda ve Behlul dizdar
- (2) nam kimesneler bi'l-fi'l küffar-i haksarda gereftar olub ve kendülerün hali ve mematı ve bahalarınun keyfiyeti hususı
- (3) teftişi ve i'lâmı için işbu hamil-i varaka-i vedad Fra Gyur nam ruhban iki nefer ruhbanlar ile küffar-i haksar
- (4) taraflarına irsal olındılar ve yolda ve izde menazilde kimesne dahl ve taarruz eylememek için
- (5) işbu tezkere ellerine verildi ke vakt-i hacetde ibraz edeler tahriren fi evahir şahri Zilkade min şuhur sene 944

Z 3 2 T r a n s l a t i o n :

HE! [Invocation of God]

[*Pençe* and seal on right margin:] Hamza Bali Beg

The reason for writing down the characters of the petition is this: Presently, the individuals called İlyas Kethüdaoğlu Bali, Mehmed *kethüda* and the commander of the fortress (*dizdar*) Behlul are detained as prisoners of war (*esir*) in the hands of the wretched infidels (*küffar-i haksar*), and for the purpose of inquiring and informing us about the conditions in which they are, about their [possible] death and the question of [the amount of] their ransom, the bearer of this letter of friendship, the monk called Fra Đure as well as two [other] monks were sent to the wretched infidels. This letter (*tezkere*) which they can submit when needed was delivered to them so that no one would blame or threaten them while they were on their way, along [the] road and in [their] resting places. Written in the last ten days of the month of Zilkade, [one] of the months of the year 944 [corresponding to the period 21-30 April 1538]



Zaostrog Z403, recto

Z 403 T r a n s c r i p t i o n :

Hüve

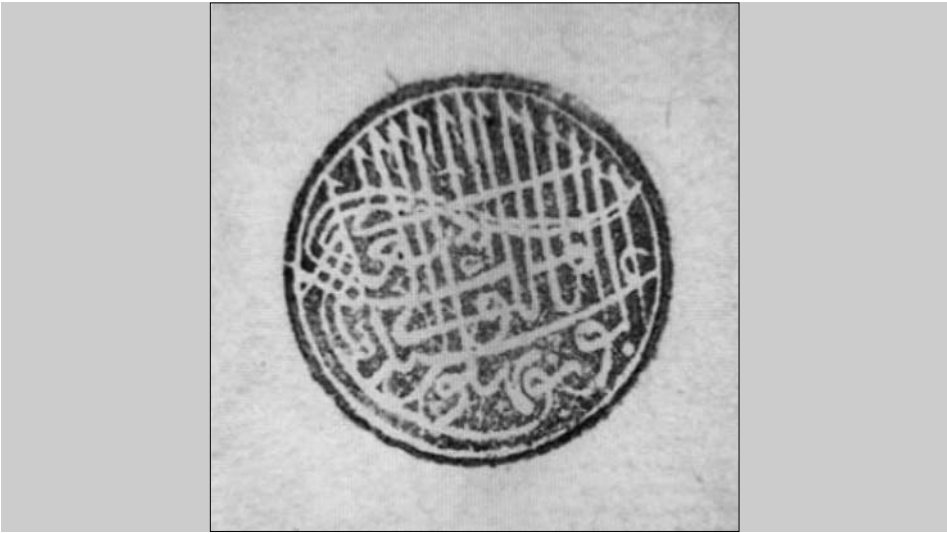
- (1) Vech-i tezkere oldır ki Hersek vilayeti ruhbanlarından cümle papazlar
- (2) ulusu olan Fra Yuray bu canibde bazı Iskradin kalesinde dutılan
- (3) esirler için irsal olındı feryad kim Çetine canibi kenarlarında deryadan
- (4) çıkub Visovaça ve Karine zikr olunan ruhbanâ lâzım çıkmak olursa
- (5) ol diyarın (!) voyvodası veya subaşı ve müslimanlarından dahi gayriha (!)
- (6) ve ol kenarların (!) martoloslarından adamîlerdir ki kimesne(ye?) mani' olub
- (7) ruhbanı rencide etmiyezin (!) zikr olunan bu canibden ol canibe ziyade
- (8) minnet ile ol canibe irsal olınmışdır tahtı hikemat-i asilleri dahi
- (9) bu zikr olan ruhbanı kimesne(ye!) rencide etdirmemesine lutf-i keremlerinden
- (10) inayetin buyuralar ayrık (?) ne gibi lâzımdır ve'd-dua
- (11) [paraphe:] Aydın kethüda an kale-i Lubuška

Z 403 T r a n s l a t i o n :

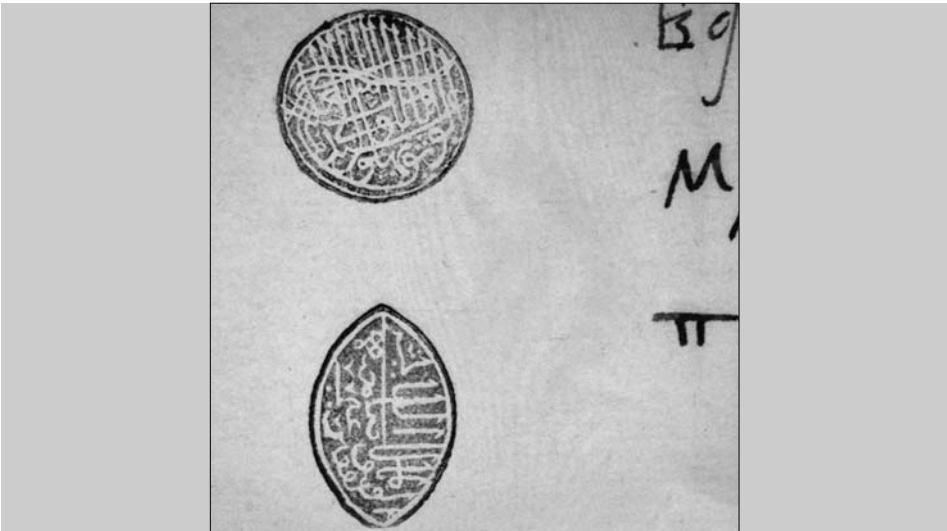
HE! [Invocation of God]

The reason for the note (*tezkere*) is this: Fra Juraj, the most respected (*ulu*) of all the friars (*papaz*) among the monks of the Herzegovina *vilayet*, was sent from this [our] side because of the prisoners of war (*esir*) who are detained in the fortress of Skradin. We hope that, if it is necessary for the said monk, after his landfall in the Cetina province, to go towards Visovac and Karin, [you] the *voyvoda* or *subaşı* of that region or someone else from among the Muslims [of those parts] or some of the irregular units called *martolos* who are in that area — you are not allowed to obstruct or threaten the monk. The said [monk] was sent to those regions from here with much indebtedness (*ziyade minnet ile*) [on our part], [acting] in accordance with his noble intentions (*taht-i hikemâti asilleri*). You, guided by the goodness of your benevolence, may with dignity command everything necessary [to ensure] that nobody is to maltreat the said friar. With my blessing!

[paraphe:] Aydın, Deputy Commander of Ljubuški fortress



Archivio di Stato di Venezia, miscellanea documenti turchi 445: 18/12/1540.
Detail: Seal of Behlul



Archivio di Stato di Venezia, miscellanea documenti turchi 465: 20/01/1542.
Detail: Seal of Behlul (top; below, vertically, the seal of azab Ali Ada)

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SOCIALIST YOUTH ON SUMMER SEA VACATIONS — TWO SHORT FILMS BY BRANKO MAJER

Abstract

During the fifties, Croatian film director Branko Majer, made two distinctive short films, showing young people on summer vacation on the Adriatic. The first, *Jedan dan u Crkvenici* (One Day in Crikvenica) from 1954, centered on a day in life of a group of young women, while the second, *U našeg Marina*, from 1958, showed adventures of a school choir and orchestra, and their conductor, amid local tensions about the type of tourism they should pursue. The first is a documentary travelogue, clearly scripted and acted, in which the young women represent different types of tourists, while the second, a feature film, is a rare example of the musical genre in the history of Croatian Cinema. While both films fostered the idea of leisure, as the main reason for summer vacation, they showed that leisure didn't necessarily mean doing nothing, and that a desirable form of vacation in a socialist society, or any society that includes young people as the future bearers of ideology must include cultural and social education. Although Majer's films are lighthearted and comical, they inevitably reflected the society and times they represent. This paper analyses both movies, while bringing attention to Branko Majer, a film director whose rich body of work is eligible for discovery.

Key words: *Croatian cinema, Branko Majer, short films, socialist youth, tourism*

INTRODUCTION

In 1980, when the Yugoslav socialist — communist state, was entering its last decade of existence, Slovenian punk band "Pankrti" (Bastards), issued their first album called *Dolgcajt* (Boredom). The album, through its social commentary (or mocking the absurdities of everyday life in a socialist country), reflected many generational anxieties of living in a society that is losing any political logic, and more and more, economically unstable.

On this classic punk (rock) record, there is a song called "Počitnice na morju" (Holidays on the Sea), written by the singer Peter Lovšin and band members, Boris Kramberger and Dušan Žiberna. Like the name of the album it appeared on, the song documented a day (or more) of laziness and boredom on holidays, while supposedly waiting for something to happen. As the singer declares "Nothing is moving... forward" ("Nič se ne premakne... naprej"), a contrast to the preferable substance of holidays in a socialist society, is evident. The song was written in time, when everyday problems

and discontent were hard to ignore, no matter what the official government media tried to present, especially after the death of President Tito. The name of the song was similar to "Holiday in the Sun", a song about exile by the Sex Pistols, but the content was more local, more expressive of turning point that was near but still not evident to all. Even through something seemingly unpolitical as a summer vacation. But if we look a couple of decades back, to the socialist Fifties, when the leisure of the working class or socialist youth became part of state legislation, we find that even the free time of socialist inhabitants was a part of strong political and promotional activity. Transition from a war-torn society to a socialist version of a consumer society, reflecting in small scale changes that were evident in neighboring capitalist societies, such as Italy or Austria, meant that "population enjoyed the amenities and troubles of modern life. Being a tourist was one of them" (Duda, 2010, p.289).

As the socialist workers (and their children) began showing "sufficient incomes to be able to afford what used to be a luxury" (Duda, 2010, p. 290), so the young socialist state put its efforts to promote the need for vacation and leisure for them, especially as the communist officials introduced paid holidays as a social privilege for all the working class. But leisure came with a plan, and as such, found its way to popular culture, and two prominent media expressions of its time, music and movies. If "history and culture were chief motivation" (Duda, 2010, p. 326) for taking a holiday or becoming a tourist, then the plan was distant from any possibility of boredom or being idle, that became a norm for many inhabitants. For example, getting drunk, living irresponsibly, and partying 'hard' on summer holidays, while "mass tourism became a general trend" (Duda, 2010, p. 290), was not encouraged by any form of state propaganda, and as such not present in the media's presentation of socialist youth and workers.

Before the advance of television in the late 1950s, film media played a significant part in the communication between the state officials and its inhabitants. With the ideological need for mass education and the hopeful decrease of illiterate citizens, film (and radio) positioned themselves as bearers of important news that the official state was announcing, knowing the "real value of visual expression" (Majcen, 2001, p. 170) when it comes to distribution of ideological instructions.

Of course, (ideological) instructions came in many forms, and as the production of feature fiction films became the center of cultural attention (and the demands of propaganda), production of short films, such as documentaries, newsreels, education films, industrial films or even short fiction films, slowly positioned itself as equally interesting part of Croatian cinema (as a part of Yugoslav cinema), both as training ground for many young film professionals, or as a tool for ambitious film authors, and finally for filmmakers who had no ambitions for longer forms.

In the 1950s, film director Branko Majer directed two short films, which represented socialist youth in different ways of spending summer holidays. The first film, *Jedan dan u Crikvenici* (One Day in Crikvenica) from 1954, follows a group of young ladies

on an active vacation, while showing the desirable tourist elements of the small seaside town of Crikvenica. The other, *U našeg Marina*, from 1958, a rare Croatian film musical, named after a traditional song of the same name, follows the adventures of an elementary school choir, and their conductor, on a camping trip in the Istrian town of Rovinj.

If the first showed that the idea of tourism is gaining a more pronounced position in a socialist society, the other has tourism as a lurking background story which ultimately finds its way into the lives of the hard practicing school choir. What they both have in common, beside the director, is the presence of a fast-changing society, in which “happy citizens should be able to enjoy a certain standard of living” (Duda, 2010, p. 331), and that adjustment is needed to the ideological setting of the time.

BRANKO MAJER

It seems excessive to label Branko Majer as a film author in the sense that we use the term from the fifties or sixties onwards, when the idea of film directors as authors gained a more prominent position. In a socialist film production, we could loosely define Majer as an equivalent of what we consider a studio film director in big production centers between 1930s and 1950s. But it would be more appropriate to consider Branko Majer as a reliable director of given material, regardless of the subject, reflecting his earlier career of a journalist, before becoming a significant veteran of Croatian film production, in which he entered after the ending of the second world war.

Young socialist cinema attracted a diverse group of people, and Majer was probably one of them. Slightly older than most of his fellow filmmakers, since he began his career as journalist before the war, working in newspapers and radio, we can assume his professional standards were shaped before entering cinema. Both with age and experience, he was closer to film veterans like Milan Katić or Branko M. Marjanović, suggesting a professionally more articulate individual than someone starting their media career. His output as a film director was mostly filming short documentaries, however, three films in his filmography, short fiction films, stand out as an exception. Besides the already mentioned *U našeg Marina*, the other two are *Takva pjesma sve osvaja* from 1958 and *Jurnjava za motorom* from 1959. All three films were produced by “Zora film”, a competent company responsible for most educational films of their time, and many other short forms. These three films were made for younger audiences, a part of the moviegoing population that “Zora film” wanted to address with themes more appealing to them.

Of those three, two titles from 1958 were film musicals, a genre rarely present in the history of Croatian cinema. Although both have school choirs as base for narratives, *U našeg Marina*, with its seaside scenery introduced a dose of omnipresent infatuation with Mediterranean and vacation in popular culture. The ongoing “effort to educate the

mostly peasant population lasted through the 1950s, until their acceptance of lighter and popular culture” (Buhin, 2024, p. 50), and such represented itself in the arguably most popular media of the socialist 1950s. This somewhat silly combination of leisure, tourism, cultural education and popular culture “was possible only after the ideological acceptance of popular culture and entertainment” (Buhin, 2024, p. 50.) and its manifestation in everyday life of a socialist society.

EVERY DAY IS A WONDER

If we accept, that in Croatian socialist cinema of the 1950s, there was a demand that the “reality should be represented as resolutely optimistic (Buhin, 2024, p. 55), then these two films by Branko Majer could be a good representation of this somewhat ideological approach. The first film of the two, *Jedan dan u Crikvenici* (*One day in Crikvenica*) from 1954, has a somewhat generic title that suggests a strong temporal bound of presented narrative events. In the history of world cinema, there are many films that have a “one day” indication in their title, primarily as narrative direction for viewers. Croatian cinema is not different, as we can see from films by Drago Chloupek or Ante Babaja, which are formally also documentaries like Majer’s film. But compared to Chloupek’s *Jedan dan u turpoljskoj zadruzi* from 1933, which is ethnographic documentary, Majer’s film and Babaja’s *Jedan dan u Rijeci* (*One day in Rijeka*) from 1955, have a stronger fiction element, although they all share a tendency for staging what is presented to us. These were no non-interventional documentary movies, as they were clearly similarly scripted as fiction films. An approach that was present in many documentary films of the period, especially through its use of suggestive narration.

If trying to define Majer’s *Jedan dan u Crikvenici*, one of the possible answers is, that it is a travel film specifically oriented to engage young people in a changing socialist society. Set in the coastal town of Crikvenica, and surrounding tourist attractions, such as the island of Krk or Plitvice lakes, it tries to be removed from any notion of post-war society, or any signs of socialist ideology. The narration at the beginning states: “The romantic Adriatic, with transparent blue depths, sunny beaches, fills the heart with desire to get to know it and experience it, or feel it again”. This advertising of leisure and pleasure was important for mid 50s socialist society as it is relevant today for a different political and economic setting. The shots of beaches, hotels, sailing boats or promenades, beckoned new generations, to immerse themselves in privileges as their contemporary capitalist colleagues, not only as a sign of possible changes, and rise of consumerist tendencies, but as a sign of transitional times for the Yugoslav state.

The main characters in the film are five young women, possible students or young employees. Their meeting results in plans for each of them. They all plan to have an active day, ranging from cultural and historical visits, hanging with fisherman or enjoying forest walks, to sport activities. What is clear, there is no suggestion of vacation de-

void of purposeful content. Even the evening drink on the hotel terrace, with which they close their eventful day, has to be in some way earned. The expectations of future socialist generations, the ones that must carry the progress which they shall soon inherit as a political directive, are huge, so while experiencing a way of life that their parents maybe couldn't, they should not waste it on hollow pleasures.

As the narration concludes: "What youth wouldn't sacrifice for such pleasure", as their predecessors sacrificed for them, through five young ladies we are informed of the offer that is available to visitors, for a population not yet accustomed to new rules. In relation to recent times, Majer's film seems like a commissioned film from a local tourist office. Maybe it was in some ways, but as it was produced by "Jadran film", a major film production company and studio in socialist Croatia, it was expected to be in accordance with state policy. Although we have no indication that what we witness is a socialist society, and besides a shot of spectators on a motor race, where a soldier is sitting beside one of the young ladies, there is no other direct visual clue about the present political time. The accent is on recognition of traditional ways of life, on local heritage, as the main component of what tourism has to offer.

With the other film, *U našeg Marina*, a short fiction film also dedicated to socialist youth, Majer steered away from one dominant purpose or function, toward a new reconsidering of what a summer seaside vacation can be for inhabitants of a socialist society.

THE DAY THE WILL NEVER BE FORGOTTEN

The film *U našeg Marina* from 1958 was shot and distributed together with Majer's *Takva pjesma sve osvaja*, both short fiction musicals built around adventures of a primary school choir. Majer in both films used the same school choir from Zagreb, then young actor Boris Buzančić in role of the conductor, and veteran August Cilić as a comic sidekick. Although they were shown together as companion pieces for this overview, *U našeg Marina* is more relevant to the theme of socialist youth on vacation. They both intended to merge light entertainment with educational purpose for younger audiences, but *U našeg Marina*, with its subtext of local townspeople who try to figure out what kind of musical amusement should they offer to emerging tourists, asks a still significant question of what kind of leisure is better offered.

Besides the mentioned, the film had distinguished Yugoslav and Croatian actors in other roles, such as Janez Vrhovec, Josip Marotti and Ivan Šubić. Their roles display symbolic types of characters, found in coastal small towns or places. Vrhovec plays Marin, a former singer and a local eccentric, who recruits the young choir and other players for a concert, so he can demonstrate to the local director (Ivan Šubić) that he is wrong about his way of thinking about tourism. So, beside children singing, playing or

having beach adventures, there is an ongoing local battle that is trying to determine “what the foreigners want to hear” (“Što bi furešti htjeli čuti”).

For a native viewer, the film has an interesting element of vernacular used by locals. Filmed in the Istrian town of Rovinj and using its surroundings for beaches and the campsite where the children dwell, it seems that it stands for a small Dalmatian town. All the characters that are not from Zagreb, or other parts of then Yugoslavia, are using Dalmatian dialect. It may look like an odd and non-authentic choice, but it's justified through the comic and commercial potential of the narrative. Still present today in the media. Besides that, the rise of Dalmatian coast, as a growing touristic destination, allowed Majer to explore or ridicule the course of a plan that suggests the need for a more open society for both domestic and western visitors, and much needed money for the local economy.

The musical part of Majer's movie includes mostly local songs, made popular by small acapella singing groups (*klape*), then songs for school instrumental groups and choirs or other expected repertoire for school usage. At the final concert on the hotel terrace, there are some other visiting musicians, including a piano and violin recital, pointing at diversity as a guideline for new times. It is of note, that in the time of both Majer's short musicals, the musical director of the school choir from Zagreb, was Dinko Fio, a prominent composer, conductor and educator. It is no wonder that popular Dalmatian traditional songs, such as “U našeg Marina” (also the title of the film) or “Lipo ti je živit u Morkanu”, are represented in the film, for he arranged them both for record editions, a few years prior to the film production.

DEAR LOCALS, STRANGERS, TOURISTS, FOREIGNERS...

Films like Majer's showed that “the sea was a matter of national pride” (Duda, 2010, p. 296), and as such, easily found its way in popular culture. Romantic glorification of our coastline and sea was steadily gaining space in the new/old pop music of the period, and film production, although rarely, tried to follow it. Detaching the notion of Adriatic from “serious” context, such as war victory, complex relation with occupiers like Italy or industrial — political plans of the new socialist state, was preferable, because it gave the population a sense of positive change and relief. But for an ideology, whose attitude to capitalist or bourgeoisie practices was openly negative, and for a state whose tense relationship with an important communist ally like Russia, meant becoming more dependent on the west, accepting the other was an important compromise. And that “other” included consumerism, tourism and thinking about what the socialist government has to offer for much needed “other” money.

We presume that the two films by Branko Majer were not intended for foreign viewers, and that the foreigners they refer to are from other parts of the then Yugoslavia. The ladies in Majer's documentary seem to be educated city folk, whose need for

adventure is a welcomed passage between new duties in everyday life. The members of the school choir are restless young boys and girls who can sometimes get in trouble with their ideas, but when it comes to performing the tasks for which they are responsible, they are a tight group of socialist youth. These two films reflect the promise of a better socialist future for young people, a hope that would become questionable during the next decade (or decades), in real life, as in (modernist) films of the 1960s era, when protagonists started asking uncomfortable questions. So, the likeable naivety of Majer's films stands as a good way of detecting the origin of changes that our present society is still witnessing, especially regarding the presentation of summer vacation leisure.

References

- Buhin, A. (2024). *Jugoslavenski socijalizam "sa okusom mora, sa okusom soli" — mediteranizacija jugoslavenske popularne kulture pod talijanskim utjecajima 1950-ih i 1960-ih* (Yugoslav socialism "with a taste of the sea, with a taste of salt" — the Mediterraneanization of Yugoslav popular culture under Italian influences in the 1950s and 1960s). *Srednja Europa*.
- Duda, I. (2010). *Adriatic for All — Summer Holidays in Croatia*. In Kuthar, Pušnik (Ed.), *Remembering Utopia — The culture of Everyday Life in Socialist Yugoslavia*. New Academia Publishing.
- Duda, I. (2010). *What to Do at the Weekend — Leisure for Happy Consumers, Refreshed Workers and Good Citizens*. in Grandits, Taylor (Ed.), *Yugoslavia's Sunny Side — A history of Tourism in Socialism (1950s—1980s)*. Central European University Press.
- Duda, I. (2013). *Od radnika do turista — Prava, želje i stvarnost socijalnog turizma u jugoslaven-skom socijalizmu* (From workers to tourists — Rights, desires and reality of social tourism in Yugoslav socialism). In Grandits, Taylor (Ed.) *Sunčana strana Jugoslavije — Povijest turizma u socijalizmu*.
- Majcen, V. (2001). *Obrazovni film — Pregled povijesti hrvatskog obrazovnog filma* (Educational film — An overview of the history of Croatian educational film). Hrvatski državni arhiv — Hrvatska kinoteka.

DEMOGRAPHY; MIGRATION



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SECOND HOME PHENOMENON ON THE CROATIAN ISLANDS: NEW INSIGHTS

Abstract

The phenomenon of second home ownership on Croatian islands has a long-standing tradition. Thanks to the attractiveness of the coastal areas and islands, this region currently has the highest proportion of second homes in Croatia. Simultaneously, with the development of tourism on certain Croatian islands (e.g. Lošinj, Hvar, Krk) during the late 19th century, the emergence of second homes became noticeable. The early stages of tourism development did not curtail the emigration of island inhabitants, a phenomenon persisting for over a century. Migrations were predominantly motivated by economic factors. Negative migration trends in the 20th century were intertwined with adverse natural population movements, which is reflected in the contemporary state of island population. Two parallel processes are unfolding: aging, depopulation, and, in extreme cases, population extinction, and on the other hand, continuous growth in the number and proportion of second homes in the number of total housing units. Census data confirm the advanced transformation process of islands into spaces for leisure and recreation. The phenomenon is analyzed based on the data obtained from population and housing censuses in 2001, 2011, and 2021. Distinct components in the analysis include changes in the number of inhabitants, overall population dynamics (natural changes and net migration rate), alterations in the number and proportion of second homes, and their spatial distribution.

Key words: islands, island population, Croatia, second home

INTRODUCTION

Island communities in Mediterranean countries, as well as globally, face numerous challenges associated with the phenomenon of second home ownership (Marjavaara, 2007). While this trend can bring economic opportunities to island populations, it also poses significant social, urban, environmental, and cultural challenges, potentially leading to conflicts among different population groups (Ursić, Mišetić & Mišetić, 2016; Back, 2019; Butler & Dodds, 2022). Over their millennia-long history of habitation, Croatian islands have undergone various developmental and demographic processes (Nejašmić, 2013). The phenomenon of second home ownership on these islands has a relatively long history. Its beginnings can be traced back to the late 19th century, coinciding with

the advent of tourism on the islands of Lošinj, Krk, and Hvar. This connection with tourism is logical, as both tourism and second-home ownership share commonalities in leisure, pleasure, and enjoyment (Miletić, 2011). The spatial concentration of second homes is highest in the leading tourist regions of the Croatian coast (Opačić, 2009). Due to their natural location and limited spatial resources, particularly on smaller islands, these areas are especially vulnerable to the impacts of uncontrolled tourism and second home development (Back, 2019). Existing research on second home ownership in Croatian islands has primarily focused on: (a) the historical and developmental dimensions and spatial aspects of second home expansion, (b) motivational factors influencing the selection of specific islands, (c) the impact of second home users on the social realities of island communities, (d) structural characteristics of second home users based on their place of permanent residence, and (e) the economic implications of second home expansion (Miletić, Bara & Marinović Golubić, 2018).

RESEARCH GOAL

The aim of this study is to analyze changes in the number of permanent and second home dwellings at the level of island groups (the Kvarner Islands and Dalmatian Islands, with subgroups including the Zadar, Šibenik, Split, and Dubrovnik islands). The analysis spans the period from 2001 to 2021, based on data from three population censuses conducted in 2001, 2011, and 2021. While the exploration of demographic changes on Croatian islands is not a primary objective of this study, population trends during the same time frame are utilized to interpret and contextualize the phenomenon of second home ownership.

RESEARCH AREA

The Croatian archipelago, comprising 1,244 islands, islets, rocks, and reefs, is the second largest in the Mediterranean in terms of the number of islands, following Greece (which has approximately 6,000 islands, islets, rocks, and reefs) (Duplančić Leder, Ujević & Čala, 2004). Based on natural-geographical and demographic criteria, Mediterranean and Croatian islands are classified as small islands (Faričić, Graovac & Čuka, 2010). Due to the large number of uninhabited islands, Croatian islands contribute more to the national territory in terms of surface area than in terms of population. Roughly, only one in thirty residents of the Republic of Croatia lives on an island. According to the latest population census (2021), the inhabited Croatian islands had a total population of 120,433, accounting for 3.1% of the national population.

In comparison, second homes constitute nearly 10% of the total housing stock at the national level, whereas on the islands, second homes represent one-third of all housing units (Croatian Bureau of Statistics, hereinafter CBS, 2021). Administratively, some islands are tied to mainland municipal or urban centers. The islands fall under

the jurisdiction of seven counties, with inhabited islands found in six of them. From north to south, the Istria County encompasses the western Istrian island chain, which has no inhabited settlements. All Kvarner Islands are part of Primorje-Gorski Kotar County. The northern part of Pag Island belongs to Lika-Senj County, while its southern part falls within Zadar County. Zadar County has the largest number of islands, followed by the islands belonging to Šibenik-Knin County, Split-Dalmatia County, and, furthest south, the islands administratively included in Dubrovnik-Neretva County (Lajić & Mišetić, 2013, p. 175).

METHODOLOGICAL NOTE

For the purposes of this analysis, Croatian islands are divided into two groups based on their geographical location: the Kvarner Islands and the Dalmatian Islands. This division, widely used in geographical studies of Croatian islands, is grounded in economic, historical, demographic, and other factors (Lajić & Mišetić, 2013, p. 174). The Dalmatian Islands are further divided into four primary subgroups: the Zadar Islands, Šibenik Islands, Split Islands, and Dubrovnik Islands, defined according to the administrative affiliation of each island to one of the Dalmatian counties.

MAIN FINDINGS

Census data reveal that the islands are increasingly recognized as attractive locations for seasonal residency. The growth of the housing stock, particularly second homes, has become one of the key drivers of the urban transformation of Croatian islands. While the construction of second homes is widespread across many islands — especially those connected to the mainland by bridges (e.g., Krk, Pag, Murter, Čiovo) — the island of Vir (22.38 km²) stands out as a prominent example of excessive, often unplanned and unauthorized construction, lacking adequate supporting infrastructure (Opačić, 2010). Before the construction of a bridge connecting Vir to the mainland in 1976, the island had only nine second homes (Opačić, 2010, p. 19). By 2021, this number had surged to 8,515 (CBS, 2021), accompanied by numerous long-term negative consequences of overdevelopment.

The expansion of this phenomenon to Croatian islands has been further driven by factors such as Croatia's growing appeal as a global tourist destination, its accession to the European Union, the liberalization of real estate markets, the availability of low-cost flights, and rising income levels across Europe (Miletić, Bara & Marinović Golubić, 2018).

Throughout the analyzed period (2001—2021), the number of housing units increased across Croatia and in all island groups, nearly doubling over two decades (Tables 1 & 2). On the Kvarner, Zadar, and Šibenik islands, there were more second than permanent homes in 2011. Given the trend in the growth of second homes during the intercensal period of 2001—2011, a continuation of this pattern might have been ex-

Island Group	T o t a l		
	2001	2011	2021
Kvarner Islands	36,269	51,454	59,591
<i>Zadar Isl.</i>	31,885	52,952	65,277
<i>Šibenik Isl.</i>	7,199	10,491	13,158
<i>Split Isl.</i>	30,581	45,056	50,734
<i>Dubrovnik Isl.</i>	11,243	13,812	15,319
Dalmatian Islands	80,908	122,311	144,488
Total Islands	117,177	173,765	204,079
Republic of Croatia	1,877,126	2,246,910	2,391,944

Table 1 — Changes in the Number of Permanent and Second homes.

Source: CBS (2021). Census of population, households and apartments 2021, <https://dzs.gov.hr/u-fokusu/popis-2021/88>.

Island Group	T o t a l		
	2001-2011	2011-2021	2001-2021
Kvarner Islands	141.9	115.8	164.3
<i>Zadar Isl.</i>	166.1	123.3	204.7
<i>Šibenik Isl.</i>	145.7	125.4	182.8
<i>Split Isl.</i>	147.3	112.6	165.9
<i>Dubrovnik Isl.</i>	122.8	110.9	136.3
Dalmatian Islands	151.2	118.1	178.6
Total Islands	148.3	117.4	174.2
Republic of Croatia	119.7	106.5	127.4

Table 2 — Inter — censal changes / ndeks međupopisne promjene broja stanova.

Source: CBS (2021). Census of population, households and apartments 2021, <https://dzs.gov.hr/u-fokusu/popis-2021/88>.

pected in the subsequent period (2011—2021). However, a decline in second homes and a corresponding rise in permanent residences were observed, which might have been expected to result in population growth on the islands—but such an increase did not materialize. When examining islands in the context of their spatial limitations, population trends must also be considered. During the same period, the island population first experienced a slight increase (2011) followed by a decline (2021). All island groups lost a portion of their population during the 2011—2021 intercensal period, with a to-

Permanent homes			Second homes		
2001	2011	2021	2001	2011	2021
16,662	20,049	27,885	16,103	22,415	19,874
12,317	16,162	25,807	16,795	28,955	28,224
3,083	3,944	6,626	3,249	4,910	3,642
16,610	21,731	30,346	11,761	15,533	11,355
8,066	8,781	10,670	2,460	2,790	1,878
40,076	50,618	73,449	34,265	52,188	45,099
56,738	70,667	101,334	50,368	74,603	64,973
1,660,649	1,912,901	2,028,725	182,513	249,243	231,488

Permanent homes			Second homes		
2001-2011	2011-2021	2001-2021	2001-2011	2011-2021	2001-2021
120.3	139.1	167.4	139.2	88.7	123.4
131.2	159.7	209.5	172.4	97.5	168.1
127.9	168.0	214.9	151.1	74.2	112.1
130.8	139.6	182.7	132.1	73.1	96.5
108.9	121.5	132.3	113.4	67.3	76.3
126.3	145.1	183.3	152.3	86.4	131.6
124.5	143.4	178.6	148.1	87.1	129.0
115.2	106.1	122.2	136.6	92.9	126.8

tal decrease of approximately 4,500 residents across all islands (Table 3). This population decline was not uniform across islands, with small and remote islands being particularly affected by depopulation. A more detailed analysis, incorporating natural population change and migration rate (Table 4), reveals the underlying demographic processes occurring on Croatian islands. The positive migration rate observed on the islands contrasts with the negative migration rate at the national level, raising questions about the reliability of census data. These questions are linked to methodological issues, not exclusively demographic, that affect the interpretation of statistical indicators. Previous research on second homes has highlighted the administrative practice of declaring (or

Island Group	Population		
	2001	2011	2021
Kvarner Islands	37.597	38.610	38.610
<i>Zadar Isl.</i>	22.565	24.615	23.437
<i>Šibenik Isl.</i>	7.390	7.159	5.834
<i>Split Isl.</i>	35.859	36.338	35.336
<i>Dubrovnik Isl.</i>	19.007	18.233	17.389
Dalmatian Islands	84.821	86.345	81.996
Total Islands	122.418	124.955	120.433
Republic of Croatia	4.437.460	4.284.889	3.871.833

Table 3 — Changes in the Island Population from 2001 to 2021. Population by age and sex by settlement. <https://dzs.gov.hr/u-fokusu/popis-2021/88>.

Source: CBS (2021). Census of population, households and apartments 2021
— Population — by settlements.

Island Group	Total change	Natural change	Net migration rate
	2001-2011	2011-2021	2001-2021
Kvarner Islands	1.013	-173	840
<i>Zadar Isl.</i>	2.050	-1.178	872
<i>Šibenik Isl.</i>	-231	-1.325	-1.556
<i>Split Isl.</i>	479	-1.002	-523
<i>Dubrovnik Isl.</i>	-774	-844	-1.618
Dalmatian Islands	1.524	-3.308	-1.784
Total Islands	2.537	-4.522	-1.985
Republic of Croatia	-152.571	-413.056	-565.627

Table 4 — General Movement of Island Population in the Period 2001—2021.

Source: CBS (2021). Census of Population, Households and Dwellings 2021
— Population — by settlements. Population by age and gender by settlements.
<https://dzs.gov.hr/u-fokusu/popis-2021/88>; CBS (2021). Vital Statistics (births and deaths)
in the period 1964—2021, data for the period 2001-2021,
Croatian Bureau of Statistics (Dražni zavod za statistiku), Zagreb.

not declaring) island residency, leading to the phenomenon of so-called “fictitious population” (Faričić, Graovac & Čuka, 2010; Lajić & Mišetić, 2013). The number of second home owners correlates closely with the proportion of “fictitious population,” particularly on bridged islands (Lajić & Mišetić, 2013, p. 181). A notable change in the devel-

Index of Inter-census Change		
2001-2011	2011-2021	2001-2021
102,69	99,55	102,23
109,08	95,21	103,86
96,87	81,49	78,94
101,34	97,24	98,54
95,93	95,37	91,49
101,80	96,17	97,90
102,07	96,38	98,38
96,56	90,36	87,25

2001-2011	2011-2021	2001-2021	2001-2011	2011-2021	2001-2021
-1.045	-1.461	-2.505	2.058	1.288	3.345
-1.595	-2.112	-3.707	3.645	934	4.579
-606	-661	-1.266	375	-665	-290
-1.484	-2.128	-3.612	1.963	1.126	3.089
-747	-854	-1.601	-28	10	-18
-4.431	-5.754	-10.185	5.955	2.446	8.401
-5.476	-7.214	-12.690	8.013	2.692	10.705
-95.679	-149.898	-245.577	-56.893	-263.158	-320.051

opment of second homes during the 2011—2021 intercensal period on Croatian islands was the emergence of the “fictitious population” phenomenon, which distorts the actual state of second home distribution and occupancy. Considering this, the Zadar islands had the highest absolute and relative share of second homes within the total housing stock in 2021 (43.2%), followed by the Kvarner islands (33.4%), while the Dubrovnik islands had the lowest share (12.3%).

In recent years, some island settlements and islands with a high proportion of second homes have also recorded actual population growth (e.g., Brač, Krk, Vir, Čiovo),

often linked to factors such as connectivity via bridges, improved transportation infrastructure, or proximity to major urban or regional centers. However, a micro-level analysis of these trends falls outside the scope of this study.

END NOTE

Existing trends suggest the continued expansion of apartmentization due to the attractiveness of coastal and island spaces. Census data confirm the decline of traditional economic functions on islands and their transformation into areas primarily dedicated to leisure and recreation. On many Croatian islands, the number of second homes now surpasses that of permanently inhabited residences. Apartmentization and second homes have, in some cases, already disrupted traditional architecture and the overall island landscape, as exemplified by the island of Vir. Second homes, along with economic activities tied to tourism and the associated island experience, can act as a catalyst for seasonal or permanent migration, potentially contributing to an increase in permanent residents. This trend is supported by examples of islands that are connected to the mainland by bridges or possess regular transport links to coastal centers. One of the most significant developments during the analyzed period, closely tied with second homes, is the phenomenon of “fictitious population.” This refers to the administrative practices of second home homeowners registering their residence on islands to benefit from certain tax advantages. Islands, by virtue of their geographic location and unique natural, geographical, and social characteristics, are distinct spaces requiring tailored approaches in policy-making. A critical step in this process is introducing greater regulation over the use of second homes and addressing current administrative practices that enable the registration of fictitious residences on islands.

References

- Back, A. (2019). Temporary resident evil? Managing diverse impacts of second-home tourism. *Current Issues in Tourism*, 23(11), 1328-1342. <https://doi.org/10.1080/13683500.2019.1622656>
- Butler, R. W., & Dodds, R. (2022). Island tourism: Vulnerable or resistant to overtourism? *Highlights of Sustainability*, 1(2), 54-64. <https://doi.org/10.54175/hsustain1020005>
- Duplancić Leder, T., Ujević, T., & Čala, M. (2004). Duljine obalne crte i površine otoka na hrvatskom dijelu Jadranskog mora određene sa topografskih karata mjerila (The lengths of the coastline and the surface of the islands in the Croatian part of the Adriatic Sea are determined from topographic scale maps). *Geoadria*, 9(1), 5-32. <https://doi.org/10.15291/geoadria.127>
- Faričić, J., Graovac, V., & Čuka, A. (2010). Mali hrvatski otoci — radno-rezidencijalni prostor i/ili prostor odmora i rekreacije (Small Croatian islands — work-residential space and/or space for rest and recreation). *Geoadria*, 15(1), 145-185. <https://doi.org/10.15291/geoadria.548>
- Lajić, I., & Mišetić, R. (2013). Demografske promjene na hrvatskim otocima na početku 21. stoljeća (Demographic changes on Croatian islands at the beginning of the 21st century). *Migracijske i etničke teme*, 29(2), 169-199. <https://doi.org/10.11567/met.29.2.3>
- Marjavaara, R. (2007). Route to destruction?: Second home tourism in small island communities. *Island studies journal*, 2(1), 27-46. <https://doi.org/10.24043/isj.198>

- Miletić, G. M. (2011). *U potrazi za drugim prostorom: sociologijski aspekti sekundarnog stanovanja u Hrvatskoj* (In search of another space: Sociological aspects of secondary housing in Croatia). Institut društvenih znanosti Ivo Pilar.
- Miletić, G.-M., Bara, M., & Marinović Golubić, M. (2018). Sekundarno stanovanje i transformacija naselja Okruža Gornjeg na otoku Čiovu. Pogled iz lokalne perspektive (Secondary housing and transformation of the settlement of Okrug Gornji on the island of Čiovo. A view from a local perspective). *Sociologija i prostor*, 56 (3 (212)), 227-249. <https://doi.org/10.5673/sip.56.3.2>
- Nejašmić, I. (2013). Demografsko starenje na hrvatskim otocima (Demographic ageing on Croatian islands). *Migracijske i etničke teme*, 29(2), 141-168. <https://doi.org/10.11567/met.29.2.2>
- Opačić, V.T. (2009). Recent characteristics of the second home phenomenon in the Croatian littoral. *Hrvatski geografski glasnik*, 71(1), 33-64. <https://doi.org/10.21861/hgg.2009.71.01.03>
- Opačić, V.T. (2010). Što nastaje i što (pre)ostaje kad vikendaštvo poprimi nekontrolirane razmjere? — slučaj otoka Vira (What arises and what (re)remains when weekendening takes on uncontrollable proportions? — the case of the island of Vir). *Geografski horizont*, 56(1), 15-26. Available at <https://hrcak.srce.hr/314999>
- Ursić, S., Mišetić, R., & Mišetić, A. (2016). New perspectives on sustainable development of second homes in Croatia: strategic planning or proliferation of building? *Procedia-Social and Behavioral Sciences*, 216, 80-86. <https://doi.org/10.1016/j.sbspro.2015.12.011>

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VLASTA LAH: THE OVERLOOKED LEGACY OF A PIONEERING EUROPEAN FILMMAKER IN ARGENTINA

*The business of cinema is macabre, grotesque:
it's a mix of a football match and a brothel.*

(Federico Fellini, 1920-1993)

A b s t r a c t

Vlasta Lah, born in 1913 in Pula — then part of the Austro-Hungarian Empire and today a Croatian city on the Istrian Peninsula — came into the world during the final years of the Empire. Over the course of her life, amid shifting political landscapes and changing borders, she navigated multiple national identities: initially Italian, later Yugoslav, and ultimately Croatian. A pioneering figure in cinema, she became the first woman to direct a feature-length sound film in Argentina — an achievement that remains relatively unknown both in Argentina and in her native homeland. Vlasta was a trailblazer in advocating for women's contributions to the film industry, though her work was often overshadowed by her role as an assistant director alongside her Italian husband, Catrano Catrani. Throughout the 1960s, Vlasta Lah directed several films, the content of which will be analyzed in this study, alongside an exploration of how her work was received by Argentine society at the time. She passed away in Buenos Aires in 1978 at the age of 65.

Key words: *Migration, cinematography, Istria, Croatia, Argentina, feature-length sound, Vlasta Lah*

INTRODUCTION

The purpose of this study is to explore the body of work and certain aspects of the life of the first female director of sound films in Argentine cinema, who stands as the only woman filmmaker in Latin America during the 1960s. It also aims to examine the challenges she faced as a woman in a predominantly male-dominated industry, particularly in the 1930s, a period marked by authoritarian rule in Argentina, which made her professional journey especially difficult.

Argentine cinema made by women still has many stories to tell. Many of these have surfaced in fragments throughout the history of local cinema, in tribute cycles, and in dictionaries of films and directors. Many appear as discoveries, like flashes of light

in a path of darkness and oblivion. The story of Vlasta Lah seemed different from that of other female directors in Argentine cinema; it was unique due to her origins and her journey through an industry that was no longer as open and receptive as it had been during the silent film era — an era that had given rise to figures like Emilia Saleny¹, María B. de Celestini, or the recently discovered, nor was it a time of reconstruction, like the one that would later bring forward our contemporaries María Herminia Avellaneda² or María Luisa Bemberg³, many years later⁴. “Vlasta Lah emerged like a light in the desert of classic Argentine cinema when it came to female directors, yet her work was undervalued in the brief biographies written about her, often reduced to being merely the assistant to her husband, the director Catrano Catrani (1910—1974). This subsidiary role within the industry, the disregard for her two feature films, and the gaps in her biography led researchers to pursue her story as a mystery to be unraveled — an attempt to reconstruct her character through new voices and to recover this lost link in Argentine cinema (Vázquez Prieto, 2023). ‘Her childhood was marked by the First World War,’ explains Pereira. ‘She was born under the dying Austro-Hungarian Empire of Franz Joseph, then became Italian, later Yugoslav, and today would be considered Croatian, since she was born in Pula, on the Istrian Peninsula. She had four siblings but moved with her older sister to Rome, Italy, where they worked as models. They were persecuted by fascism and studied film in the 1930s, at the time when that totalitarian movement was consolidating. In 1936, Catrani went to film the Spanish Civil War on the side of the Francoists, having been sent by the LUCE Institute in Roma⁵. On that journey, they deserted, and we believe that it was at that moment they decided to travel to Argentina. In this country, they became part of the film industry and participated, in some peripheral way, in the ruling Peronist government (1946—1955). Vlasta was

¹ Emilia Saleny (1894—1978); was one of the first women to direct a silent film in Argentine cinema. María Herminia Avellaneda (1933—1997) was an Argentine filmmaker and television producer (a pioneer of the genre) and artistic director of the ATC network in 1984, the state television channel, now known as *Televisión Pública*.

² María Herminia Avellaneda (1933—1997); was an Argentine filmmaker and television producer (a pioneer of the genre) and served as the artistic director of the ATC network in 1984, the state television channel, now known as *Televisión Pública*.

³ María Luisa Bemberg, (1922—1995); worked as a screenwriter and film director, specializing in creating films focused on themes related to the emancipation and empowerment of women. She directed 6 feature films, 2 short films, and wrote 9 scripts for commercial films.

⁴ From a gender perspective, other female filmmakers in our country also reflected the position of women in a patriarchal society, such as Adelia Acevedo, Angélica García de García Mansilla, Antonieta Capurro de Renauld, Elena Sansinena, María Constanza Bunge Guerrico de Zavallia, and Victoria Ocampo, among others.

⁵ The “Istituto Luce” (acronym for *L'Unione Cinematografica Educativa*) is the oldest public institution in the world dedicated to the dissemination of cinema for educational and informational purposes at both national and international levels. The LUCE Institute served as a key instrument for cinematic propaganda during the Italian fascist regime.

appointed as the director of a film school; later, both were persecuted by the self-proclaimed 'Liberation Revolution', which overthrew the constitutional government of Juan Domingo Perón through a military coup. As they say, it's a story fit for a novel." (Vey & Perreyra, 2023).

THE ISTRIAN PENINSULA AND THE MIGRATION FROM ISTRIA

Vlasta Lah and her husband arrived in Argentina in 1938, at the very end of the migratory flow that began right after the First World War (1918). The Istrian Peninsula covers an area of approximately 3,600 km², currently shared by Italy, Slovenia, and Croatia, with most of its territory belonging to Croatia. It is situated between the Gulfs of Trieste and Kvarner and boasts a rich and ancient history. Throughout history, Istria has remained a multiethnic and multilingual region along the Adriatic coast. Pula, the birthplace of Vlasta Lah, is located at the southern tip of Istria. It currently has a population of about 60,000 people.

The period leading up to Vlasta Lah's emigration from Istria was marked by repressive policies enacted by the fascist government of Benito Mussolini. These policies included the forced Italianization of the local population during the 1920s and 1930s, as well as acts of fascist violence, often left unchecked by the authorities. The use of Croatian and Slovenian languages was banned in the administration and in courts, with the prohibition codified by a Royal Decree in 1925. These policies, along with economic factors, contributed to the emigration of many Slavic families from Istria. Vlasta Lah and her husband arrived in Argentina in 1938, at the tail end of the migratory wave that had begun shortly after the First World War (1918).

THE PIVOTAL EARLY YEARS OF VLASTA LAH

Vlasta Lah was born Giulia Lah Rocchi on January 13, 1913, in Pula, which was then part of the Austro-Hungarian Empire and is now part of the Republic of Croatia. Around 1930, she moved to Rome and enrolled at the *Centro Sperimentale di Cinematografia* to study acting, but later switched her focus to film directing. In 1938, Lah married her colleague Catrano Catrani, and together they emigrated to Buenos Aires, Argentina, where they both pursued careers in the Argentine film industry. Her early life was marked by the upheavals of the First World War. Born under the waning Austro-Hungarian Empire of Franz Joseph, she later became Italian, then Yugoslav, and had she been alive today, would be Croatian. Vlasta moved with her older sister to Rome, where they worked as models. They were persecuted by fascism and, during the 1930s, both studied filmmaking. Considering this (...), it becomes clear that "the fascist regime sought to create a new, 'Italo-fascist' identity through a large-scale control of culture,

both visual and intellectual” (Nelis, 2006, p.143). Specifically, under Mussolini’s regime (...),

“he attempted to portray a normalized society, basing films on national propaganda and glorifying the country’s brilliant history. Moralizing comedies were also produced, devoid of any bourgeois meaning, traits commonly found in the authoritarian regimes of the 20th century. During this period, cinema underwent a transformation parallel to societal changes, which became especially notable in the 1930s. In the 1920s, Italian cinema tried to present a reassuring, escapist vision of society, aiming to normalize the fascist period in Italy by avoiding any depiction of political or economic issues. This cinematic vision mirrors what occurred in Hitler’s Germany or Franco’s Spain” (García, 2020, p. 1) (Translation by the authors).

VLASTA LAH’S CINEMATIC OPUS

THE FURIES

“Las Furias” (“The Furies”) is a 1960 Argentine drama film directed by Vlasta Lah, based on the 1950 play of the same name by Enrique Suárez de Deza. It is notable for being the first Argentine sound film directed by a woman, marking Lah’s directorial debut. The cast is almost entirely female, featuring prominent actresses such as Mecha Ortiz (1900—1987), Olga Zubarry (1923—2012), Aída Luz (1917—2006), Alba Mujica (1916—1983), and Elsa Daniel (1936—2017). The characters they portray are not given specific names but are introduced as “The Mother,” “The Lover,” “The Wife,” “The Sister,” and “The Daughter,” respectively. The film’s score was composed by the renowned Astor Piazzolla. Some critics have described it as an elusive work, difficult to categorize within a single genre. This may be due to the challenge, at the time, of fully recognizing a film with a gendered perspective. The story centers on five women who play the mother, wife, lover, sister, and daughter of a man whom we never see on screen. Instead, his character is constructed solely through the testimonies of the protagonists. These women are unconventional, independent, ambitious, and angry traits far removed from the expected female roles of the era. Through their complex relationships, the film sparks debate around marriage, love, and money. The Mother, played by Mecha Ortiz, is the typical mother-in-law found in many fictional works. She overprotects her son, despises her daughter-in-law, mistreats her “spinster” daughter, and spoils her granddaughter. Although she may seem like a conservative character, she is not. She agrees to meet with her son’s lover, and they have a very cordial conversation. She does not believe in marriage as an indestructible institution. The Lover, played by Olga Zubarry, represents the modern woman. She is divorced, emotionally and financially independent, and a successful businesswoman. In *Las Furias*, the four women in the household orbit around the man because he is the one who supports them. The Wife, played by Aída Luz, is the only one who never leaves the house. Through her central

role, the specific roles of each woman in relation to the household are clearly defined according to a patriarchal society. What is important, however, is that none of them are particularly happy with the role they are forced to play, as each one fails in her own way. This tragic fate could be seen as a metaphor for the changing times. The Daughter, portrayed by Elsa Daniel, explicitly seeks out a wealthy man who can provide the material comforts she desires. In exchange, she offers him her virginity, carefully preserved for such purposes. Her character does not symbolize the modern woman; rather, she represents the classic woman, but without the veil of hypocrisy that traditionally surrounded her. The character of the Sister, played by Alba Mujica, is the counterpart to the Lover. She too aspires to be independent and “modern,” but in her case, it is all a facade. She has no job and depends on her father’s money. She is certain that she does not want to be like the women in her family, but she is still unsure of what she truly wants to be, even though she pretends to know. Historian Matthew Losada draws clear references between the issues raised in the work *The Second Sex* by Simone de Beauvoir⁶ and its central dilemma: a woman’s condition is defined by the conflict between her freedom and the specific limitations of her situation.

From Script to Screen: The Critic’s Eye on Film and the Filmmaker

In 2022, *Las Furias* was ranked number 50 in the list of “The 100 Greatest Films of Argentine Cinema,” a poll conducted by the specialized magazine *La Vida Útil* and presented at the Mar del Plata International Film Festival. Additionally, the film was included in *Fotogramas* magazine’s 2022 list of the 20 best Argentine films of all time. At the 31st Mar del Plata International Film Festival in 2016, *Las Furias*, the first feature-length sound fiction film directed by a woman in Argentina, was screened in 16mm. This remains the only existing copy of the film, which is now in poor condition and no longer projectable.

Despite the great anticipation from the press leading up to the film’s release, the reviews were harsh, with critics accusing the director of a lack of skill, adhering too closely to the theatrical text, and being overly theatrical in her staging. It can be suspected, in most cases, that there is a sexist bias, particularly given the vehemence of the comments: “Vlasta Lah has filmed with correctness, aiming to appeal to a female audience. To attract the male sector, she should have framed the story in terms of action, which gives intensity to film narratives.” After the failure of her first experience, Vlasta attempted again the following year.

⁶ Simone de Beauvoir (1908–1986) published *Le Deuxième Sexe* (The Second Sex) in 1949, edited by Gallimard in Paris. In this work, the author advocates for female self-affirmation, criticizing the role of Western culture in shaping the subordinate roles women were expected to play in society.

THE MODELS

"Las Modelos" (1963) is a film directed and written by Vlasta Lah. It was her second and final film, following her 1960 directorial debut, *Las Furias*. The film tells the story of Sonia and Ana, two young haute couture models, portrayed by actual models rather than actresses. The narrative can be seen as a biographical reflection of Lah's own experiences in Rome, where she, along with her sister, worked as a model. This connection recalls the famous quote by the great Italian director, Federico Fellini: "All art is autobiographical." The film gives voice to two high-fashion models struggling to survive in Buenos Aires. It explores their challenges, desires, and dreams, while addressing themes such as the objectification of women, societal beauty standards, and class disparities.

Vlasta Lah's second film is much less ambitious than her first, at least in terms of featuring famous actresses. None of the lead actresses are stars on the level of those in her first film, and one of them isn't even an actress. Like *Las Furias*, the cast is predominantly female, fulfilling a key requirement of the story and aligning with Lah's directorial style. The characters/models, Sonia and Ana, constantly grapple with the pressure of making decisions about their futures while being unable to freely express their sexuality. The film explores the relationship between work and independence, not just economic independence. Sonia believes that, by working like men do, she is entitled to the same life they lead. For her, it is an act of empowerment, while for Ana, it is merely a means of survival. Throughout the film, opinions on gender roles in society are voiced, such as: "Men don't demand talent from women." In contrast, these ideas are challenged between the two protagonists when one says, "Feminism is fine for the rich," offering a perspective from a lower social class. Vlasta understands that economic factors are key to a woman's freedom, and in many ways, the entire narrative of the film revolves around this issue. Here, we see again the influence of Simone de Beauvoir's *The Second Sex*. The film repeatedly addresses the economic aspect, discussing not only the hardships the two friends face in their economic position but also a political debate in a bar where people talk about the rising cost of living — an issue that also appears in the letters Vlasta sent to her sister Neva in Rome.

From Spotlight to Silence: The Critics and the Vanishing Auteur

Beyond the journalistic announcements of its premiere, it is clear that the anticipation for *Las Modelos* was much lower than for her previous film. This is evident in the brief nature of the reviews it received. Unlike what happened with her debut, *Las Modelos* was met with fairly positive critiques, particularly for its thematic exploration, highlighting the struggle of two women who strive to secure important roles in life within the bustling cities. In many ways, this film reflected the lifestyle of young middle-class women of the time, grappling with the challenges of a modern, fast-paced life that was

just beginning to take shape in the 1960s — a decade rich in political, social, and cultural change.

Las Modelos is Vlasta Lah's final film, although she remained involved in the worlds of cinema, television, and theater afterward. It is unclear why she did not continue making films. One possible reason could be that she was unable to secure a producer for her third film, while another might be the financial difficulties facing her husband's company, which were difficult to overcome. None of these hypotheses seem to fully explain why she stopped making films. If Vlasta Lah's career and life were shrouded in mystery, even more so is the period between her second and final film and her death. There is a profound silence surrounding this time, during which Vlasta became the first woman to direct two sound feature films in Argentina — a remarkable achievement that deserves recognition. If we can say that Vlasta Lah's first film has a "feminine" perspective, her second film clearly adopts a feminist viewpoint, addressing issues that were not yet part of the mainstream conversation at the time. Between these two films, there is a noticeable shift or growth in the director's approach to these themes. It is understood that "female cinema" corresponds to both a biological meaning (gender) and a psychological one. However, in *Las Furias*, there are progressive elements that suggest Vlasta Lah was beginning a journey toward feminist cinema, which comes to full fruition in *Las Modelos*.

In the first place, some of the protagonists in *Las Furias* question their roles within the family and society. The male figure, on the other hand, is always absent. Within the context of Argentine cinema at the time, this was a very forward-thinking move. However, all the characters in *Las Furias* are defined in relation to the "man of the house" and their connection to him: mother, daughter, wife, sister, lover — none of them even have their own names. While in *Las Furias* the character of the lover carries a feminist discourse, in *Las Modelos*, this discourse is not just stated, but debated, lived, confronted, modified, and problematized throughout the entire development of the story.

FINAL REFLECTIONS AND INSIGHTS

Vlasta Julia Lah passed away on July 12, 1978, in Buenos Aires. On her death certificate, she is listed as Yugoslav and a "housewife". We can conclude that Vlasta always lived in the shadow of her husband. Despite studying at the same institution and arriving in Argentina together, he quickly secured a position as a director at a studio and began filming his first movies as a filmmaker. Upon their arrival in the country, she had to raise their newborn child and dedicate herself to household tasks. When she was finally able to focus on her vocation, she had to do so from the lowest rung, taking on roles that were mostly filled by women, all while still managing reproductive duties at home. "Vlasta died in solitude, a solitude that had accompanied her throughout many

years of battling against a world that was not prepared for her and that, when it began to change, found her defeated and without strength” (Vey & Perreyra, 2023: 192).

Unfortunately, there is very little secondary source material available to describe and analyze the life and work of Vlasta Lah. She was a pioneering figure in Argentine cinema, yet, as the title of Vey and Pereira’s book (2023) suggests, she was limited in her field of action in cinema due to her gender, even at a time when Argentine cinema was reaching a significant level of development. This was particularly true given the support it received from the State. Nevertheless, Vlasta had to face a male-dominated world, territorial and hostile, as reflected in the Fellini quote that heads this article. In this world, women were generally relegated to secondary roles. In this sense, the words of María Luisa Oliveira, director of the WofestHuelva festival, are particularly relevant: “*More than mandatory quotas, the ideal would be for programmers and festival directors (who are often men) to be aware of this inequality and address it by including more films made by women in their programming.*” (<https://www.lamarea.com/2016/03/08/83001/>; 8/3/2016). However, Vlasta managed to carve her own path, achieving a remarkable distinction by becoming the first woman to direct a sound film in Argentina.

References

- Antić, L. (1991). *Hrvati u Južnoj Americi do godine 1914*. [Croats in South America up to the year 1914]. Stvarnost.
- Cizmić, I. et al. (1978). *Iseljništvo Naroda i Narodnosti Jugoslavije i njegove uzajamne veze s domovinom*. [Emigration of the People and Nationalities of Yugoslavia and Their Mutual Connections with the Homeland]. Zavod za migracije i narodnosti.
- De Beauvoir, S. (1949). *Le Deuxième Sexe*. [The Second sex]. Gallimard.
- García, R. (2020). *La cinematografía es el arma más poderosa: el cine en la época de Mussolini*. [Cinema is the most powerful weapon”: Cinema in the era of Mussolini]. <https://www.20minutos.es/cinemanía/blogs/la-claqueta-de-la-historia/cinematografia-es-arma-mas-poderosa-cine-epoca-mussolini-5598811/-26/8/2020>.
- Guber, R. (1995). *Antropólogos nativos en la Argentina. Análisis reflexivo de un incidente de campo*. [Native Anthropologists in Argentina. A Reflective Analysis of a Field Incident]. Grupo Editorial Norma.
- Holjevac, V. (1967). *Hrvati izvan domovine* [Croats outside the homeland]. Matica Hrvatska.
- Klemenčić, V. (1978). Karakter, uzroci i posledice iseljavanja iz Jugoslavije, *Iseljništvo naroda i narodnosti Jugoslavije* [Character, causes, and consequences of emigration from Yugoslavia, The emigration of the people and nationalities of Yugoslavia]. *Zbornik, Zavod za migracije i narodnosti*. 105-110. Zagreb.
- Narayan, I. (1993). How native is a “Native” Anthropologist. *American Anthropologist*, 95(3), 671-686.
- Nejašmić, I. (1990). Iseljavanje iz Hrvatske u evropske i prekomorske zemlje od sredine 19. stoljeća do 1981. godine — pokušaj kvantifikacije. [Emigration from Croatia to European and overseas countries from the mid-19th century to 1981 — an attempt of quantification]. *Migracijske i etničke teme*, 6(4), 511-526.

- Nelis, J. (2006). Italian fascism and culture: Some notes on investigation. *HAOL*, (9), 141-151.
- Oliveira, M. L. (2016). *El cine hecho por mujeres no es un género* [Cinema made by women is not a genre] <https://www.lamarea.com/2016/03/08/83001/>.
- Radovich, J. C. (2016). El proceso migratorio de los croatas de Konavle en la Argentina. [The migration process of the Croats from Konavle to Argentina]. In. *Etnicidad y migraciones en Argentina*. Buenos Aires.
- Vey, C., & Pereira, M. (2023). *Por ser mujer. La biografía de Vlasta Lah*. [For Being a Woman: The Biography of Vlasta Lah]. Ed. Del Camino. Buenos Aires.

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HOW IMMIGRATION PATTERNS IN CROATIAN REGIONS REFLECT IN THE LOCALS' ATTITUDES TOWARD IMMIGRANTS

Abstract

The study examined the relationship between regional migration patterns and public attitudes toward immigrants in Croatia during 2020–2021. Participants included 1341 individuals from four socio-geographic regions of Croatia (Pannonian, Adriatic, Northern Croatia, and the City of Zagreb), evenly distributed by gender, with an average age of 49 years. Migration data, i.e., patterns of immigration in Croatia, were obtained from the Croatian Bureau of Statistics. These data were analysed alongside with attitudinal measures toward public perception of immigrants, obtained from the European Social Survey (Round 10). The attitudinal measures focused specifically on two dimensions: the level of acceptance of immigrants (including preferences for different immigrant groups) and the perceived impact of immigration on Croatia's economy and cultural life. Results revealed a generally moderate acceptance of immigrants, though attitudes were less favourable toward immigrants from non-European or socioeconomically disadvantaged backgrounds. At the same time, immigrants' impact on the country's economy and culture was perceived as neutral. Although there were no notable regional differences in these attitudes, Adriatic and Pannonian Croatia displayed slightly more favourable attitudes compared to Northern Croatia and City of Zagreb. These findings suggest the need for targeted policies to promote integration and address biases, particularly against immigrants from non-European and economically disadvantaged countries, with a focus on regions displaying less favourable attitudes.

Key words: *migration, Croatian regions, immigrants, attitudes, Mediterranean*

INTRODUCTION

This paper¹ aims to enrich empirical insights into the attitudes of the locals in Croatia, representing four distinct socio-geographic regions, towards foreign nationals. Al-

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though traditionally known as a country of emigration (Čačić-Kumpes et al., 2012; Božić et al. 2013), Croatia has recently transformed into a predominantly immigration country (Croatian Bureau of Statistics, 2024). According to Komušanac's aggregate data (2023), in the period between 2016 and 2022, foreigners made 71.18% of all people who immigrated to Croatia. In 2023, the proportion of aliens rose to 84.4%. In terms of their citizenship, in the 2016-2022 period, the most represented (67%) were immigrants coming from the non-EEA European countries (Bosnia and Herzegovina, Serbia, Albania, etc.), followed by Asian countries (14.35%) (Komušanac, 2023). In 2023 alone, Asian immigrants accounted for 25.8%, people from the non-EU Balkan countries for 25.7%, and Ukrainians for 18.9% of the total immigration (Croatian Bureau of Statistics, 2024)². In the post-COVID era, the highest proportion of immigrants settled in the City of Zagreb, the County of Split-Dalmatia, and the County of Istria i.e., in relatively prosperous areas where foreign workers are more likely to be (sustainably) integrated in the labour market (Croatian Bureau of Statistics, 2022a, 2023, 2024).

Despite these trends, previous findings on the locals' attitudes towards immigrants are overall scarce but paint a rather coherent picture. Expectedly, foreign workers and refugees/asylum seekers represent the groups that have caught the most research attention.

As an illustration, before Croatia's accession to the EU in 2013 and its recovery from the global economic crisis, i.e., before the country was found attractive by voluntary immigrants, Čačić-Kumpes et al.'s (2012) national sample survey reported the locals being resistant to accepting immigration and in favour of socially distancing themselves from foreign workers — underpinned by perceiving the immigrants as both socio-economic and socio-cultural threat (see also Božić et al., 2013). Gregurović et al.'s (2016) data on the country's easternmost counties, collected a few months after Croatia entered the EU, revealed the same findings: immigrant workers were perceived as a cultural threat, and the locals were in favour of keeping the social distance. Also, the attitudes towards foreign workers were found more polarized than those towards asylum seekers. Similarly, according to more recent regional study of the City of Split, relevant especially in the context of post-COVID labour market shortage in the tourism and hospitality industry, the locals were supportive of all workers (irrespective of the country of their origin) having equal treatment in the workplace but preferred to employ and/or collaborate with non-foreigners (Vučić, 2024).

² The 2016—2022 period is meaningful because the starting year comes right after Croatia overcame the global economic crisis (2015) and got involved in the 2015 migrant crisis. The ending year represents the point when the country first managed to score a positive net migration with foreign countries — also due to the influx of Ukrainian refugees (Komušanac, 2023; Jurić, 2023; Croatian Bureau of Statistics, 2024; European Commission, 2016). For concerns about the official immigration data reliability see: Pokos and Pokos (2022) and Jurić (2023).

Regarding the refugees/asylum seekers, recent studies have addressed (the aftermath of) the 2015–2016 migrant crisis. The attitudes towards Ukrainian refugees, to the best of our knowledge, have not yet been systematically assessed. Ajduković et al.'s (2019) nationwide survey indicated that the locals had neutral attitudes towards asylees and that the symbolic threat these immigrants posed was more emphasized than the realistic one. Among the four socio-geographic regions, locals in Central Croatia had the most positive attitude towards asylees and were the readiest to have close social relationships with them. In both cases, Dalmatia was on the opposite end of the continuum. Finally, Mrakovčić and Gregurović's (2020) sample of law students in Zagreb, Split, Rijeka, and Osijek also had neutral attitudes towards Middle Eastern immigrants and asylees. They were neutral/ambivalent regarding the pros and cons of Croatia receiving the immigrants and did not find asylees posing a health and safety threat (to the locals). Resembling the nationwide case, compared to Split (Dalmatia), the students from Zagreb (Central Croatia) and Rijeka (Kvarner region) were more affirmative towards the foreigners.

METHOD

Participants

In this study, 1341 participants from Croatia were included, with an almost equal gender distribution (50.1% men). Of these, 459 (28.8%) were from Pannonian Croatia, 526 (33.0%) from Adriatic Croatia, 254 (16%) from the City of Zagreb, and 353 (22.2%) from Northern Croatia. The average age of the participants was 48.99 years ($SD = 19.12$).

Measures

Migration patterns were examined in relation to immigration to Croatia, as well as the immigration trends specific to its four main regions: Pannonian Croatia, Adriatic Croatia, the City of Zagreb, and Northern Croatia. These four regions are defined based on their geographical location and are composed of specific municipalities (Table 1).

Attitudes toward immigrants were assessed in two domains: attitudes toward immigrant acceptance and attitudes toward the impact of immigrants on the country.

Attitudes toward immigrant acceptance were measured using three questions on a Likert scale, where participants rated how many immigrants they would permit to enter the country. The questions specifically asked how many immigrants they would allow from the following groups: 1) Immigrants of the same race/ethnic group as the majority, 2) Immigrants of a different race/ethnic group from the majority, and 3) Immigrants from poorer countries outside Europe. Participants responded using a four-point scale with the options: 1 — Allow many, 2 — Allow some, 3 — Allow a few, and 4 — Allow none. A higher score on this scale indicated less positive attitudes toward immigrant acceptance.

Attitudes toward immigrant impact on the country were measured using three additional questions on a Likert scale, where participants expressed their views on the over-

Region	Municipalities
Pannonian Croatia	Bjelovarsko-bilogorska Virovitičko-podravska Požeško-slavonska Brodsko-posavska Osječko-baranjska Vukovarsko-srijemska Karlovačka Sisačko-moslavačka
Adriatic Croatia	Dubrovačko-neretvanska Istarka Ličko-senjska Primorsko-goranska Splitsko-dalmatinska Šibensko-kninska Zadarska
City of Zagreb	City of Zagreb
Northern Croatia	Međimurska Varaždinska Koprivničko-križevačka Krapinsko-zagorska Zagrebačka

Table 1 — Four Croatian regions and corresponding municipalities

all impact of immigrants in their country. The questions addressed the following statements: 1) Whether immigration is bad or good for the country's economy, 2) Whether the country's cultural life is undermined or enriched by immigrants, and 3) Whether immigrants make the country a worse or better place to live. Responses for these questions ranged from 0 (least favourable) to 10 (most favourable), with higher scores reflecting more positive attitudes toward the impact of immigrants on the country.

Procedure

Data for this study were obtained through two secondary data sources. The migration data were obtained from the Croatian Bureau of Statistics (2022a), covering the immigration patterns in four Croatian regions: Pannonian Croatia, Adriatic Croatia, the City of Zagreb, and Northern Croatia, for the years 2020 and 2021.

Data on public attitudes were extracted from Round 10 of the European Social Survey (ESS, 2020) for the years 2020 and 2021, which provided a uniform measure of attitudes toward immigrants across different Croatian regions.

Immigration	2020		2021	
	n	%	n	%
Croatian citizens	8460	25.3	10622	29.6
Foreigners	24949	74.7	25289	70.4
Unknown	5	<0.1	1	<0.1
Overall	33414	100	35912	100

Table 2 — Immigration statistics for Croatian citizens and foreigners (2020—2021)

These two datasets were then analysed to explore potential relationships between regional migration patterns and public attitudes toward immigrants.

RESULTS

Migration patterns in 2020—2021

Immigration statistics can be seen in Table 2. Data shows that the majority of immigrants to Croatia are foreigners, with a slight rise in Croatian citizens returning to the country in 2021. When examining from which countries most foreigners immigrate to Croatia (Table 3), it can be seen that Bosnia and Herzegovina is the leading country of origin for foreigners immigrating to Croatia, although its share decreased from 30.2% in 2020 to 24.8% in 2021. Also, there was a noticeable increase in immigrants from Asia in 2021, rising from 8.3% in 2020 to 17% in 2021.

2020			2021		
Origin country	n	%	Origin country	n	%
BiH	7540	30.2	BiH	6269	24.8
Serbia	4225	16.9	Asia	4288	17.0
Kosovo	2352	9.4	Serbia	3166	12.5
Asia	2076	8.3	Kosovo	1779	7.0
Slovenia	1301	5.2	Germany	1146	4.5
Albania	1089	4.4	Albania	1022	4.0
N. Macedonia	1089	4.4	N. Macedonia	1015	4.0
Ukraine	939	3.8	Slovenia	844	3.3
Germany	809	3.2	Ukraine	730	2.9
Italy	319	1.3	Italy	393	1.6

Note: Only the top countries of origin for foreign immigrants to Croatia are presented for both 2020 and 2021.

Table 3 — Distribution of countries of origin for foreigners immigrating to Croatia (2020—2021)

	2020		2021	
	n	%	n	%
Pannonian Croatia	1053690	26.0	1022966	26.4
Adriatic Croatia	1371585	33.9	1300810	33.5
City of Zagreb	809268	20.0	768054	19.8
Northern Croatia	813137	20.1	787151	20.3
Overall	4047680	100	3878981	100

Note: The source of the data is the Croatian Bureau of Statistics (2022b).

Table 4 — Number of Croatian citizens in four Croatian regions (2020—2021)

Regional immigration patterns

Table 4 provides details regarding the population figures for Croatia and its four regions. It is evident that there is a slight population decline in Croatia from 2020 to 2021. The most notable decrease is present in Adriatic Croatia and the City of Zagreb.

Figure 1 and Figure 2 display the number of immigrants in each Croatian region, both in absolute terms and relative to the population of Croatian citizens. The data suggest that Adriatic Croatia consistently receives the highest number of immigrants, followed by the City of Zagreb. In relative terms, Adriatic Croatia and city of Zagreb also have the highest proportion of immigrants compared to their resident population, while Pannonian Croatia has the lowest.

Public attitudes toward immigrants — Croatia and Croatia regions

Figures 3 and 4 illustrate public attitudes towards immigrants in Croatia. Overall, the population shows moderate acceptance of immigrants and views their impact on the

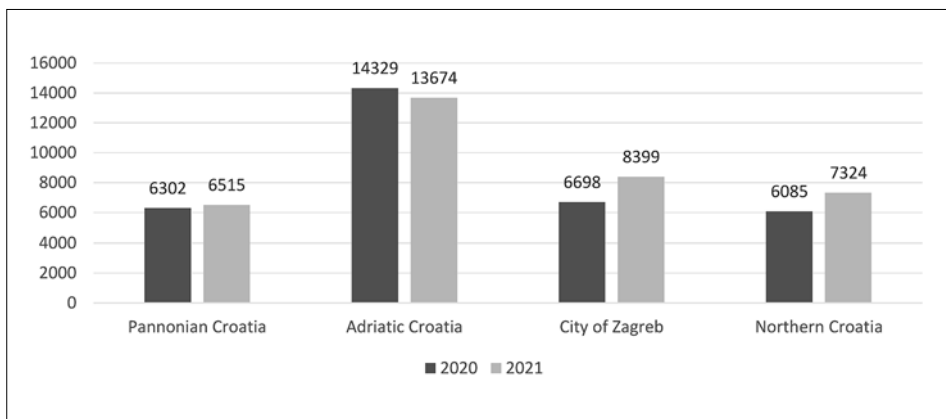


Figure 1 — Number of immigrants in four Croatian regions (2020—2021)

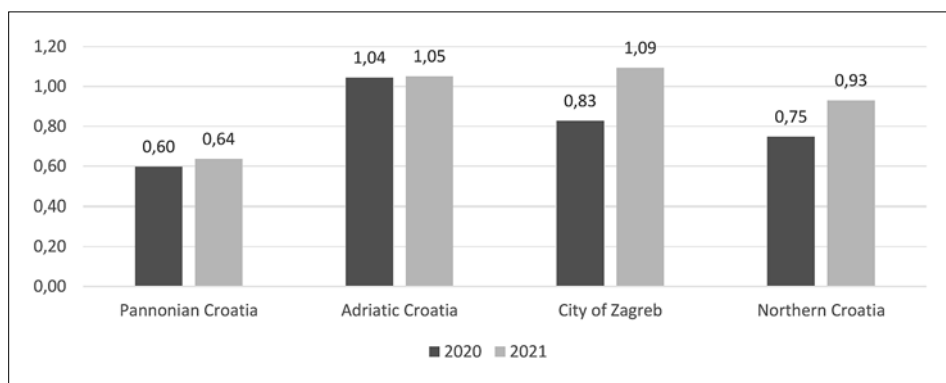


Figure 2 — Percentage of immigrants relative to the population of Croatian citizens in each region (2020—2021). *Note:* The percentage in Figure 2 was calculated by dividing the number of immigrants by the total number of Croatian citizens residing in each region.

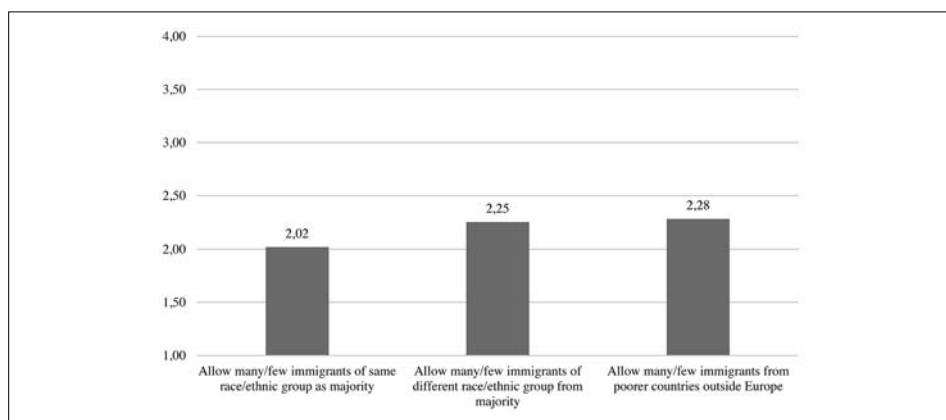


Figure 3 — Public attitudes toward immigrant acceptance in Croatia (N = 1341)

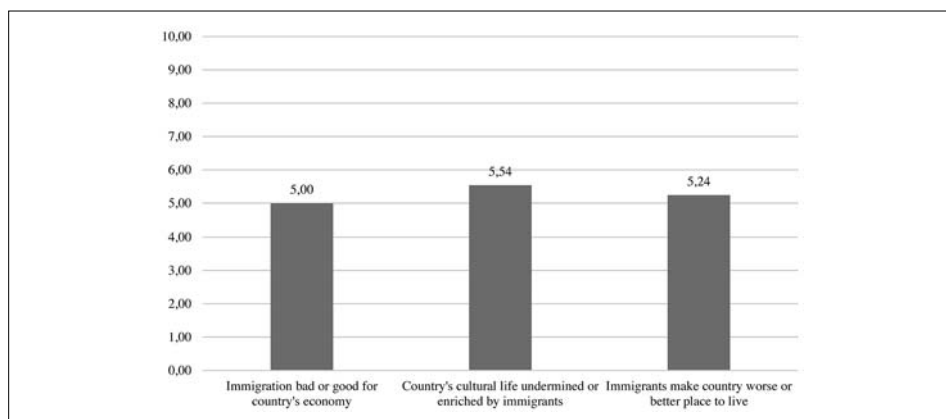


Figure 4 — Public attitudes toward immigrants' impact on Croatia (N = 1341)

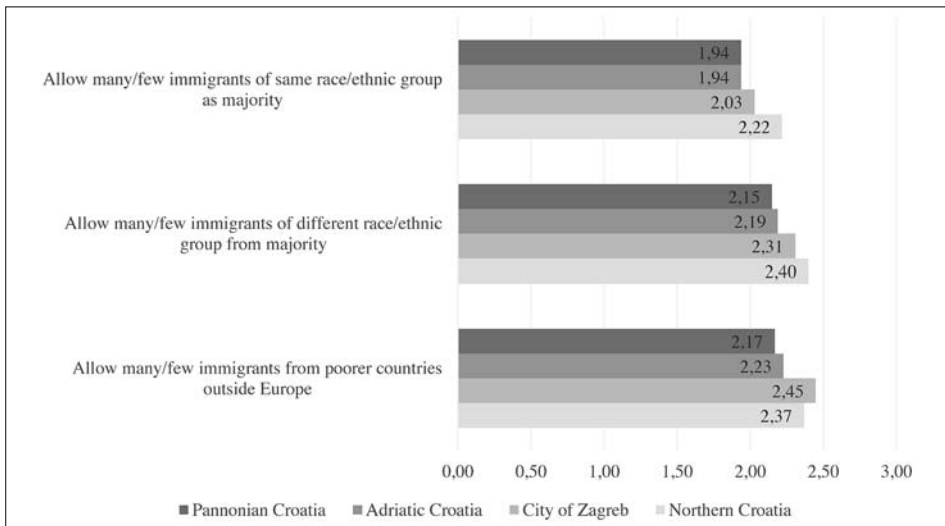


Figure 5 — Regional attitudes toward immigrant acceptance in four Croatian regions (N = 1341)

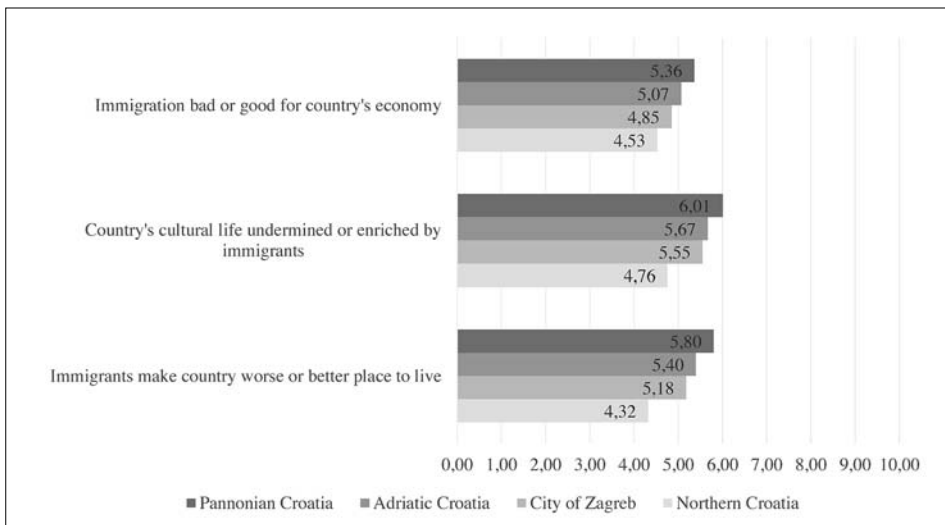


Figure 6 — Regional attitudes toward immigrants' impact on Croatia (N = 1341)

country as neutral, i.e., neither good nor bad. However, attitudes are less favourable towards immigrants from different ethnic backgrounds or poorer non-European countries.

Figures 5 and 6 suggest slight regional variations in attitudes. Pannonian and Adriatic Croatia demonstrate the most favourable attitudes towards immigrants, while the City of Zagreb and especially Northern Croatia have less positive attitudes, particularly concerning the cultural and economic benefits of immigration.

DISCUSSION

This study examined the relationship between regional migration patterns and public attitudes towards immigrants in Croatia during 2020–2021. Over the past decade, Croatia has increasingly relied on foreign workers to address a significant domestic labour shortage, exacerbated by the emigration of nearly half a million citizens (Croatian Bureau of Statistics, 2023). Furthermore, immigration patterns have shifted, with a decline in non-EEA arrivals and a surge from Asia and the EU (Komušanac, 2023). In line with these trends, our study showed that most immigrants in 2020–2021 were from Bosnia and Herzegovina. Asian immigration doubled, reflecting broader EU trends driven by economic, political, and cultural factors (International Organization for Migration, 2020). During the inspected period, Adriatic Croatia and Zagreb, with their tourism industries and diverse job markets, attracted most immigrants.

Overall, participants in our study expressed moderate acceptance of immigrants and perceived their influence on the country as neutral. However, attitudes were less favourable towards immigrants from different ethnic backgrounds or poorer non-European countries. This aligns with previous research demonstrating that immigrants of non-European origin in Europe often face significant labour market disadvantages, including higher unemployment rates, lower earnings, and limited access to high-status occupations (Davidov & Semyonov, 2017). This disparity suggests that while there is a general willingness to accept immigration in Croatia, potential prejudices and biases related to ethnicity and socioeconomic status may influence public perception and acceptance of immigrants.

Attitudes towards immigrants were not significantly correlated with regional immigration rates. Pannonian and Adriatic Croatia exhibited more favourable attitudes, while participants from Zagreb and Northern Croatia expressed less positive views, particularly regarding the cultural and economic benefits of immigration. Only in Zagreb did we observe a possible correlation between a larger influx of immigrants and less favourable public attitudes. This could be explained by the theory of collective threat, which posits that exposure to immigrants can influence both political tolerance and economic perceptions. As the relative size of the immigrant population increases, so does the perceived threat to the native population's economic and cultural well-being (Quillian, 1995). Larger immigrant populations may be seen as a threat to jobs and cultural identity, leading to decreased tolerance. However, in Adriatic Croatia, the high demand for seasonal labour in tourism might explain the more favourable attitudes, despite the significant influx of immigrants. Despite the relatively small regional differences in attitudes, our results indicate that tailored policies may be necessary to address specific concerns and attitudes in different regions. This can be especially true for Northern Croatia and the City of Zagreb, where the most unfavourable attitudes were observed.

Although migration patterns may affect long-term attitudes toward immigrants, other factors are likely to have a more substantial impact. For instance, Kehrberg (2007) identified several influences on public opinion regarding immigration, including individual and national economic conditions, political tolerance, and the presence of minority friends. Given that Croatia is experiencing significant demographic shifts, it is crucial for future research to examine these aspects. Furthermore, our findings highlight that while there is a general level of acceptance of immigrants, it is essential to investigate potential underlying biases that may influence public perceptions, particularly those related to ethnicity and socioeconomic status. Creating an environment that promotes positive integration and counters prejudiced attitudes will be vital for fostering social cohesion in the future.

CONCLUSION

This study found that overall, Croatian citizens demonstrated moderate acceptance of immigrants and perceived their impact neutrally. However, less favourable attitudes were found towards immigrants from different ethnic backgrounds or poorer non-European countries. While regional variations in attitudes were observed, with Pannonian and Adriatic Croatia exhibiting more favourable views and Zagreb and Northern Croatia expressing less positive attitudes, our findings do not establish a definitive link between migration patterns in Croatian regions and attitudes towards immigrants. Further research is needed to explore other influential factors beyond migration patterns, such as sociodemographic characteristics, political engagement, national and cultural identity, and perceived personal security, to fully understand the complexities of public opinion towards immigration in Croatia.

References

- Ajduković, D., Čorkalo Biruški, D., Gregurović, M., Matić Bojić, J., & Župarić-Iljić, D. (2019). *Izazovi integracije izbjeglica u hrvatsko društvo: stavovi građana i pripremljenost lokalnih zajednica*. Vlada Republike Hrvatske, Ured za ljudska prava i prava nacionalnih manjina.
- Božić, S., Kuzmanović, B., & Barada, V. (2013). Strani radnici u Hrvatskoj: Porijeklo, status, orijentacije. *Migration and Ethnic Themes*, 29(3), 367-404. <https://doi.org/10.11567/met.29.3.3>.
- Croatian Bureau of Statistics. (2022a). *Migration of population of the Republic of Croatia, 2021*. Croatian Bureau of Statistics. <https://podaci.dzs.hr/2022/hr/29030>.
- Croatian Bureau of Statistics. (2022b). *Population estimate of the Republic of Croatia by counties in mid-2021*. Croatian Bureau of Statistics. <https://podaci.dzs.hr/2022/hr/29032>.
- Croatian Bureau of Statistics. (2023). *Migration of population of the Republic of Croatia in 2022*. Croatian Bureau of Statistics. <https://podaci.dzs.hr/2023/hr/58061>.
- Croatian Bureau of Statistics. (2024). *Migration of population of the Republic of Croatia, 2023*. Croatian Bureau of Statistics. <https://podaci.dzs.hr/2024/en/76803#:~:text=The%20Republic%20of%20Croatia%20had,35.2%25%20of%20aliens%20emigrated%20abroad>.

- Davidov, E., & Semyonov, M. (2017). Attitudes toward immigrants in European societies. *International Journal of Comparative Sociology*, 58(5), 359-366.
- Čačić-Kumpes, J., Gregurović, S., & Kumpes, J. (2012). Migracija, integracija i stavovi prema imigrantima u Hrvatskoj. *Croatian Sociological Review*, 42(3), 305-336. <https://doi.org/10.5613/rzs.42.3.3>.
- European Social Survey. (2020). *ESS Round 10 Source Questionnaire*. ESS ERIC Headquarters c/o City, University of London.
- European Commission. (2016). *Izješće za Hrvatsku 2016. S detaljnim preispitivanjem o sprječavanju i ispravljanju makroekonomskih neravnoteža*. European Commission. https://economy-finance.ec.europa.eu/document/download/7454a419-56f3-4e1b-8aea-9b73c59eeaaf_hr?filename=cr_croatia_2016_hr.pdf.
- Gregurović, M., Kutli, S., & Župarić-Iljić, D. (2016). Attitudes towards immigrant workers and asylum seekers in Eastern Croatia: Dimensions, determinants, and differences. *Migration and Ethnic Themes*, 32(1), 91-122. <https://doi.org/10.11567/met.32.1.4>.
- International Organization for Migration. (2020). *World migration report*. <https://doi.org/10.18356/eae9fbac-en>.
- Jurić, T. (2023). Immigration to Croatia: Big (migration) data approach. *Croatian Academy of Sciences and Arts, Department of Social Sciences*, (560=57), 145-174. <https://doi.org/10.21857/9e31lhw8m>.
- Kehrberg, J. E. (2007). Public opinion on immigration in Western Europe: Economics, tolerance, and exposure. *Comparative European Politics*, 5, 264-281.
- Komušanac, M. (2023). Recentna imigracija radne snage u Hrvatsku: Razmjeri, trendovi, obilježja. *Migration and Ethnic Themes*, 39(2), 183-207. <https://doi.org/10.11567/met.39.2.3>.
- Mrakovčić, M., & Gregurović, M. (2020). Neprijatelj pred vratima? Ili kako studenti prava iz četiriju najvećih hrvatskih gradova doživljavaju azilante i migrante s Bliskog istoka. *Sociology and space*, 58 (3 (218)), 291-328. <https://doi.org/10.5673/sip.58.3.4>.
- Pokos, N., & Pokos, J. (2022). Demografski aspekt doseljavanja u Hrvatsku 2011.-2019. In: Perić Kaselj, M. (Ed.), *Migracije i identitet: kultura, ekonomija, država. Svezak III — Povijesni i suvremeni aspekti migracija* (pp. 618-638). Institute for Migration Research.
- Quillian, L. (1995). Prejudice as a response to perceived group threat: Population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review*, 60(4), 586-612.
- Vučić, B. (2024). *Socijalna distanca prema stranim radnicima na području Grada Splita*. Undergraduate thesis, University of Split. <https://urn.nsk.hr/urn:nbn:hr:172:385086>.

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WHAT DO WE KNOW ABOUT DEPOPULATION IN REMOTE PLACES? THE CASE OF THE CROATIAN ISLANDS

Abstract

The Croatian islands have many difficulties that resemble the general problems of rural and remote regions, which include rapid urbanization, deagrarianization, and falling birth rates, but there are also some specific national causes and explanations. Despite this, demographic trends in Croatia are generally treated as a marginal problem, even though they, directly and indirectly, generate economic and social problems that are difficult to overcome: demographic aging, labour market bottlenecks, problems of caring for elderly persons, lack of sustainability in health and social security systems, and reduced economic growth. In this article, we examine previous studies on why people leave remote and rural areas. The research questions are: (RQ1) What do we know about why people leave rural and remote regions? (RQ2) What are the main drivers for leaving rural and remote regions? For this, we use theoretical perspectives on migration and previous empirical findings. We find that there are many lessons learned from international experiences that also can be applied on the Croatian islands, for example, migration due to education and labour market possibilities. When it comes to access to amenities and higher quality of life, these are advantages for the Croatian islands and may be used as comparative advantages.

Key words: depopulation, urbanization, Croatian islands, rural, remote

INTRODUCTION

Depopulation is a significant issue facing many regions worldwide, often driven by economic challenges, urban migration, and declining birth rates. This phenomenon affects rural areas the most, particularly islands, as younger generations move to cities seeking better job opportunities, leaving behind aging populations. Depopulation can lead to abandoned villages, a loss of local culture, and challenges in maintaining infrastructure, schools, and healthcare services. In some places, it also impacts agricultural and traditional practices, with fewer people available to work the land. Addressing depopulation often involves initiatives to boost economic development, improve rural services, and promote the area's cultural and natural assets to attract residents. Most European countries have experienced depopulation in rural and remote places over the last decade (Eurostat database), and in Eurostat's forecast (Eurostat 2021) populations

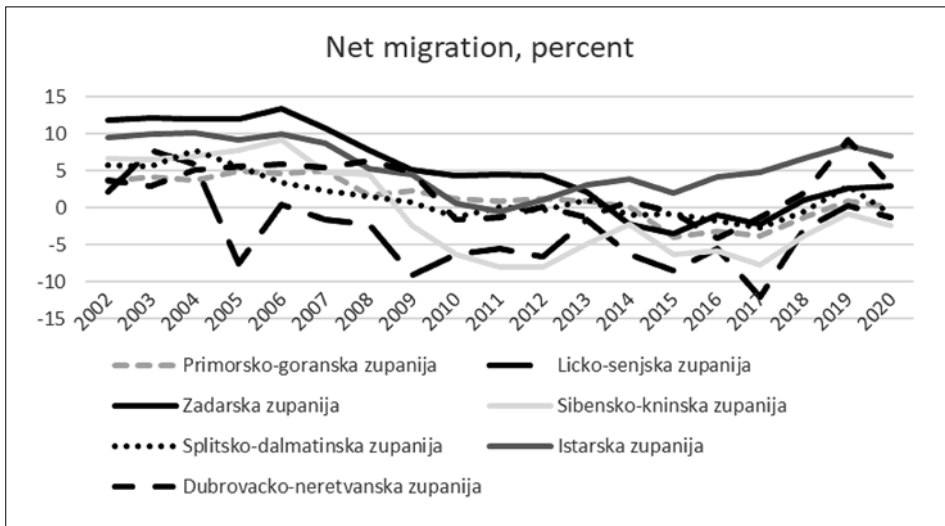


Figure 1 — Net migration, Coastal Croatia counties (NUTS 3). Source: Eurostat Database.

are likely to shrink in four out of five rural regions by 2050. In Croatia, for more than half a century, population censuses and vital statistics have recorded an increasing number of places with a significant decrease in the number of inhabitants, and natural decline, or no inhabitants at all. This process is particularly pronounced on many islands. For a long time now, every discourse on demographic trends in Croatia has been factually pessimistic. On a NUTS 3-level (county level) most of the Croatian coast counties experienced a negative net migration from 2010 (see Figure 1), even though major cities like Split and Zadar are included in NUTS 3 statistics, but within these counties, there are also rural and remote places. There are almost 200 uninhabited places in Croatia (Dugački et al. 2021), of which many are located on islands.

The Croatian islands have many problems that resemble the general problems of rural and remote regions, which include fast urbanization — the rural population's flight to bigger cities and, not least, to the capital (here: Zagreb), deagrarianization and falling birth rates. For Croatia, there are some specific national causes and explanations: forced wartime migrations in the 1990s, changes in state structures, economic and political transformation, and privatization (Ministry of Physical Planning, Construction and State Assets, 2017). Despite this, demographic trends in Croatia are generally treated as a marginal problem, even though they, directly and indirectly, generate current long-term economic and social problems that are difficult to overcome: demographic aging, labour market bottlenecks, problems of caring for elderly single, lack of sustainability in health and social security systems, and reduced economic growth.

In general, depopulation occurs because of: (1) negative domestic net migration, (2) negative international net migration, and (3) negative net births. In this article, we

focus on migration and examine previous studies on why people leave remote and rural areas. One of the main reasons for such a challenging demographic situation on Croatian islands is long-term emigration which has been going on for more than a hundred years and especially intensified after the Second World War. In the period from 1900 to 2021, about 50,000 inhabitants emigrated from the Croatian islands, which means that the share of inhabitants on the islands decreased by a quarter during that period. Small and more remote islands suffered in particular, with many being completely depopulated (Nejašmić, 1997, 2013).

In this article, we aim to investigate how this long-term depopulation, and more specifically migration from the islands, can be understood. We will answer the following research questions: (RQ1) What do we know about why people leave rural and remote regions? (RQ2) Based on previous research, what are the main drivers for leaving rural and remote regions? For this, we conduct a literature review and explore both the theoretical perspectives on migration and depopulation and empirical findings.

THEORETICAL EXPLANATIONS

According to the neoclassical theoretical perspective, voluntary migration serves as an economic regulator. It involves the movement of human capital across different geographical regions in response to changing economic and demographic factors. Through migration, human capital is spatially redistributed. This process contributes to regional shifts in labour supply and impacts the local level of human capital. Notably, wage differentials act as powerful magnets, attracting individuals to migrate (see among others Greenwood, 1997; Chen & Rosenthal, 2008; Milanović, 2015, 2016).

Also, different forms of amenities, which encompass various aspects of quality of life (e.g., climate, culture, entertainment), may act as magnets (Roback, 1982; Marston, 1985). In other words, individuals may accept a lower wage if they have access to desirable amenities in a particular location. However, the interaction between amenities, housing, and wages is not straightforward. Marston (1985) highlights that areas with high unemployment often coincide with attractive climates and amenities, as well as high wages and unemployment insurance. Harris and Todaro (1970) explain how high unemployment and high employment growth can coexist due to expectations. People may move from rural to urban areas even without a job, anticipating better-paying employment opportunities. Thus, amenities play a multifaceted role in shaping migration patterns, labour markets, and overall quality of life.

In the human capital theory (see e.g., Becker, 1962) individuals invest in human capital (i.e. education) based on the predicted returns of this investment. These returns of the investment may be maximized if the individual moves to another place. Also, education per se may include a move to another place. If so, the investment calculation also must include this relocation.

In the research on migrations from islands, there is a need to examine the complex interplay of socioeconomic, environmental, and cultural factors that drive people to move from islands to the mainland or other regions. The push-pull theory is a foundational framework that explains migration as a result of both push factors (e.g., economic hardship, lack of resources, environmental challenges) and pull factors (e.g., employment opportunities, better healthcare, or education) that attract individuals to new locations (Fidrmuc, 2001; Regional Cooperation Council and International Organization for Migration, 2015). For islands, push factors primarily include limited economic opportunities, isolation (Babić & Lajić, 2021), and vulnerability to natural disasters or climate change (Lajić, 2006).

Structural theories, such as dependency theory, emphasize how islands, often situated in peripheral positions in the global economy, are influenced by external forces. This dependence on external markets, tourism, and foreign investment can lead to outmigration when local economies face instability (Akrap & Čipin, 2015). Transnationalism and network theory explore how islanders maintain connections with home even after migrating, creating diasporic communities and social networks that support new migrants (Friganović, 2001). For example, family networks often help new arrivals with housing, employment, or cultural adaptation.

Finally, environmental determinism highlights the impact of climate change on island populations. Rising sea levels, coastal erosion, and extreme weather events increasingly act as drivers for migration, making these theoretical perspectives crucial to understanding modern island migration. Together, these frameworks and theoretical explanations offer a comprehensive view of island migration, influenced by economic, social, and environmental dynamics.

INTERNATIONAL EMPIRIC EXPERIENCES

Among the more important determinants of depopulation in Croatia are demographic losses due to two world wars, overseas and European emigration, diseases and epidemics, economic crises, agrarian reforms and colonization, low natality, demographic aging, economic emigration, and rural exodus. Demographic losses in the war 1991–1995 further worsened already disturbed and damaged demographic processes, relationships, and structures in Croatia. Demographic change today affects different parts of the Croatian national territory, regardless of their geographical or developmental characteristics. Accordingly, the analysis of the contemporary process of depopulation must consider the historical connection between demographic and socio-economic development, but there are also some lessons to be learned from international experiences.

Research from the Mid Sweden Region (which contains a large proportion of rural and remote municipalities) has shown that a majority of young people, especially young women studying academic programs, plan to move from their home municipal-

ity after high school (Dalin et al., 2013; Kostela et al., 2013; Boström & Dalin 2018). In fact, the relationship between higher education and mobility is prevalent all over the world. In a British study, Britton et al. (2021) found a relationship between higher education and mobility. At the age of 27, a higher share of graduates (35%), compared to non-graduates (15%) had moved from the area where they lived at age 16.

Thus, previous studies show that young people's tendencies to move depend on jobs, education, and experiences, but also on urban/rural norms in society. These are based on a dichotomization of city and country, where the metropolitan norm is prevalent. There are several studies argue that the 'urban norm' affects young people to leave rural places. For example, Corbett (2007) uses the imperative 'learning to leave' about young people in a coastal community in Canada, and Uddbäck (2021) talks about how the 'mobility imperative' influences young Swedes. The willingness to move, however, differs between groups.

The probability of moving has a socio-economic bias. Boström and Dalin (2018) find that gender, class, and participation are structures that affect the movement. In a study of Swedish rural areas, Ennerberg et al. (2022) argue that the sense of belonging to a rural place is more pronounced for individuals who have caretaking and family obligations and less significant for young people. Thus, age matters, but also other forms of connectivity, like home ownership (see e.g., Bohman et al., 2019). In a study on Selca on the Croatian island of Brač, Štambuk (2004) finds that the primary motivations to move to Zagreb are education and employment.

There is a vast body of research on the gender imbalance in migration from rural areas. According to Johansson (2016), who studied the region of west-northern Sweden [Västernorrland], negative net migration of women from rural areas only occurs in the age group 18-24. In the age groups 25-29 and 30-34, the opposite trend emerges. Johansson connects the out-migration of women to their demand for education and 'women-friendly' labour markets. However, later when they establish families, return migration seems to occur. Further, as some studies claim (see e.g., Lundholm, 2007), migration patterns have changed. Today, it is more common to migrate for educational reasons before establishing oneself in the labour market. Changes in household structures have impacted migration patterns. Interregional migration among families has diminished as dual-income households have become the norm. Although labour-related reasons have traditionally dominated interregional migration, several studies now indicate that the labour market plays a secondary role. It is reasonable to assume that a larger share of interregional moves today occur for reasons independent of labour market factors (Lundholm, 2007, p. 338). Social and environmental motives are more important, and a life-cycle perspective is needed to complement traditional neo-classical explanations for interregional migration. This perspective is grounded in life-course events, such as family formation, career advancement, and changes in household structures.

CONCLUSION

The depopulation of the Croatian islands is a problem to be taken seriously. Even though many islands are seen as tourist havens with a flourishing tourist economy, there are an increasing number of places with a decreasing number of inhabitants. There may be many different reasons, but it appears that access to education is probably one of the most important factors. This is also a factor that can be addressed politically. Factors like the 'urban norm', dual-income households or 'women-friendly' labour markets may be more difficult to address politically.

On the upside for the Croatian islands are their amenities. A relaxing environment, good climate, and engaging natural surroundings are factors that are positive for moving to or remaining on the islands. These amenities, together with access to broadband, can help the Croatian islands transform into attractive places for work and leisure in the digital economy.

References

- Akrap, A., & Čipin, I. (2015). Razvoj stanovništva hrvatskih otoka (Development of the population of the Croatian islands). In Radić, Z. (Ed.) *More — hrvatsko blago*. Matica Hrvatska.
- Babić, D., & Lajić, I. (2021). Dilema mladih otočana: ostanak ili odlazak s otoka Primjer šibenskih otoka (The young islanders' dilemma: to stay on the island or to leave: The islands of Šibenik area example). *Sociologija i prostor*, 39(151/154), 61-82.
- Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *Journal of political economy*, 70(5, Part 2), 9-49.
- Bohman, H., Håkansson, P.G., & Thorsen, I. (2019). Introduction: Spatial Inequalities in the Age of Rapid Technological Advances. In *Investigating spatial inequalities: Mobility, housing and employment in Scandinavia and South-East Europe* (pp. 1-14). Emerald Publishing Limited.
- Boström, L., & Dalin, R. (2018). Young people's opinion on rural Sweden. *International Education Studies*, 11(6), 45-58. <https://doi.org/10.5539/ies.v11n6p45>
- Britton, J., van der Erve, L., Waltmann, B., & Xu, X. (2021). London calling? Higher education, geographical mobility and early-career earnings. *Institute for Fiscal Studies Report*, <https://ifs.org.uk/publications/london-calling-higher-education-geographical-mobility-and-early-career-earnings>.
- Chen, Y., & Rosenthal, S.S. (2008). Local amenities and life-cycle migration: Do people move for jobs or fun? *Journal of Urban Economics*, 64(3), 519-537. <https://doi.org/10.1016/j.jue.2008.05.005>.
- Corbett, M. (2007). *Learning to leave. The irony of schooling in a coastal community*. Fernwood Publishing, Morgantown.
- Dalin, R., Bostedt G., & Blusi, M. (2013). *Ungdomar i Västernorrland — åsikter och attityder* [Young people in Västernorrland — opinions and attitudes]. Rapport 2013:12 FOU Västernorrland.
- Dugački, V., Peternel, L., & Škiljan, F. (2021). *Nestala naselja u Republici Hrvatskoj* (Disappeared settlements in the Republic of Croatia), Plejada, Institut za društvena istraživanja, Institut za migracije i narodnosti.

- Ennerberg, E., Lundberg, J., & Axelsson, M. (2022). Local places ruling life: Compromises and restricted career choices in rural Sweden. *Journal of Applied Youth Studies*, 5(4), 281-295. <https://doi.org/10.1007/s43151-022-00085-5>.
- Eurostat (2021). Population projections: urban growth, rural decline, May 2021. <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/ddn-20210520-1> Retrieved 2024-01-05.
- Fidrmuc, J. (2001). Migration and adjustment to shocks in transition economies. *ZEI Working Paper*, No. B 23-2001. available at <https://www.econstor.eu/bitstream/10419/39504/1/338027955>.
- Friganović, M.A. (2001). O demografskoj problematici hrvatskih otoka na Jadranu (On Demographic Problems of the Croatian Adriatic Archipelago), *Sociologija i prostora*, 39(1/4 (151/154)), 37-60. <https://hrcak.srce.hr/100235>.
- Greenwood, M. (1997). Internal migration in developed countries. In M. Rosenzweig & O. Stark (Eds.), *Handbook of population and family economics* (pp. 647-720). North Holland.
- Harris, J., & Todaro, M. (1970). Migration, unemployment and development: A two-sector analysis. *American Economic Review*, 60(1), 126-142. <https://www.jstor.org/stable/1807860>.
- Johansson, M. (2016). Young women and rural exodus — Swedish experiences. *Journal of Rural Studies*, 43, 291-300. <https://doi.org/10.1016/j.jrurstud.2015.04.002>.
- Kostela, J., Jansson, J., & Möller, P. (2013). *LUPP-enkät Jämtland 2012 Enkätundersökning av ungdomar i åk 8 på högstadiet och åk 2 på gymnasiet* [LUPP survey Jämtland 2012 Survey of young people in grade 8 at the high school and year 2 of upper high school]. Högskolan Dalarna.
- Lajić, I. (2006). Utjecaj društveno-ekonomskih i demografskih promjena na iseljavanje s dalmatinskih otoka u 19. i prvoj polovini 20. stoljeća (The influence of socio-economic and demographic changes on emigration from the Dalmatian islands in the 19th and first half of the 20th centuries), *Migracijske i etničke teme*, 5(4), 307-324. <https://hrcak.srce.hr/128073>.
- Lundholm, E. (2007). Are movers still the same? Characteristics of interregional migrants in Sweden 1970—2001. *Tijdschrift voor economische en sociale geografie*, 98(3), 336-348. <https://doi.org/10.1111/j.1467-9663.2007.00401.x>.
- Marston, S.T. (1985). Two views of the geographic distribution of unemployment. *The Quarterly Journal of Economics*, 100(1), 57-79. <https://doi.org/10.2307/1885735>.
- Milanovic, B. (2015). Global inequality of opportunity: How much of our income is determined by where we live? *Review of Economics and Statistics*, 97(2), 452-460. https://doi.org/10.1162/rest_a_00432.
- Milanovic, B. (2016). *Global inequality*. Harvard University Press.
- Ministry of Physical Planning, Construction and State Assets (2017). Spatial Development Strategy of the Republic of Croatia 2017, Zagreb: Ministry of Physical Planning, Construction and State Assets. <https://mpgi.gov.hr/UserDocsImages//Zavod/Publikacije//Spaltial.Development.Strategy.pdf>.
- Nejašmić, I. (1997). Suvremene značajke (bio) reprodukcije stanovništva hrvatskog otočja (Contemporary features of (bio) reproduction of the population of the Croatian archipelago). *Migracijske i etničke teme*, 13(1-2), 71-83. <https://hrcak.srce.hr/126623>.
- Nejašmić, I. (2013). Demografsko starenje na hrvatskim otocima (Demographic ageing on Adriatic Islands), *Migracijske i etničke teme*, (2), 141-168.
- Regional Cooperation Council and International Organization for Migration (2015). *Labour Mobility as a Factor of Development in Southeast Europe Regional Overview*. Regional Cooperation

Council and International Organization for Migration.

<https://publications.iom.int/books/labour-mobility-factor-development-south-east-europe>.

Roback, J. (1982). Wages, rents, and the quality of life. *Journal of political Economy*, 90(6), 1257-1278.

Uddbäck H (2021). *Att stanna kvar: Arbete, plats och mobilitet i småstaden*. Göteborg University.

D a t a b a s e s

Eurostat Database, General and regional statistics, Regional statistics by typology.

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INTERNATIONAL STUDENT MOBILITY: A DATA REVIEW OF TRENDS IN MEDITERRANEAN AND OTHER COUNTRIES

Abstract

This paper investigates the escalating numerical growth and diversification observed among internationally mobile students pursuing tertiary education abroad. The increasing prominence of international students as highly sought-after professionals in political, business, and scientific spheres aligns with the global surge in proclivity for studying abroad. This inclination manifests in the growing numerical significance of migrating students, emphasizing the multifaceted decision-making paradigm underlying pursuing education abroad. The paper will underscore the imperative for more detailed and updated data, particularly from the Mediterranean and other countries.

Key words: students, mobility, education, migration, Mediterranean

INTRODUCTION

International student mobility is a well-established phenomenon that has existed for centuries. This type of mobility, which involves pursuing school or university education and training abroad, has drawn students and scholars to significant learning centers throughout history. This trend continued through colonial times until the 1970s, when the first exchange programs were introduced (Weibl, 2014; Jöns et al., 2017). Studying abroad has become increasingly popular in recent decades, and the number of exchange students globally has risen dramatically (Rodrigues M, 2012). Many students who study abroad for part or all of their education choose to remain in their host country to seek employment.

Countries facing skills shortages have identified international students as valuable immigrants. As highly skilled workers are expected to play a vital role in the future, foreign students represent an important resource of human capital in developed nations. The skills and knowledge gained during their studies, combined with their youth, proficiency in the host country's language, and ease of adaptation to the new culture, make them attractive candidates for many employers in those countries (Hawthorne,

2008). The number of internationally mobile students is on the rise, and their destination countries are becoming increasingly diverse. “International mobile students” usually hold a non-resident visa status (often referred to as a student visa) to pursue a university degree (or higher) in the host country. These individuals are also known as “degree mobility students,” highlighting the pursuit of a foreign degree and differentiating them from “exchange students” who typically spend only a few semesters abroad. Student exchange is generally regarded as a short-term stay, lasting one academic year (9 to 12 months) (Murphy & Lejeune, 2002, p. 5).

Since 2015, the UNESCO Institute of Statistics, the Organisation for Economic Cooperation and Development (OECD), and EUROSTAT have established a shared definition of “internationally mobile students.” According to this definition, “Internationally mobile students are individuals who have physically crossed an international border between two countries to participate in educational activities in the destination country, where the destination country differs from their country of origin”¹.

Despite a general agreement, definitions of “international students” vary globally. In France, international students are foreign nationals enrolled for at least one year at a French institution to earn a recognized degree. This includes non-citizens who are legal residents or who received their secondary education in France. France also differentiates between short-stay (three months) and renewable long-stay student visas. Outbound students from France are nationals pursuing full degrees abroad, not including language or short-term exchange students.

Conversely, Spain follows UIS, OECD, and Eurostat guidelines, focusing on prior education and usual residence to identify international students. In Spain’s framework, there’s no distinction between foreign and international students. Outbound Spanish students are those enrolled in domestic institutions but participating in exchange or short educational programs abroad².

A new era of European exchange and cooperation began in the late 1980s with the adoption of several significant programs: Commet (1986), Erasmus (1987), Lingua (1989), Tempus (1990), and Socrates (1995). Today, there are numerous exchange programs available, including Fulbright, Erasmus, Nordplus, Asia Exchange, and Asse (Murphy — Lejeune, 2002, p. 6). Among these, Erasmus stands out as the largest initiative in terms of education and training for youth, enabling students to study or undertake internships abroad. It also supports individuals and higher education institutions seeking to teach in other countries. Academic mobility is a key political goal in the Eu-

¹ Global Migration Data Analysis Centre. (n.d.). International students. Retrieved from <https://www.migrationdataportal.org/themes/international-students>.

² Institute of International Education. (2018). Glossary. In Project Atlas. Retrieved from <https://web.archive.org/web/20180817023409/https://www.iae.org/Research-and-Insights/Project-Atlas/Glossary>.

ropean Union, not only in the context of the right to free movement, but also for fostering a sense of belonging to Europe, promoting social and professional integration, and enhancing the competitiveness of the European economy in a globalized setting. As de Wit et al. (2013, p. 22) state, “Much more than in other parts of the world, student mobility has been promoted in Europe as an intrinsically positive and desirable development, and has become, at many levels, a policy goal in itself.”

STATE OF THE ART

The topic of international student mobility has long been overlooked in migration research (King & Raghuram, 2013). Some scholars identify internationally mobile students as a migration elite, ready and willing to relocate and open to changes in their environment, language, personal surroundings, and lifestyle, often overlooking the dynamics influenced by educational, political, social, cultural, and economic factors (Sekiyama, 2020). Various socio-demographic characteristics and study-related factors such as migration background, parental financial status, fields of study, funding of higher education, and research activity at the institution also affect international student mobility (Schirmer, 2024). King refers to these as a “cocktail” of factors influenced by actors such as universities, national governments, and the EU, often driven by their neoliberal agenda (King, 2002). Differences between student migration and mobility include reasons for relocation, duration, and distance traveled (Findlay et al., 2012).

Regarding the purpose, a key distinction is between, on the one hand, what is often called credit mobility, where a student moves abroad for a semester or an academic year (e.g., in the European context, an Erasmus exchange), and then returns to their ‘home’ institution and country to complete their qualification; and, on the other hand, studying abroad for an entire degree, which could be three or more years. Thus, the purpose of the move intersects with the length of the study abroad. Longer stays abroad often result in ‘status switching’ when, upon graduation, the student opts, or is encouraged, to stay on to enter the host-country skilled labor market; hence a student visa is swapped for a residence or work permit, and the student becomes a conventional ‘immigrant’. Geography plays a role, too, as there is also a partial correlation with distance: mobility is often associated with students moving within Europe, while migration takes students further afield and for longer periods (King et al., 2016).

There are several problems in compiling statistics on stocks of foreign students. They are a very heterogeneous group, with courses of varying content, length, and different qualification requirements. Students come under a range of bilateral and multilateral agreements as well as under their own steam. Their statuses on arrival carry different entitlements from country to country. Responsibility for counting their numbers

falls to a range of administrative institutions, frequently using different definitions. In these circumstances, comparative data are indicative rather than absolute (Salt, 2005). The mobility of students depends to a large extent on the financial assistance to study abroad. Rarely do students choose to study abroad out of their initiative (Vossensteyn, 1999). Socio-economic factors, particularly social background, student's parental educational and economic status, and study-related aspects, such as subject-related cultures, significantly influence students' engagement in temporary international mobility initiatives (Netz et al., 2021). Enrollment abroad, for example, peaked between 2012 and 2018, stagnating afterward. Students' educational background influences participation, revealing consistent gaps favoring students from academic households across all mobility types, with students from academic backgrounds generally showing higher participation rates (Schirmer, 2024). The COVID-19 pandemic has undoubtedly disrupted the landscape of temporary international student mobility, with measures such as lockdowns in higher education institutions and travel restrictions having influenced students' behavior concerning study-related activities abroad. Vulnerable student groups, already facing socio-economic challenges, may have been disproportionately affected by these disruptions (Di Pietro & Perez-Encinas, 2023).

While most students do not report having problems with their general health, a large share of students in European countries deal with poor well-being. Even in countries with a relatively high level of well-being, more than a third of the student population report that their well-being is poor. While part of the problem is possibly true for all young people (regardless of being a student), the unique situation of students can also play an (extra) role (Cuppen, Muja, & Geurts, 2024). In conclusion, according to Petrus Han (2016), the number of international students will continue to rise in the coming years with the growing globalization of the economy, and it is expected that the volume of academic migration will parallel this trend. The problem that arises is that most students and other highly qualified migrants move from one developed country to another. Many also permanently leave less developed countries, which means a significant loss of highly qualified citizens for these countries, a circumstance known as "brain drain". Host countries gain human capital from the migration of highly qualified individuals while sending countries lose all that has already been invested in these people (Abella, 2006; Han, 2016). Despite the above, the experience of international student mobility is an important qualification for future leaders in a globalized economy, and cultural exchange is very important for successful international trade relations. All this can be acquired by studying abroad, therefore, as Kou and Bailey (2014) confirm, international student mobility is seen as an experience and opportunity and is also viewed as a means of personal development, and, more importantly, migration is considered a strategy for improving one's career.

DATA REVIEW AND DEBATE

In 2021, there were over 6.4 million international students globally, up from 2 million in the year 2000. Available data show that 5 out of 7 international students were enrolled in educational programmes in high-income countries. Slightly more than half of the 6.4 million international students were in ten countries: The United States of America, the United Kingdom, Australia, Germany, Canada, France, Türkiye, China, the Netherlands and the Republic of Korea (data on international students in the Russian Federation — which hosted the fourth highest number of international students globally in 2019 — are not available for following years). More than 60 per cent of international students were from middle-income countries of origin. Prominent countries of origin of international students in 2021 included China (16% of all international students globally), India (8%), Vietnam (2%), Germany (2%), Uzbekistan (2%), France (2%) and the United States of America.³

In 2022, over 1.9 million international tertiary-level students received their first residence permits for OECD countries (OECD, 2023a). In 2021, more than 4.3 million were enrolled in OECD educational institutions, with the largest numbers in the USA (19%), the UK (14%), Australia and Germany (both 9%). Over half (57%) of these students came from Asia, with the majority originating from China (21%) and India (10%) (OECD, 2023b). Following a significant reduction in permits for international students in 2020 due to extensive border closures within OECD nations, the number of international students rebounded swiftly. By 2023, international student admissions into OECD countries had risen for the third successive year, marking a 6.7% annual increase and resulting in over 2.1 million new enrollments, which was 33.3% higher than the figures recorded in 2019. In 2023, the United Kingdom and the United States maintained their status as the leading OECD destinations for international students, issuing approximately 450,000 and 442,000 visas, respectively. Despite a 6% decline in UK admissions, the US experienced an 8% increase from the previous year, recovering from a significant drop in 2020. Alongside Canada, Australia, and Japan, these countries collectively attracted 80% of all new international students within the OECD. Notably, Canada and Australia saw a substantial 25% increase in student inflows from 2022 to 2023, reaching twice the pre-COVID levels in Canada and a 50% increase in Australia.

International student flows to EU/EFTA OECD countries also rose by 6.4% in 2023, totaling 415,800, a 27% increase over pre-COVID figures. Overall, the issuance of first residence permits to international students in the OECD in 2023 was 60% higher than in 2013, with notable surges in Australia and Canada. While student inflows peaked in 2022 across several OECD countries, a slight decline followed in Japan, Korea, Norway,

³ Global Migration Data Analysis Centre. (2023). Analysis based on UIS data. Retrieved from <https://data.uis.unesco.org>.

and to a lesser extent, the UK. Meanwhile, New Zealand, Norway, and Sweden continued to see permit numbers remain below pre-pandemic levels. In all but four OECD nations—Ireland, Lithuania, Luxembourg, and Türkiye—partners of international tertiary-educated students are eligible for accompanying or family reunification benefits. Data from ten OECD countries indicate that Sweden, Denmark, and the United Kingdom experienced the highest proportion of accompanying family member inflows, exceeding 30% of the principal international student applications. Conversely, in the United States, these family inflows constituted merely 6% of the total international student admissions.⁴

France and Spain, two Mediterranean countries, continue to be highly favored destinations for international students. In the 2022–2023 academic year, France saw an enrollment of 412,087 international students in higher education, marking a 3% increase from the previous year and 17% over five years, according to Campus France’s 2024 “*Chiffres Clés de la mobilité étudiante*” (Key Data on Student Mobility). This report highlights the sector’s evolution following the disparate impacts of Covid-19 and its subsequent recovery, now facing a period of uncertainty. In France, 14% of higher education students are foreign nationals, with the largest contingents coming from the European Union, sub-Saharan Africa, and North Africa.

The proportion of Asian students has remained stable, notably with an increase in Indian students offsetting a decline in Chinese enrollments. Globally, France is the sixth-ranked host country for international student mobility, welcoming 412,000 students annually. Notably, the number of students from Italy, Spain, Lebanon, Congo, and India increased significantly in 2022–2023, with a 111% increase in Ukrainian students, reflecting the impact of ongoing geopolitical tensions. Typically, French students show a preference for studying in neighboring or Francophone countries. In 2021, more than 105,000 French students pursued degrees abroad, marking a 16% increase since 2016 and positioning France as the sixth most popular origin country for internationally mobile students. Predominantly, these students chose destinations within neighboring or French-speaking countries such as Belgium, the UK, Canada, Switzerland, and Spain. France also emerged as the foremost source of Erasmus+ participants, with nearly 53,000 individuals participating in 2022, representing a 36% increase from the previous year, primarily heading to Spain, Germany, and Italy.

In Spain, the 2021/2022 academic year saw enrollment of 224,080 foreign students, with 53,858 participating in mobility programs. Following a significant drop during the COVID-19 pandemic in 2020/2021, enrollments rebounded strongly, reaching the highest levels in recent years by 2021/2022. Over the past seven years, the number of international students at Spanish universities has surged by approximately 46%, with

⁴ OECD. (2024). International migration outlook 2024. OECD Publishing.
<https://doi.org/10.1787/50b0353e-en>.

a notable 27.7% increase in 2021/2022 alone. Despite a drastic 64.8% decrease in 2020/2021 due to pandemic-related restrictions, there was a significant recovery the following year, with enrollments rising by an impressive 176.7%. This resilience underscores Spain's continued appeal to international students from across the globe. Ambitious students from around the globe come to Spain to pursue their qualifications and start their careers. From Italy to Nicaragua, Spain gathers numerous nationalities and cultures in its educational institutions, all with the goal of pursuing the knowledge, skills, and qualifications that Spain has to offer. In the previous year, Colombian students constituted the largest group (16,535), followed by French (16,381), Ecuadorian (16,220), Italian (16,076), and Chinese (11,826) students. In the previous academic year (2020/2021), Finland had the fewest international students in Spain (291), followed by Canada (361), Czech Republic (378), Hungary (397), and the Republic of Korea (399). In the past 7 years, Italy has been the biggest importer of international students in Spain. In the 2015/2016 academic year, 17,810 Italian students were enrolled in Spanish higher education institutions, experiencing a 27.39% increase over the subsequent seven years.

This trend underscores a shift towards multipolarity in international mobility, with educational hubs in Asia, South America, Africa, and the Middle East gaining prominence. Nevertheless, Europe remains the predominant destination for foreign students, hosting 1.52 million in EU member states in 2021, making it the second-largest region for student mobility after Asia. According to Glass and Cruz (2023), the global landscape of student mobility has expanded post-COVID, reflecting the increasing globalization of higher education and the pivotal role of educational institutions and national policies. However, recent policy adjustments in key host countries like Canada, the UK, and the Netherlands may influence the trajectory of this growth.

CONCLUSION

The mobility of international students will continue to grow over the next few years with the increasing globalization of the economy. It is expected that the volume of academic migration will be parallel to this trend. The motivations behind student mobility are multiple, including economic prospects, educational opportunities, and personal growth. The outcomes of such mobility go beyond academic achievements, contributing to the labor market and cultural integration of host countries. It is strategically important for both host and origin countries as origin countries export human capital, potentially leading to a brain drain, but also benefit from remittances and international networks. Host countries, on the other hand, benefit from the influx of qualified and culturally capable students who can meet labor demands and increase cultural diversity. Policy implications: Findings indicate the need for policies that not only facilitate student mobility but also ensure that it leads to mutual benefits for students and their host and home countries. Such policies should address integration challenges, maxi-

mize educational outcomes, and harness the potential of international students as bridges between cultures. The global mobility of students requires ongoing research to adapt to changing geopolitical, economic, and cultural contexts therefore future studies should continue to explore the implications of mobility on global educational systems and labor markets.

References:

- Abella, M. (2006). Global competition for skilled workers and consequences. In C. Kuptsch & E. Fong Pang (Eds.), *Competing for global talent* (p. 16). Geneva: International Institute for Labour Studies.
- Cuppen, J., Muja, A., & Geurts, R. (2024). *Well-being and mental health among students in European higher education. EUROSTUDENT 8 topical module report*. https://www.eurostudent.eu/download_files/documents/TM_wellbeing_mentalhealth.pdf.
- Di Pietro, G., & Perez-Encinas, A. (2023). The effect of COVID-19 on international student credit mobility: A gravity model approach. *Education Economics*, 1-17. <https://doi.org/10.1080/09645292.2023.2297151>.
- Findlay, A. M., King, R., Smith, F. M., Geddes, A., & Skeldon, R. (2012). World class? An investigation of globalisation, difference and international student mobility. *Transactions of the Institute of British Geographers*, 37(1), 118-131. <http://www.jstor.org/stable/41427932>.
- Han, P. (2016). *Soziologie der Migration. Erklärungsmodelle, Fakten, politische Konsequenzen, Perspektiven* (Sociology of migration. Explanatory models, facts, political consequences, perspectives). Konstanz: UVK Verlagsgesellschaft; München: UVK/Lucius; Stuttgart: UTB.
- King, R., Lulle, A., Morosanu, L., & William, A. (2016). *International youth mobility and life transitions in Europe: Questions, definitions, typologies and theoretical approaches*. Sussex Centre for Migration Research. (Working Paper 86). Retrieved from <http://sro.sussex.ac.uk/id/eprint/61441/1/mwp86.pdf>.
- King, R., Russell, K., & Raghuram, P. (2013). International student migration: Mapping the field and new research agendas. *Population, Space and Place*, 19(2), 127-137. <https://doi.org/10.1002/psp.1746>.
- Kōu, A., & Bailey, A. (2014). Movement is a constant feature in my life: Contextualising migration processes of highly skilled Indians. *Geoforum*, 52, 113-122. <https://doi.org/10.1016/j.geoforum.2014.01.002>.
- Netz, N., Klasik, D., Entrich, S. R., & Barker, M. (2021). Socio-demographics. A global overview of inequalities in education abroad participation. In A. C. Ogden, B. Streitwieser, & C. van Mol (Eds.), *Education abroad: Bridging scholarship and practice* (pp. 28-42). Routledge.
- Salt, J. (2005). *Current Trends in International Migration in Europe. Consultant's Report to the Council of Europe March 2006 CMDG (2)*. Council of Europe.
- Schirmer, H. (2024). International student mobility. In K. Hauschildt (Ed.), *Social and economic conditions of student life in Europe. EUROSTUDENT 8 Synopsis of indicators 2021—2024*. wbv Publikation. <https://doi.org/10.3278/6001920ew010>.
- Sekiyama, T. (2020). The impact of the fourth industrial revolution on student mobility from the perspective of education economics. *Creative Education*, 11, 435-446. <https://doi.org/10.4236/ce.2020.114031>.
- Vossensteyn, H. (1999). Where in Europe would people like to study? *Higher Education*, 37, 159-176.

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HEALTH PROTECTION ON CROATIAN ISLANDS-CURRENT SITUATION AND LOOK TO THE FUTURE¹

Abstract

Croatia is a rare country with an indented coastline, beautiful islands, and clean, unpolluted sea. Due to their natural preservation, the Croatian islands should be highly sought-after destinations for living and working, as well as for vacationing. However, the question is whether the Croatian islands are safe if health problems occur to residents or tourists who use the benefits of the islands for living and vacationing. One of the reasons why people do not want to live and vacation on an island is inadequate health care. Throughout recent history, efforts have been made to work more intensively to improve this situation and to meet the needs of island residents and tourists for quality professional medical care through the National Health Development Strategy, which is based on improving the health system through accessibility, fairness, and equality in the use of health services, through improving the quality of work of medical staff, as well as through the safety of patients and health workers. Analyzing the national development strategies 2006—2011, 2012—2020 and the National Island Development Plan 2021—2027, it can be seen that work in this area is being intensified and that in 2030 the Republic of Croatia will be a competitive, innovative and safe country with a recognizable identity and culture, a country of preserved resources, quality and safe living conditions and equal opportunities for all. A comparative analysis of the recorded situation on the larger Croatian islands would lead to guidelines on how to attract people to the island while at the same time ensuring their health and social protection.

Key words: Croatian islands, health care on the Croatian islands, preservation of regional identity, security, National Island Development Plan

INTRODUCTION

Croatia has 78 inhabited and uninhabited islands, 524 islets and 642 rocks and reefs.

According to the latest census from 2021, 52 islands and the Pelješac peninsula are permanently inhabited, and the island population lives in 355 settlements.

Now, in terms of age structure, a total of 12.55% of young people under 14 years old live on the islands (in the Republic of Croatia 14.27%), 58.42% of middle-aged people from 15 to 64 years old (in the Republic of Croatia 63.28%) and 29.03% of elderly people aged 65 and over (in the Republic of Croatia 22.45%), which amounts to a to-

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tal of 127,838 inhabitants. Taking into account the special nature of islands and balanced regional development, is one of the main goals of the Government of the Republic of Croatia, the Islands Act (Official Gazette, No. 116/18, 73/20 and 70/21). However, the question arises as to whether Croatian islands are safe if health problems occur among people who have permanent residence or tourists who use the benefits of the islands for their holidays. One of the reasons why people are afraid to live and spend their summers on an island is the fear of untimely and inadequate health care, which is almost always disproportionate to health care on the mainland. Recent history shows that more intensive work is being done to improve this situation and that the National Health Development Strategy is trying to meet the needs of the island's residents for quality professional medical care, which is based on improving the health system through accessibility, fairness and equality in the use of health services, through improving the quality of work of medical staff, as well as through the safety of patients and health workers.

The number of inhabitants over 65 years of age indicates the age of the population. In the total population of the Republic of Croatia, this age group accounts for an unfavorable 11.6%, while the situation on all our islands is even more unfavorable. When we know that the elderly population is a significantly more intensive user of health care in absolute and relative amounts, these data tell us about specifics that have their own special weight and importance from the point of view of the organization and financing of health care. Research shows that the price of health care for people over 65 is 3.4 times higher than the price of care for the general population (Eterović, 1994).

All relevant regulations of the Republic of Croatia dealing with the issue of island development pay special attention to the economic development of islands as well as improving the quality of life of the island population, and special attention is focused on the health care of islanders. In this direction, new development opportunities are provided with the aim of developing health care on islands as quickly as possible for both islanders and tourists who, by staying on the island for a short period of time, partly stimulate the economic development of our islands. The Republic of Croatia supports the sustainable development of islands through projects that are implemented in accordance with the guidelines of a smart island. The National Development Strategy until 2030 sets out development directions and strategic goals. Territorial accessibility of the healthcare system is still a problem, especially when it comes to small, remote islands, although it is currently much better than it was before. Today, we are introducing additional activities to provide adequate and timely health care regardless of the islands' transport isolation.

HEALTH CARE ON THE ISLANDS THROUGH HISTORY — A BRIEF REVIEW

When discussing history of healthcare and the efforts of the population to avoid, prevent or mitigate the epidemics that raged (plague, cholera, malaria, leprosy, Covid), it is relevant to note that new efforts have been made throughout history to improve and not forget the health care of the population of our islands. Our most important medical center in the Middle Ages was Dubrovnik, and from there all health knowledge was transferred to the Croatian islands. The experiences of developed Italian cities and medical centers and schools, at that time the best in Europe, undoubtedly had a direct and indirect influence on the organization of health care and public health on our islands. In the 13th century, the Krk Statute regulated the status of doctors as municipal employees with a permanent salary (Muzur, 2004).

The Republic of Croatia is a small country, but throughout history it has made surprisingly significant contributions to the development of health care and medicine. (National Health care Development Strategy). Zadar is known for its medical schools as well as its great medical figures, numerous examples could be cited, but the most outstanding is Professor Andrija Štampar, who is considered by many to be the greatest public health worker of the 20th century. He deserved this, because not only was he a co-founder of the World Health Organization, but on the occasion of its first founding assembly, he mentioned three times in his inaugural speech that he would fight for: health for everyone and health for all. These words have grown into a world-famous slogan in the last decades of the last century — “Health for all by the year 2000”. It is worth remembering that Professor Štampar founded the first institutional form of primary health care some 70 years ago.

During the Homeland War, the organization of health care in extraordinary conditions proved to be very effective. More than 45,000 injured patients were treated, including 1,142 children. (Eterović, 1994.)

ACCESSION OF THE REPUBLIC OF CROATIA TO THE EUROPEAN UNION AND KNOWLEDGE ABOUT THE RAPID COMPREHENSIVE REGULATION OF HEALTH CARE, ESPECIALLY HEALTH CARE ON ISLANDS

The health care system in Croatia has undergone numerous reforms over the past period of Croatian independence, the main goal of which was to optimize the level of health care services provided in line with the real financial capabilities of the Croatian economy. Solutions offered so far, or the improvements implemented in the last ten years, were necessary, but did not result in a notable improvement (Kovač, 2013).

After the Republic of Croatia became a full member of the European Union in 2013, it was necessary to promptly harmonize our legal legislation with the *acquis com-*

munautaire of the European Union. In the Republic of Croatia, health care is based on the principles of accessibility, equity, efficiency, quality and on the principle of ensuring the safety of citizens when using health care. It is organized through primary health care and secondary and tertiary health care. The number of primary health care units has increased rapidly in the last decade. Secondary and tertiary health care are organized according to needs and possibilities.

The number of nurses is significant as an increasingly important factor in providing health care and patient care, especially in the context of the aging population that is occurring in the Republic of Croatia and especially on the Croatian islands. The Republic of Croatia lags behind EU standards in terms of the number of nurses. This situation was influenced by the mass emigration of this category of workers to other countries and the attitude of nurses that they do not want to go to work on the islands. In addition, when harmonizing and monitoring the level of education, our nurses had to undergo additional training so that they could perform the job of a nurse according to EU standards and receive adequate financial reward for it.

Health care for islanders has always been less efficient than on the continent due to well-known reasons, primarily accommodation and other barriers, but recently it has greatly improved and islanders or tourists are much safer than before due to various forms of patient transport to the hospital (fast vessels, helicopter medical interventions, equipment with new technical devices, telecommunications connections, better trained medical staff, etc.). Certain financial resources are needed to achieve these goals.

ASSESSMENT OF THE CURRENT HEALTH CARE SYSTEM STATE, ESPECIALLY ON CROATIAN ISLANDS

By studying all components of accessibility (physical, territorial, temporal, economic and psychological), it must be established that accessibility is implemented uniformly, but not subtly, in terms of health care on the islands and the mainland. The strategic goal is to improve the health system in order to meet the needs of the island population for professional medical health care on the islands which is based on the principles of medical practice based on scientific evidence, and includes disease prevention, prevention of occupational diseases, health education, early recognition of disease risks and treatment and rehabilitation of the sick. The term system improvement refers to the health infrastructure (space, equipment, staff).

Considering territorial accessibility, it is evident that the situation on the islands is still difficult. It is particularly important to increase the number of primary health care units, especially on remote islands. Although urgent and fast (if necessary, helicopter) medical transport is used today, road ambulance on the main highways and maritime emergency medical assistance, the impression of uncertainty regarding timely intervention in emergencies on the island is still present.

It should be noted that the Republic of Croatia has implemented a complete computerization of the health care system, which is particularly useful for the island population.

Every activity, every event, every segment of the process, input, procedure and outcome, related to healthcare must be registered, and in modern healthcare — due to the possible application of digitalization — all these events and procedures must not only be registered and appropriately memorized, but also always available to those who are authorized to make certain decisions, starting with the healthcare authority that issues regulations, establishes the concept, monitors implementation and performs permanent supervision, through healthcare workers, who must know what and how something was done in any segment of the healthcare system for an individual who is the subject of medical attention, all the way to the insurer that bears the costs of healthcare.

With today's computer technology, it is possible to get instant (on-line) insight into all events related to an important component of medical work, which is therapeutic intervention. Of course, this method should be used for immediate monitoring, analyses, interventions, etc and this is very important for island patients (National Island development plan 2021—2027).

REQUIRED LEVEL OF ACCESS TO HEALTH CARE ON CROATIAN ISLANDS

Today level of access to health care varies considerably on the islands, depending on their size, population, distance from the mainland, and economic and tourist development. On larger and more populated islands, health care is available through the organization of health centers or branches of coastal health centers. In addition to health centers, health care on the islands is also provided by private practices contracted with the Croatian Health Insurance Institute. Primary health care includes a total of 16 activities, 13 of which are carried out on the islands. There is no maternity ward in any health center on the islands, because taking into account the number and structure of the population and the small number of births on the islands in relation to the medical-technical and personnel requirements that a maternity hospital must meet for a safe birth, it is not possible to provide. However, on smaller islands where the Public Health Service Network does not provide the establishment of a practice, specially organized health care is provided in such a way that a general/family medicine doctor comes to the island on pre-defined days of the week. For all other activities that are not provided by the Public Health Service Network or are not contracted due to staffing deficits, island residents are forced to travel to the nearest institution, on another island or on the mainland. A total of 107 general/family medicine teams have been contracted on

27 islands within the Public Health Service Network, but other primary health care activities have also been contracted on larger islands.

Social welfare on the islands is regulated by law, a series of by-laws and general acts of regional or local self-government units. The Ministry of Labor, Social Security, Family and Social Policy aims to improve the quality of life of the elderly population, children with developmental disabilities and socially vulnerable persons.

The coverage of social services for children and young people, especially children with disabilities, is particularly insufficient, and therefore only three associations that provide psychosocial assistance to children with disabilities and their parents operate on all islands. Due to the lack of specialized institutions on the island itself, associations also provide special education teachers, speech therapists, physiotherapists and other specialists who are essential for the development and progress of children with disabilities (National Island development plan 2021—2027).

On islands where there is not a sufficient number of patients to introduce permanent medical teams, the introduction of mobile clinics will be encouraged. Improving the availability of health care on islands where it is not possible to achieve satisfactory primary health care coverage, especially on offshore islands, will be achieved primarily through the development of telemedicine infrastructure and services (National Island development plan 2021—2027).

Furthermore, there is only one association operating on the islands that focuses on counseling and assisting children and young adults with behavioral problems and their families, and one foster home that offers accommodation and organized housing services for children with behavioral problems. Of the other vulnerable groups, there are five social service providers operating on the islands for adults with disabilities, three of which provide accommodation services, two provide residential services, and only one provides psychosocial support services. For associations that provide social services on the islands, project funding from national, EU and international sources is vital. However, associations and all other social service providers on the islands are still underutilizing the opportunities of EU projects.

CONCLUSION

The health system on the islands requires structural changes that will guarantee an increase in the availability and quality of health services with a measurable impact on the health of the island population. In order to improve the availability and quality of health services for the population on the islands, but also for all other people living on the islands, it is necessary to strengthen the primary health care system through the development of health infrastructure and encouraging the employment of health personnel (Košuta, et al., 2005). For associations that provide social services on the islands, project funding from national, EU and international sources is vital. However, associa-

tions and all other social service providers on the islands are still not making sufficient use of the opportunities of EU projects (Geić, et al., 2010). Health care for islanders has always been less efficient than on the continent due to well-known reasons, primarily accommodation and other barriers, but recently it has greatly improved and islanders or tourists are much safer than before due to various forms of patient transport to the hospital (fast vessels, helicopter medical interventions, equipment with new technical devices, telecommunications connections, better trained medical staff, etc.). Certain financial resources are needed to achieve these goals.

References

Articles

- Eterović, I. (1994). *Posebnosti zdravstvene zaštite na otocima* (Specifics of health care on the islands). Udruženje organizacija zdravstva Hrvatske, Zagreb.
- Geić, S., Geić, J., & Čmrlec, A. (2010). Zdravstveni turizam egzistencijalna potreba u suvremenom društvu (Health tourism is an existential need in modern society). *Informatologia*, 43, 317-334.
- Košuta, N. T., Ivandić, N., & Gatti, P. (2005). *Konkurentna pozicija zdravstvenog turizma* (Competitive position of health tourism). Hrvatska gospodarska komora i Institut za turizam.
- Muzur, A., Bagat, M., & Sekelj-Kauzlarić, K. 82004a9, Mogućnosti razvoja zdravstvenog turizma u. Hrvatskoj (Possibilities for the development of health tourism in Croatia). *Medix*, 10(52), 121-123.

Regulations

- Zakonu o otocima (NN/73/20, NN70/21)
- Zakona o zaštiti okoliša (Narodne novine, broj 80/13., 153/13., 78/15., 12/18. i 118/18.
- Zakon o ustanovama (NN 76/93, 29/97, 47/99, 35/08).
- Zakon o zdravstvenoj zaštiti (NN 150/08, 71/10, 139/10, 22/11, 84/11, 12/12, 35/12, 70/12).
— Zakonu o sustavu strateškog planiranja i upravljanja razvojem Republike Hrvatske (Narodne novine, broj 123/2017).
- Nacionalni plan razvoja otoka 2021.—2027. <https://www.novilist.hr/novosti/hrvatska/alarmantni-podaci-hrvatska-po-izdvajanjima-za-zdravstvo-znatno-zaostaje-za-eu-om> (accessed November 2nd 2024.)
- Akcijski plan 2021.—2023.

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CHALLENGES OF POPULATION DYNAMICS: MODERN DEMOGRAPHIC CHARACTERISTICS OF THE AGING FEMALE POPULATION OF CROATIAN ISLANDS

A b s t r a c t

The specificity of the area of the Republic of Croatia consists of islands. There are 1,246 islands, islets and rocks in Croatia, of which 51 are inhabited (2021). The population on the Croatian islands is located in 321 settlements, which are part of 6 Adriatic oriented counties, respectively 18 cities and 37 municipalities. The maximum population of Croatian islands was recorded about a hundred years ago (1921), when about 175,000 inhabitants lived on the islands. This number gradually decreased, so that it was reduced to today's (2021) 120,437 inhabitants. The reasons for this are numerous: the participation of the island population in the waves of emigration from Croatia, the process of littoralization, the process of urbanization related to industrialization, depopulation, war events, and more recently selective emigration conditioned by business opportunities within the EU. These processes have disrupted the population structures, especially the biological structure of the population of Croatian islands. Croatian islands recorded a decrease in the share of young people (0-19 years old) from 22.03% (2001), over 17.80% (2011) to 16.53% (2021). This paper explores the aging process of the female population of Croatian islands in the modern period (2001—2021). Classic demographic statistical and mathematical research methods were used in combination with GIS analysis. The female population decreased (2001—2021) from 62,030 women to 60,749 women. The aging index of the female population increased from 140.42 (2001) to 242.48 (2021). Of course, demographic processes on Croatian islands also affected the reduction of the fertile contingent of women: 27,130 women (2001); 24,922 women (2011); 21,568 women (2021). This reduction of the fertile contingent of women will significantly affect the strategic approach to the demographic revitalization of this area.

key words: *aging, depopulation, female population, GIS, islands.*

INTRODUCTION

Demographic studies focusing on population dynamics are crucial for understanding the social and economic transformations of specific regions. One area that has received increasing scholarly attention is the aging population, particularly in geographically dis-

tinct and often isolated areas such as islands. The Croatian islands, with their unique demographic, cultural, and economic characteristics, provide a compelling case study for exploring aging trends, especially among the female population (Magaš, 2008).

Globally, population aging has been a defining demographic trend of the 21st century. According to the United Nations (2024), the proportion of people aged 65 and older is growing faster than any other age group, a trend driven by declining fertility rates and increasing life expectancy. This phenomenon, commonly referred to as the “graying of the population” presents significant challenges for policymakers, especially in areas with limited access to resources and services.

Studies specific to Europe have highlighted that aging is particularly pronounced in Southern European countries, including Croatia. Scholars such as Lutz et al. (2008) and Balbo et al. (2013) emphasize that demographic aging in these regions is exacerbated by outmigration of younger cohorts and the concentration of older populations in rural and peripheral areas. For island populations, this trend is even more acute due to their geographic isolation, limited infrastructure, and historically lower rates of immigration. Croatian islands have been no exception to these trends, as noted in works by Nejašmić (2013) and Lajić and Mišetić (2013), who discuss the depopulation and aging of island communities.

Female aging, in particular, warrants focused analysis due to the distinct roles women often play in caregiving, community cohesion, and informal economies. Women tend to live longer than men, a trend well-documented by demographic research (Doblhammer & Kytir, 2001). However, this longevity often coincides with periods of living alone due to widowhood and a greater likelihood of requiring care. These dynamics are especially pronounced in isolated regions where traditional support networks may be strained or non-existent (Nejašmić & Toskić, 2013). Preliminary findings suggest that the aging index of the female population on Croatian islands — a metric reflecting the ratio of older to younger populations — has consistently increased over the past two decades. Previous research, such as that by Šulc et al. (2014), has pointed to the need for more granular studies on gendered aging patterns in Croatia to inform both regional and national policy responses.

METHODS

This study employs a mixed-methods approach familiar with the spatial demography field, integrating demographic analysis and Geographic Information Systems (GIS) to explore and visualize the aging patterns of the female population on Croatian islands based on census data from 2001, 2011, and 2021. The methodological framework is designed to ensure precise data management, comprehensive spatial analysis, and clear interpretation of demographic dynamics over two decades. GIS was utilized to spatially organize and analyse the demographic data.

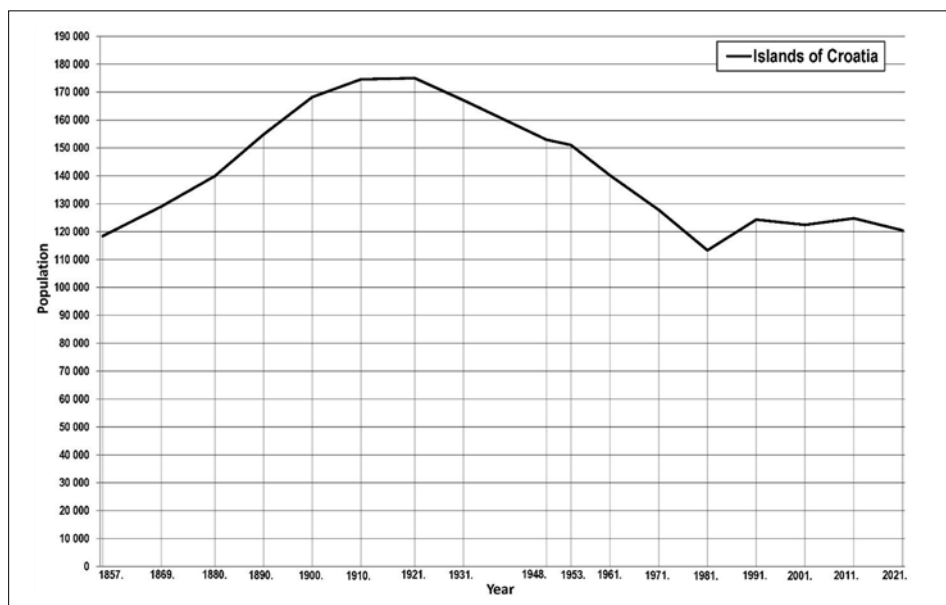


Figure 1 — Population changes of Croatian Islands (1857 — 2021).

Sources: Croatian Bureau of Statistics. (2005). *Naselja i stanovništvo Republike Hrvatske 1857—2001* [Settlements and population of the Republic of Croatia 1857—2001].

Croatian Bureau of Statistics. <https://www.dzs.hr>; Croatian Bureau of Statistics. (2011).

Population census 2011: Total population by age and gender, settlements of the Republic of Croatia.

Croatian Bureau of Statistics. <https://www.dzs.hr>; Croatian Bureau of Statistics. (2021).

Population census 2021: Total population by age and gender, settlements of the Republic of Croatia. Croatian Bureau of Statistics. <https://www.dzs.hr>.

The primary data source consists of official census records from 2001, 2011, and 2021, provided by the Croatian Bureau of Statistics. The aging index, defined as the ratio of the population aged 65 and older to the population aged 0-14, was calculated for the female population. This demographic measure was used to quantify the extent of population aging on each island in the period 2001—2021.

BASIC DEMOGRAPHIC PROCESSES OF THE CROATIAN ISLANDS — OVERVIEW

Throughout the 20th century, Croatian islands experienced a period of extensive population change, with the peak population reached in 1921 (174,994 inhabitants). Afterward, a 60-year period of depopulation followed, with the lowest population recorded in 1981 (113,299 inhabitants). Following this, a period of stagnation occurred, and the population has stabilized over the past 40 years around 120,000 inhabitants (Fig. 1.)

The population data from the Croatian islands between 2001, 2011, and 2021 reveal significant demographic shifts across three major age groups: young (0-14 years), middle-aged (15-64 years), and elderly (65+ years). The pyramids (fig 2) clearly show

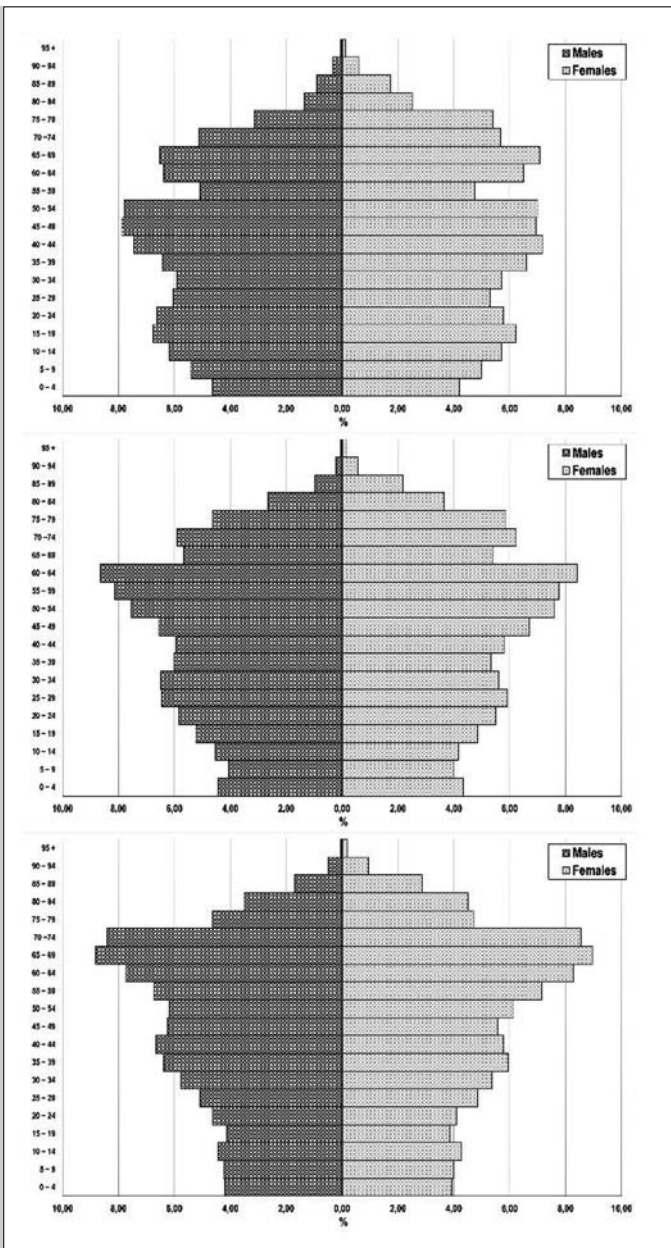


Figure 2 — Population pyramids of the population of Croatian Islands (2001, 2011 and 2021).

Sources: Croatian Bureau of Statistics. (2001). *Population census 2001: Total population by age and gender, settlements of the Republic of Croatia*. Croatian Bureau of Statistics. <https://www.dzs.hr>; Croatian Bureau of Statistics. (2011). *Population census 2011: Total population by age and gender, settlements of the Republic of Croatia*. Croatian Bureau of Statistics. <https://www.dzs.hr>; Croatian Bureau of Statistics. (2021). *Population census 2021: Total population by age and gender, settlements of the Republic of Croatia*. Croatian Bureau of Statistics. <https://www.dzs.hr>.

a narrowing base over time, reflecting a decline in the proportion of younger age groups (0-14 years). This trend is indicative of decreasing birth rates, which align with national demographic trends of declining fertility. The middle-aged population (15-64 years) constitutes a significant proportion of the population in all years but shows signs of aging over time as the peak ages shift upwards. The upper part of the pyramids (65+ years) has visibly expanded, illustrating the increasing share of the elderly population, a key indicator of demographic aging. Over the two decades, there has been a noticeable decline in the proportion of young residents, indicative of reduced birth rates and possible outmigration of young families. Simultaneously, the proportion of middle-aged individuals has remained relatively stable but shows early signs of aging as larger cohorts move into older age brackets. The most significant increase has been observed in the elderly population, which reflects the aging-in-place phenomenon common to rural and insular regions.

FEMALE POPULATION ON ISLANDS IS GETTING OLDER (2001—2021)

The aging of the female population on Croatian islands has become a pronounced demographic trend. This phenomenon reflects broader patterns of depopulation and migration, with younger generations often relocating to urban centres or abroad in search of educational and economic opportunities. In 2001, a total of 121,801 inhabitants were recorded on Croatian islands, of which 62,030 were female (50.93%). In absolute terms, the largest number of women was recorded in the settlements of Mali Lošinj (Lošinj Island; 3,200), Vela Luka (Korčula Island; 2,290), Blato (Korčula Island; 1,921), Hvar (Hvar Island; 1,915), and Krk (Krk Island; 1,713). In 19 island settlements (5.92%), no women were recorded in 2001. The smallest number of women (specifically, one female resident per settlement) was recorded in the same year in Gromin Dolac (Hvar island), Male Srakane (Male Srakane island), Zbišina (Cres island), Grmov (Cres island), and Vidalići (Pag island).

Regarding the proportion of women in the total population of Croatian islands in 2001, the highest shares of female population were recorded in the settlements of Ivanje (Cres island; 100.00%), Gromin Dolac (Hvar island; 100.00%), Duboka (Vis island; 66.67%), Merag (Cres island; 66.67%), and Kampelje (Krk island; 66.67%), while the lowest shares were found in Kornati (Kornati island; 28.57%), Prožurska Luka (Mljet island; 28.57%), Porožina (Cres island; 30.00%), Vrana (Cres island; 31.25%), and Žestilac (Krk island; 33.33%).

Furthermore, in 2011, a total of 124,760 inhabitants (+2,959 compared to 2001) were recorded on Croatian islands, of which 62,745 (+715 compared to 2001) were female (50.29% — lower than 2001). In absolute terms, the largest number of women was recorded in the settlements of Mali Lošinj (Lošinj island; 3,069), Vela Luka (Korču-

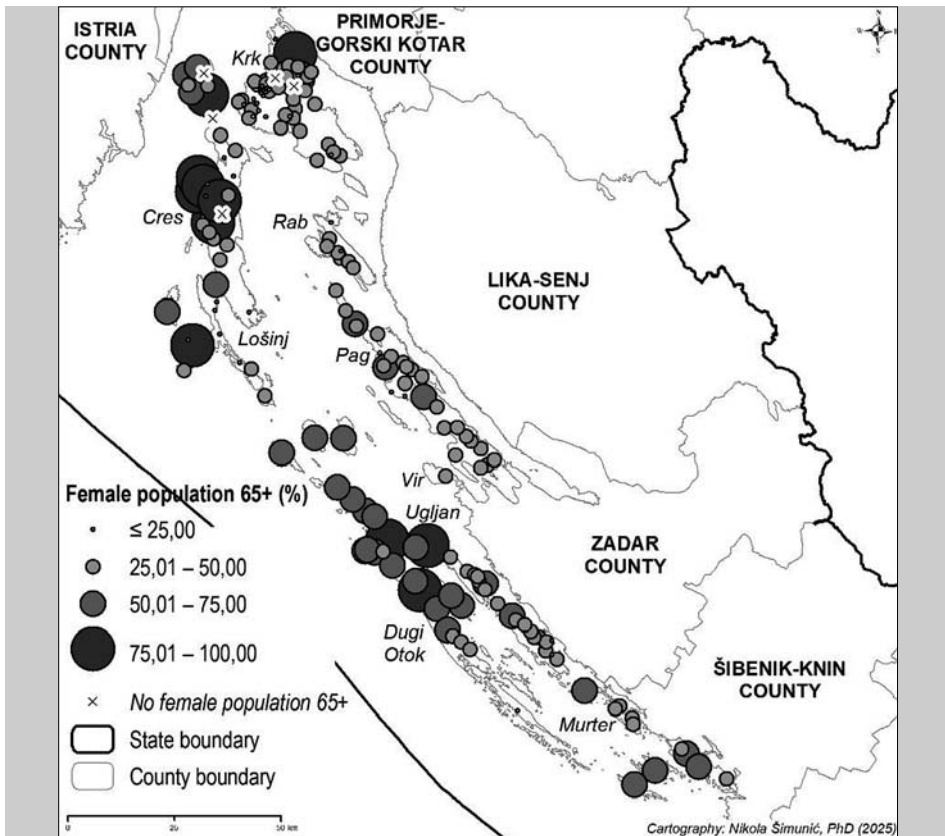


Figure 3 — Share (%) of old female population in total female population of the Croatian islands — northern part of the Croatian coast (2021). Sources: same as fig 2.

la island; 1,969), Hvar (Hvar island; 1,987), Krk (Krk island; 1,894), and Blato (Korčula island; 1,882). In 20 island settlements (6.23%), no women were recorded in 2011. The smallest number of women (specifically, one female resident per settlement) was recorded in the same year in Vele Srakane (Vele Srakane island), Male Srakane (Male Srakane island), Zbišina (Cres island), Grmov (Cres island), and Filozići (Pag island).

Regarding the proportion of women in the total population of Croatian islands in 2011, the highest shares of female population were recorded in the settlements of Lubenice (Cres island; 66.67%), Ivanje (Cres island; 66.67%), Mali Podol (Cres island; 66.67%), Predošćica (Cres island; 66.67%), and Strilčići (Krk island; 66.67%), while the lowest shares were found in Kornati (Kornati island; 15.79%), Filozići (Pag island; 16.67%), Potočnica (Pag island; 27.27%), Ošljak (Ošljak island; 31.03%), and Porozina (Cres island; 31.03%).

Finally, in 2021, a total of 120,437 inhabitants (-4,323 compared to 2011) were recorded on Croatian islands, of which 60,749 (-1,996 compared to 2011) were female

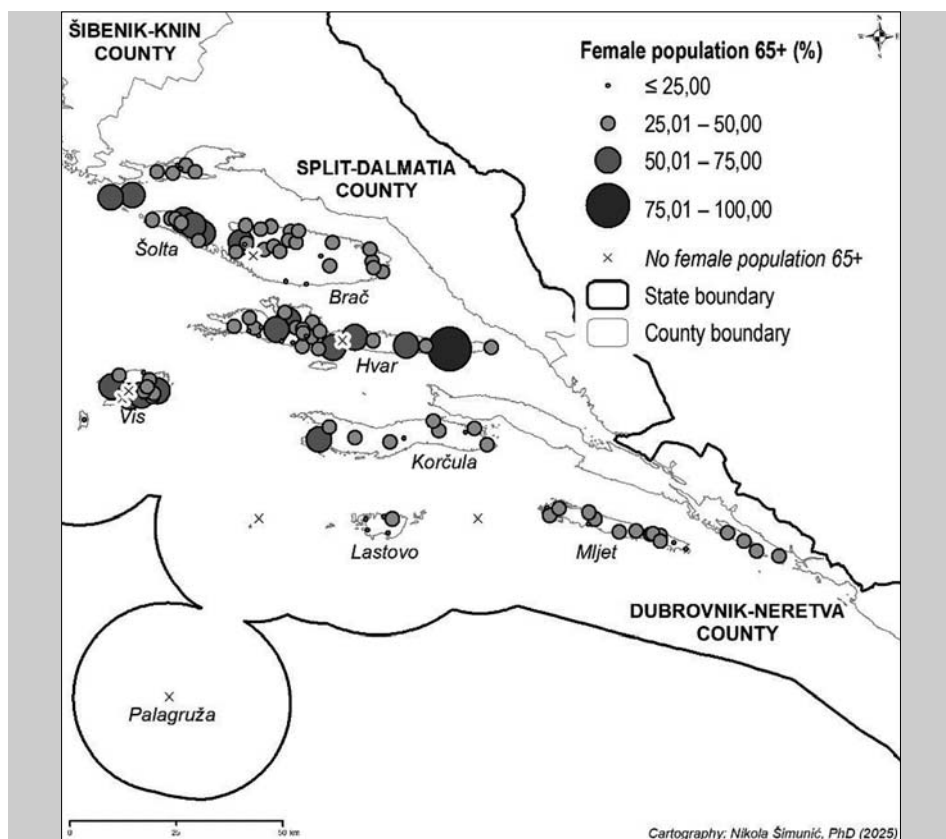


Figure 4 — Share (%) of old female population in total female population of the Croatian islands — southern part of the Croatian coast (2021). Sources: same as fig 2 and 3..

(50,44% — higher than 2011). In absolute terms, the largest number of women was recorded in the settlements of Mali Lošinj (Lošinj island; 2,766), Krk (Krk island; 1,986), Vela Luka (Korčula island; 1,950), Hvar (Hvar island; 1,866), and Supetar (Brač island; 1,784). In 12 island settlements (3.74%), no women were recorded in 2021. The smallest number of women (specifically, one female resident per settlement) was recorded in the same year in 10 islands settlements.

Regarding the proportion of women in the total population of Croatian islands in 2021, the highest shares of female population were recorded in the settlements of Perinat (Cres island; 100.00%), Strilčići (Krk island; 100.00%), Podšpilje (Vis island; 70.00%), Zračće (Hvar island; 62.50%), and Bošana (Pag island; 62.07%), while the lowest shares were found in Kornati (Kornati island; 7.14%), Rudine (Krk island; 20.00%), Babac (Babac island; 25.00%), Vele Srakane (Vele Srakane island; 25.00%), and Biševo (Biševo island; 26.09%).

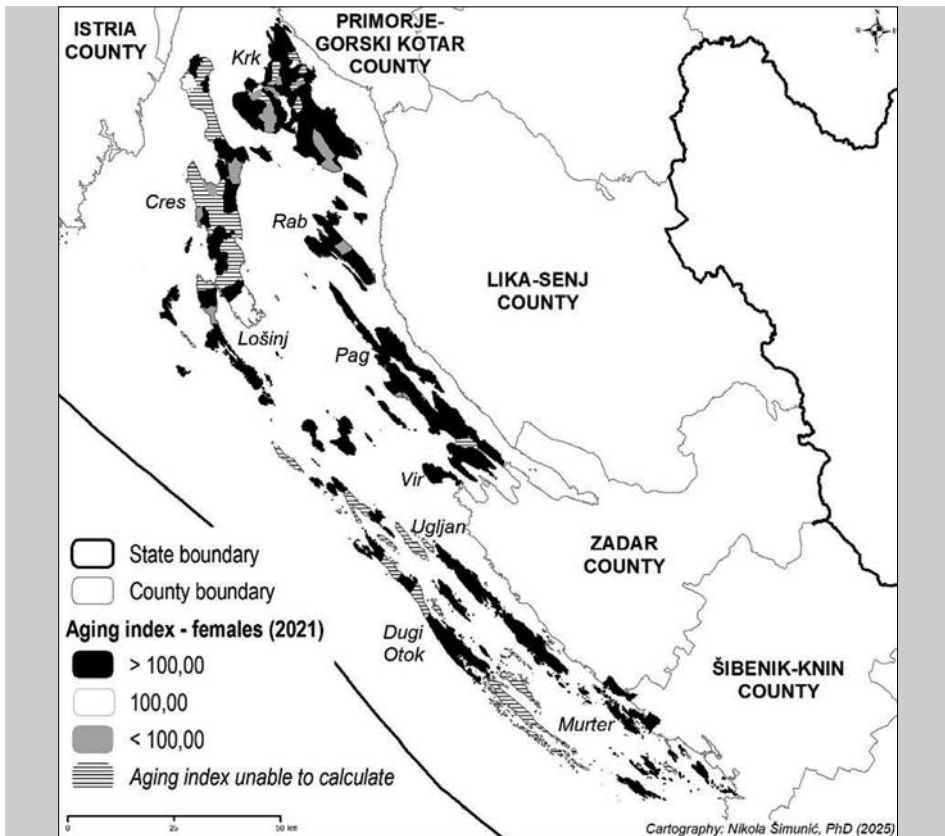


Figure 5 — Aging index of female population of the Croatian islands — northern part of the Croatian coast (2021). Sources: same as fig 2, 3 and 4.

If the spatial distribution of the share of the elderly female population (aged 65 and older) within the total female population of Croatian islands is considered, certain observations can be made (Figures 3 and 4). In 2021, eight island settlements recorded a 100.00% share of elderly women, meaning that the population in these settlements was predominantly composed of older women. The highest shares of elderly women in 2021 were observed in the settlements of Rivanj (Rivanj Island; 88.89%), Zverinac (Zverinac Island; 86.67%), Selca kod Bogomolja (Hvar Island; 83.33%), Savar (Dugi Otok; 76.47%), and Žestilac (Krk Island; 75.00%). On the other hand, the lowest shares were recorded in the settlements of Gostinjac (Krk Island; 9.09%), Skrivena Lula (Lastovo Island; 10.00%), Sveti Jakov (Lošinj Island; 10.53%), Rogačić (Vis Island; 11.11%), and Sabljici (Krk Island; 11.76%).

The best indicator of the aging of the female population is the aging index, which considers the ratio of elderly women to young women in island settlements (Figures 5 and 6). In 2021, only 20 island settlements (6.23%) recorded an aging index for the fe-

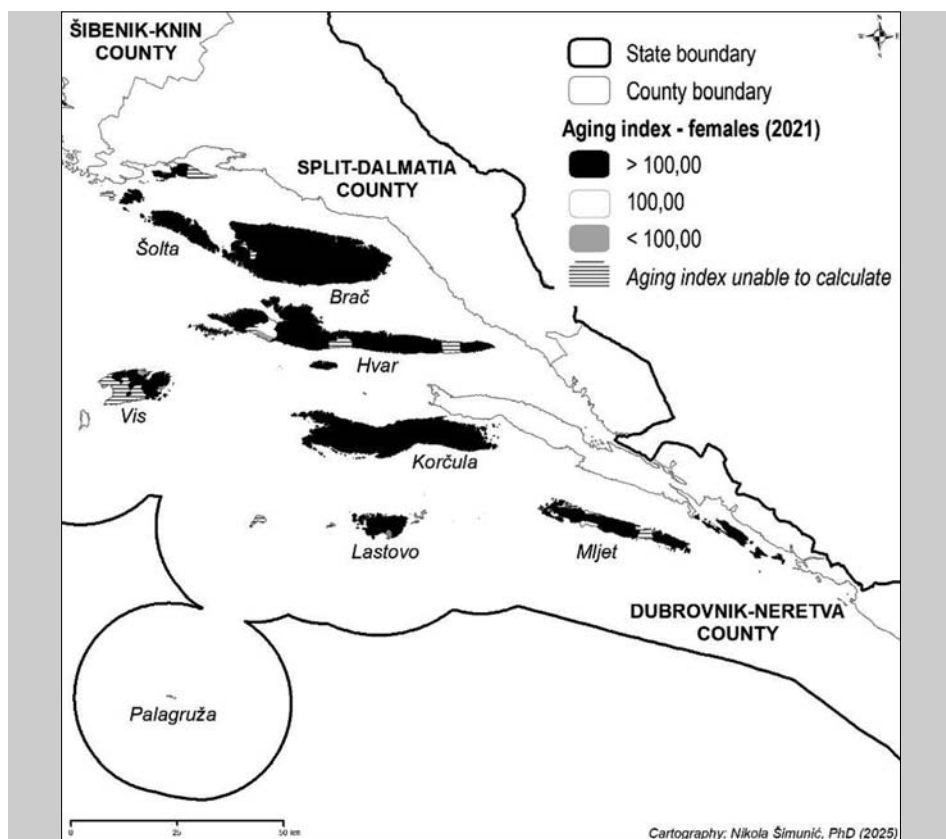


Figure 6 — Aging index of female population of the Croatian islands — southern part of the Croatian coast (2021). Sources: same as fig 2, 3, 4 and 5.

male population below the threshold of 100.00, indicating a balance where one elderly woman corresponds to one young woman. Furthermore, 9 settlements recorded an aging index of exactly 100.00, meaning these settlements had an equal number of young and elderly women.

On the other hand, as many as 69.78% of island settlements recorded an aging index for the female population above 100.00. Some settlements had aging index values exceeding 1,000, such as Vrgada (Vrgada Island; aging index 5,300.00), Drvenik Veliki (Drvenik Veli Island; aging index 4,700.00), Žirje (Žirje Island; aging index 4,500.00), Stomorska (Šolta Island; aging index 4,300.00), and Molat (Molat Island; 2,500.00), among others. A particularly concerning demographic fact, and a strong indicator of aging, is that in 21.50% of island settlements (in 2021), not a single young female individual (aged 0-14) was recorded.

Between 2011 and 2021, the aging index of the female population increased in 43.93% of island settlements, decreased in 24.61%, and remained unchanged in 0.93%

of settlements. The largest increases in the female aging index were observed in settlements such as Vrgada (Vrgada Island; +4,810.00), Stomorska (Šolta Island; +3,420.00), Unije (Unije Island; +1,628.57), Ždrelac (Pašman Island; +968.57), and Sveti Vid Dobrinjski (Krk Island; +966.67).

Conversely, the largest decreases in the aging index (2011—2021) were recorded in settlements such as Dračevica (Brač Island; -1,233.33), Poljica (Hvar Island; -1,166.67), Brbinj (Dugi Otok; -850.00), Maranovići (Mljet Island; -600.00), and Kaprije (Kaprije Island; -533.33).

CONCLUSION

The demographic landscape of Croatian islands, as explored in this study, reveals a pronounced and accelerating process of population aging, with significant implications for the social and economic sustainability of these communities. Over the past two decades (2001—2021), the female population of the islands has demonstrated a consistent decline in younger cohorts (0-14 years) and a corresponding growth in the elderly population (65+ years), resulting in a dramatic rise in the aging index.

The spatial analysis conducted through GIS further emphasizes the uneven distribution of aging trends. Certain islands, such as Vrgada, Drvenik Veli, and Žirje, exhibit extreme values of the aging index (with some settlements recording ratios exceeding 5,000) indicating a near-total absence of young individuals. Conversely, a minority of settlements maintain a more balanced age structure, offering a glimpse of resilience amidst widespread demographic decline. The regional variability underscores the need for tailored policy interventions that address the specific challenges and opportunities of individual islands.

The implications of these demographic trends are profound. The aging female population places increasing pressure on healthcare and social support systems, particularly in remote settlements where infrastructure and services are often inadequate. Moreover, the declining number of young women, who traditionally play pivotal roles in caregiving and community cohesion, raises concerns about the sustainability of these roles in the future.

To address these challenges, strategic interventions are necessary. Policymakers must prioritize measures to mitigate outmigration, promote economic revitalization, and enhance access to education and healthcare on the islands.

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References

- Balbo, N., Billari, F. C., & Mills, M. (2013). Fertility in advanced societies: A review of research. *European Journal of Population*, 29(1), 1-38. <https://doi.org/10.1007/s10680-012-9277-y>.
- Croatian Bureau of Statistics. (2001). *Population census 2001: Total population by age and gender, settlements of the Republic of Croatia*. Croatian Bureau of Statistics. <https://www.dzs.hr>.
- Croatian Bureau of Statistics. (2005). *Naselja i stanovništvo Republike Hrvatske 1857—2001 [Settlements and population of the Republic of Croatia 1857—2001]*. Croatian Bureau of Statistics. <https://www.dzs.hr>.
- Croatian Bureau of Statistics. (2011). *Population census 2011: Total population by age and gender, settlements of the Republic of Croatia*. Croatian Bureau of Statistics. <https://www.dzs.hr>.
- Croatian Bureau of Statistics. (2021). *Population census 2021: Total population by age and gender, settlements of the Republic of Croatia*. Croatian Bureau of Statistics. <https://www.dzs.hr>.
- Doblhammer, G., & Kytir, J. (2001). Compression or expansion of morbidity? Trends in healthy-life expectancy in the elderly Austrian population between 1978 and 1998. *Social Science & Medicine*, 52(3), 385-391. [https://doi.org/10.1016/S0277-9536\(00\)00156-4](https://doi.org/10.1016/S0277-9536(00)00156-4).
- Lajić, I., Mišetić, R. (2013). Demographic changes on Croatian islands at the beginning of the 21st Century. *Migracijske i etničke teme*, 29(2), 169-199. <https://doi.org/10.11567/met.29.2.3>.
- Lutz, W., Sanderson, W., & Scherbov, S. (2008). The coming acceleration of global population ageing. *Nature*, 451(7179), 716-719. <https://doi.org/10.1038/nature06516>.
- Magaš, D. (2008). Geografske posebnosti razvitka malih hrvatskih otoka (Geographical peculiarities of the development of small Croatian islands). In J. Faričić (Ed.), *Otok Rava* (pp. 19-42). Sveučilište u Zadru, Hrvatska akademija znanosti i umjetnosti (HAZU), Ogranak Matice hrvatske u Zadru, Hrvatsko geografsko društvo Zadar.
- Nejašmić, I. (2013). Demographic ageing on Croatian islands. *Migracijske i etničke teme*, 29(2), 141-168. <https://doi.org/10.11567/met.29.2.2>.
- Nejašmić, I., & Toskić, A. (2013). Starenje stanovništva u Hrvatskoj — sadašnje stanje i perspektive (Population ageing in Croatia — current situation and perspectives) *Hrvatski geografski glasnik*, 75(1), 89-110. <https://doi.org/10.21861/HGG.2013.75.01.05>
- Šulc, I. (2014). Demographic challenges to sustainability of small Adriatic islands: The case study of Ilovik, Croatia. *Sociologija i prostor*, 52(1), 3-22. <https://doi.org/10.5673/sip.52.1.1>
- United Nations. (2024). *World population prospects 2024: Summary of Results*. United Nations Department of Economic and Social Affairs. <https://desapublications.un.org/publications/world-population-prospects-2024-summary-results>

ENERGETICS;
RENEWABLE ENERGY SOURCES;
AGRICULTURE AND FISHERIES



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AUTONOMOUS ENERGY SYSTEMS FOR ISLANDS — SIMPLE ROBUST RESILIENT AND SMART LEARNING

Abstract

The increasing demand for sustainable and reliable energy solutions has prompted a growing interest in autonomous energy systems, especially for islands facing unique challenges in terms of energy supply. This paper provides an overview of the key considerations, technologies, and benefits associated with implementing autonomous energy systems on islands. The discussion encompasses a range of renewable energy sources, energy storage technologies, and advanced control systems that enable islands to achieve greater energy independence, resilience, and environmental sustainability. By examining case studies and emerging trends, this paper aims to shed light on the potential of autonomous energy systems to revolutionize the energy landscape of islands, contributing to their economic development and mitigating the environmental impact of traditional energy sources.

Key words: autonomous energy systems, island energy solutions, energy independence, island sustainability, renewable energy integration, economic development through energy autonomy

INTRODUCTION

Background and Importance

Island communities face unique energy challenges due to their geographic isolation and reliance on external energy sources. This is particularly true for Croatian islands, which must balance their energy needs across distinct seasonal patterns. During the summer months, the influx of tourists significantly increases energy demand, creating a strain on existing infrastructure. In contrast, the winter months bring lower but steady energy requirements that are equally critical for sustaining year-round economic activity and the well-being of residents. Traditionally, Croatian islands have relied on imported fossil fuels, leading to high energy costs, vulnerability to price fluctuations, and environmental degradation. These challenges are amplified by the growing global

imperative to transition to carbon-neutral energy systems and the escalating impacts of climate change.

Autonomous energy systems, integrating diverse renewable energy sources with advanced storage and management technologies, offer a robust solution. Alongside solar and wind energy, hydrogen is gaining recognition as a transformative element in these systems. By enabling long-term energy storage and providing a flexible fuel source, hydrogen can address seasonal variability and ensure energy availability throughout the year.

Objective of the Paper

This paper explores the potential of autonomous energy systems to meet the distinct needs of islands, particularly within the Croatian context. It emphasizes the integration of renewable energy sources, including solar, wind, and hydrogen, combined with cutting-edge storage solutions and intelligent control systems. The paper also considers the importance of designing systems capable of handling seasonal fluctuations and the significant increase in energy demand during peak tourist periods.

KEY CONSIDERATIONS FOR ISLANDS

Energy Demand and Supply Balance

Croatian islands face pronounced seasonal fluctuations in energy demand. The summer months bring a sharp increase in energy usage due to tourism, with air conditioning, transportation, and hospitality services driving demand. Conversely, the winter months see a steady but lower baseline demand, predominantly for residential and essential services. Autonomous energy systems must efficiently address these variations to ensure year-round energy security.

Geographic and Climatic Factors

Croatian islands are rich in renewable energy potential, particularly from solar and wind resources. However, this variability requires integrating robust energy storage solutions, such as batteries and hydrogen. Geographic isolation further necessitates systems that are resilient, reliable, and self-sustaining, minimizing dependence on mainland energy imports.

Energy Communities and Cooperatives

The EU's *Clean Energy for All Europeans* package emphasizes the importance of citizen and community engagement in energy transition. This legislative framework supports the creation of Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs) to empower local actors in producing, storing, and consuming ener-

gy. These communities are particularly relevant for islands, where strong local collaboration is essential for achieving energy autonomy.

Key advantages of energy communities and cooperatives include:

- Increased local participation: By involving residents, businesses, and municipalities, these models foster a sense of ownership and shared responsibility.

- Economic benefits: Revenue generated from renewable energy production stays within the community, supporting local development.

- Resilience and flexibility: Decentralized systems are less vulnerable to disruptions, ensuring reliable energy supply during peak demand or emergencies.

For Croatian islands, establishing energy cooperatives can catalyse investment in shared resources like solar parks, wind turbines, and hydrogen production facilities. These cooperatives can also collaborate with resorts to optimize energy generation and storage. (De Brouwer, A., Rakocevic L., Malgorzata, M., 2022.)

Economic Constraints

While initial investments in renewable energy and shared systems can be high, leveraging EU funding mechanisms such as the *European Regional Development Fund (ERDF)* and the *Just Transition Fund* can mitigate financial barriers. Additionally, partnerships between energy cooperatives and private enterprises, such as resorts, can distribute costs and risks.

Policy Support and EU Legislative

While The EU provides strong legislative support for renewable energy systems through directives such as:

- Directive (EU) 2018/2001 (RED II): Promotes the use of renewable energy and supports RECs.

- Directive (EU) 2019/944: Establishes rules for the internal electricity market, emphasizing the role of CECs.

- Fit for 55 Package: Aims to reduce EU greenhouse gas emissions by 55% by 2030, encouraging energy-efficient, decentralized systems.

These policies provide a robust framework for Croatian islands to transition towards energy autonomy while ensuring alignment with broader European sustainability goals.

TECHNOLOGIES IN AUTONOMOUS ENERGY SYSTEMS

Renewable Energy Sources

While Renewable energy technologies are the cornerstone of autonomous energy systems, enabling islands to leverage local resources for clean and sustainable energy production. Croatian islands are blessed with abundant sunlight, especially during the

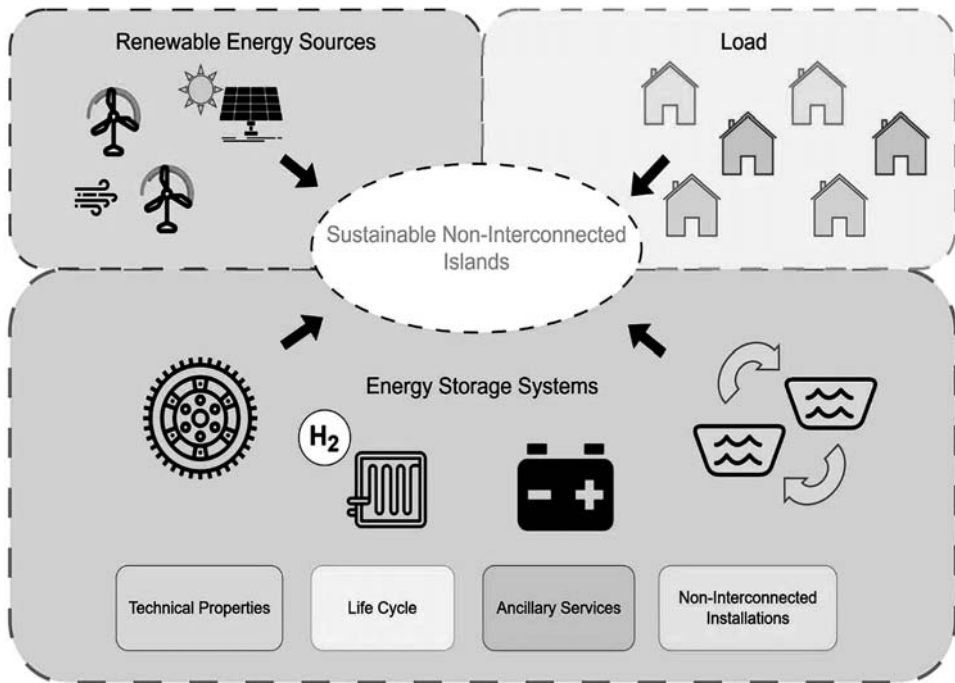


Figure 1 — Graphical representation of the Autonomous Energy Systems energy sources integration.
 Source: Fotopoulou, M. et, A Review of the Energy Storage Systems of Non-Interconnected European Islands. Sustainability 2024, 16, 1572, MDPI

summer months, making solar energy a highly viable option. Photovoltaic (PV) panels can harness this sunlight to provide a reliable and scalable source of electricity. Furthermore, advancements in bifacial panels and concentrated solar power (CSP) have significantly enhanced the efficiency of solar energy systems.

In addition to solar energy, many Croatian islands experience consistent wind patterns, which makes wind energy another promising renewable source. Wind turbines, both small-scale and offshore, are particularly well-suited for island use due to their flexibility in deployment and ability to generate electricity from the steady winds.

Hydrogen technology also holds significant potential for addressing seasonal energy variability on Croatian islands. During periods of surplus renewable energy generation, electrolysis can be used to produce hydrogen, which can then be stored and later utilized for electricity generation, transportation, or heating. Hydrogen fuel cells offer a clean and efficient way to convert stored hydrogen back into energy, making hydrogen a critical component of year-round energy systems. (Vijayapriya, T., Kothari, D. P., 2011).

Lastly, emerging ocean-based energy technologies, such as wave and tidal energy, show promise for Croatian islands. Although these technologies are currently less developed, they have the potential to complement other renewable sources as they ma-

ture, providing additional options for sustainable energy generation. (Xing, H., Cheng, H., Zhang, Y., & Pingliang, Z., 2016.)

Energy Storage

Energy storage is crucial for managing the intermittent nature of renewable energy sources and ensuring a stable energy supply. Among the key storage technologies, battery storage systems stand out for their widespread use in short-term energy storage. Lithium-ion batteries are particularly favoured due to their fast response times and scalability. Moreover, advances in solid-state batteries and flow batteries have further increased efficiency and extended lifespans, making them even more reliable.

Hydrogen storage also plays a significant role in addressing long-term energy needs. This technology allows energy produced during the summer to be stored and utilized in the winter, providing a flexible solution for seasonal imbalances on islands. Hydrogen storage is particularly valuable for its ability to bridge the gap between periods of surplus and deficit in renewable energy generation.

Pumped hydro storage, although geographically dependent, offers another viable option for energy storage on islands with suitable terrain. This technology involves pumping water to elevated reservoirs during periods of surplus energy generation and releasing it through turbines during demand peaks. By leveraging the natural landscape, pumped hydro storage can effectively store and release energy as needed. [6]

Smart Grids and Advanced Control Systems

Modern energy systems are increasingly reliant on advanced digital technologies to optimize the generation, distribution, and consumption of energy. One of the key components of these systems is smart grids, which utilize sensors and IoT devices to monitor and manage energy flow in real-time. This ensures efficient use of resources and minimizes waste, making energy distribution more effective.

Artificial intelligence and machine learning also play a crucial role in modern energy systems. These technologies can predict energy demand patterns, optimize the utilization of renewable energy sources, and enable predictive maintenance of infrastructure. By leveraging AI, energy systems can become more adaptive and responsive to changing conditions, enhancing overall efficiency. (European Commission, “European Hydrogen Strategy”, 2020.)

Microgrid technology is another important aspect of modern energy systems, particularly for islands. Microgrids allow islands to operate independently from the mainland grid, integrating multiple energy sources and storage systems to ensure reliability and resilience. This technology provides a robust solution for energy management, enabling islands to maintain a stable energy supply even in the face of disruptions. (Khadem, Shafiuzzaman K.; Rosado, Sebastian P., 2018.)

Integration of Technologies

The key to successful autonomous energy systems lies in the seamless integration of various advanced technologies. Solar and wind energy systems, when paired with hydrogen production facilities, enable the efficient use of surplus energy. This combination ensures that excess energy generated during peak production periods can be stored and utilized when needed, thereby optimizing the overall energy management.

Smart grids and AI-driven systems play a crucial role in ensuring that energy is distributed to where it is needed most. These systems adapt dynamically to demand fluctuations, providing real-time monitoring and management of energy flow. By leveraging artificial intelligence, energy distribution becomes more efficient and responsive to changing conditions.

Furthermore, centralized and decentralized storage solutions complement each other to provide both short-term and long-term energy stability. Centralized storage systems offer large-scale energy storage capabilities, while decentralized solutions provide flexibility and resilience at a local level. Together, they create a robust and reliable energy infrastructure that can meet varying demands and ensure a stable energy supply. (Klaić, Z., Fekete, K., & Šljivac, D., 2015.)

Innovations in Energy Systems

Emerging trends are significantly shaping the future of autonomous energy systems, offering innovative tools for energy optimization. One such trend is Vehicle-to-Grid (V2G) technology, where electric vehicles (EVs) serve as mobile energy storage units. These vehicles can feed energy back into the grid during high-demand periods, providing a flexible and efficient solution for managing energy supply.

Another promising trend is the development of hybrid energy systems. By combining renewable energy sources with bioenergy or geothermal sources, these systems offer enhanced reliability. For instance, integrating bioenergy plants with hydrogen production can effectively address energy gaps during extended periods of low renewable energy generation. This approach ensures a more stable and resilient energy supply, leveraging the strengths of multiple energy sources. (Mariam, L., Basu, M., Conlon, M.F., 2016.)

CASE STUDIES AND EMERGING TRENDS

Case Studies of Autonomous Energy Systems on Islands

Examining successful implementations of autonomous energy systems provides valuable insights into their potential for Croatian islands. Below are examples that demonstrate the feasibility, benefits, and challenges of these systems:

— El Hierro, Canary Islands (Spain): The island of El Hierro has achieved near-complete energy autonomy through a hybrid renewable system combining wind turbi-

nes, a pumped hydro storage system, and a microgrid. The system provides energy to over 11,000 residents, reducing reliance on diesel generators and cutting CO₂ emissions significantly. This model demonstrates the importance of integrating storage and renewable sources to ensure year-round energy supply. (El Hierro, an example of sustainability, 2023.)

— Tilos Island (Greece): Tilos has become a flagship project in Europe, powered by solar and wind energy, supported by battery storage and a smart microgrid. Funded by the EU Horizon 2020 program, the project emphasizes community involvement and energy sharing, showcasing the value of energy cooperatives and smart grid technology in achieving self-sufficiency. (Green Greece: Tilos, the Med's First 'Energy Autonomous' Island, 2022.)

— Orkney Islands (Scotland): Orkney has developed an advanced hydrogen economy by utilizing surplus wind and tidal energy to produce hydrogen through electrolysis. The hydrogen is used for heating, transportation, and as backup power, providing a blueprint for integrating hydrogen into autonomous energy systems for Croatian islands facing seasonal energy variability. (How small island 'renewables laboratories' are leading the way in transitioning from fossil fuels, 2022.)

In Croatia, efforts to create energy-independent islands are progressing, especially in regions like the Kvarner Bay and the island of Unije. Unije, a small island with about 88 permanent residents, faces significant challenges during the summer tourist season when its population increases, putting stress on local resources such as energy and water. A project aiming to make Unije energy-independent is underway, focusing on renewable energy sources and energy efficiency measures, including the installation of solar panels and battery storage systems. A photovoltaic plant and a desalination plant powered by renewable energy have been key components of this initiative. (REA Kvarner: Turning Unije (Croatia) into an energy independent island, 2023.)

This is part of the broader EU initiative under the Clean Energy for EU Islands project, which seeks to address the challenges faced by islands, such as energy supply, especially in the context of seasonal fluctuations in population. Regulatory barriers in Croatia, including unclear energy strategies and lack of local coordination, hinder the acceleration of such projects. However, the country's progress is notable, with some islands like Unije already demonstrating the potential for achieving greater energy autonomy. These efforts reflect a growing recognition of the need for energy communities to enhance local resilience and sustainability in Croatia, a principle that aligns with EU energy policies. (International Renewable Energy Agency (IRENA), 2018.)

For Ireland, there are ongoing initiatives and policy frameworks that support renewable energy transitions on islands, with specific emphasis on islands as testbeds for innovative energy solutions. A key example of this is the development of clean energy systems on Irish islands under the European Union's Clean Energy for EU Islands initiative. This program aims to support sustainable energy transitions on islands, focu-

sing on integrating renewables, energy storage, and local energy cooperatives. The Irish Government's National Planning Framework and the Climate Action Plan also align with these efforts, targeting an 80% renewable electricity share by 2030. (Khadem, Shafiuzzaman K.; Rosado, Sebastian P., 2018.)

Moreover, the Irish Government's "Our Rural Future" policy and its National Policy for the Future Development of Offshore Islands are designed to strengthen island sustainability, including energy independence. This policy, alongside initiatives for energy cooperatives and community-led energy systems, aims to leverage islands' renewable energy potential and reduce dependence on fossil fuels

In addition, Irish islands like Inishbofin (Inis Bó Finne) and Aran Islands have been focal points for renewable energy pilots, exploring wind, solar, and energy storage technologies to improve energy resilience year-round, even as the tourist population increases during peak seasons. (Smart grids and meters, 2025.)

Emerging Trends in Autonomous Energy Systems

Technological advancements and policy developments are playing a pivotal role in shaping the next generation of autonomous energy systems. One of the key trends is the development of the hydrogen economy. Hydrogen is increasingly recognized as a versatile energy carrier, with its production, storage, and utilization becoming more efficient and cost competitive. For Croatian islands, integrating hydrogen into local energy systems can address long-term storage needs and support applications such as transportation and industrial energy. (Whitaker, C., Newmiller, J., Ropp, M., Norris, B., 2008.)

Another emerging trend is the adoption of Energy-as-a-Service (EaaS) models. These business models allow island communities to implement autonomous energy systems without the need for upfront capital investment. Private companies provide the necessary infrastructure and services, while communities pay for energy based on usage. This model is particularly suitable for tourist-heavy Croatian islands, where peak demand can generate sufficient revenue to sustain the system.

Artificial intelligence and machine learning are also being integrated into energy management systems to enhance efficiency. AI can predict energy demand, optimize generation and storage, and dynamically manage resources during peak and off-peak periods. This integration improves reliability and reduces costs, making energy systems more adaptive and efficient. (Vijayapriya, T., Kothari, D. P., 2011.)

Floating solar farms and offshore wind turbines are emerging as innovative solutions to maximize renewable energy production in areas with limited land availability. Croatian islands, surrounded by the Adriatic Sea, have untapped potential for these technologies, offering significant scalability and the ability to harness renewable energy from the sea. (Zou, B., Wang, J., Fushuan, W., 2017.)

Lastly, the rise of electric vehicles has led to the adoption of Vehicle-to-Grid (V2G) systems. These systems enable EVs to function as mobile energy storage units, feeding energy back into the grid during high-demand periods. This trend can benefit Croatian islands by providing additional grid flexibility, especially during peak tourist seasons. (Xing, H., Cheng, H., Zhang, Y., & Pingliang, Z., 2016.)

Lessons for Croatian Islands

The examples above highlight several lessons that can be applied to Croatian islands:

1. Diversification of energy sources: Combining solar, wind, and hydrogen technologies ensures a robust and resilient energy system capable of addressing seasonal and daily fluctuations.
2. Community involvement: Engaging local communities through energy cooperatives and shared ownership models fosters public support and ensures equitable benefits.
3. Integration of technologies: Advanced control systems, AI, and smart grids are critical for optimizing the performance of autonomous energy systems.
4. Scalable solutions: Flexible and scalable systems, such as floating solar farms and modular hydrogen facilities, can accommodate the varying energy demands of island populations and tourists.

CONCLUSION

The transition to autonomous energy systems for islands offers a promising pathway to energy independence, environmental sustainability, and economic resilience. The case studies from Orkney, Tilos, El Hierro, and other innovative islands clearly demonstrate the viability of renewable energy systems that integrate solar, wind, storage solutions, and smart grids. These systems not only provide the potential to reduce reliance on fossil fuels but also contribute to the protection of island ecosystems and the enhancement of local economies.

However, the road to energy autonomy is not without its challenges. Islands face technical hurdles related to energy storage, grid modernization, and intermittent renewable resources. Financial constraints, regulatory complexities, and social factors also present significant obstacles. To overcome these challenges, islands must leverage policy support, access financial resources, and engage local communities throughout the process.

The EU legislative framework, including initiatives like the Clean Energy for EU Islands initiative and the Renewable Energy Directive, has provided substantial support for renewable energy projects. Local policies must align with these EU goals, creating clear incentives for investments in renewable energy systems. Additionally, the impor-

tance of energy communities and cooperatives cannot be overstated. These grassroots initiatives empower local populations, enabling them to manage and benefit from their energy systems.

The successful examples of islands like Orkney, Tilos, El Hierro, and others offer valuable lessons for Croatia's islands. Croatia's unique geographical and climatic conditions make it an ideal candidate for similar autonomous energy solutions, especially in the face of growing seasonal tourism and rising energy demand. By embracing renewable technologies such as solar, wind, and hydrogen, Croatia's islands can pave the way toward sustainable energy futures.

In conclusion, while the path to fully autonomous energy systems presents numerous challenges, the opportunities for islands to lead in renewable energy and sustainability are immense. By overcoming these barriers, islands can become global leaders in energy innovation, contributing to a greener, more resilient, and economically sustainable future.

References

- De Brouwer, A., Rakocevic L., Malgorzata, M., (2022.) *Clean energy for EU islands: Study on regulatory barriers and recommendation for clean energy transition on the islands Ireland*, (https://clean-energy-islands.ec.europa.eu/system/files/2022-22/PUBLIC_IslandSecretariatII_Study%20on%20barriers%20and%20recommendations%20IRELAND%2020221201%20clean.pdf).
- El Hierro, an example of sustainability, (<https://www.endesa.com/en/projects/all-projects/energy-transition/renewable-energies/el-hierro-renewable-sustainability>).
- European Commission, "European Hydrogen Strategy", 2020. (https://ec.europa.eu/energy/topics/energy-strategy/hydrogen_en).
- Green Greece: Tilos, the Med's First 'Energy Autonomous' Island, (<https://3seaseurope.com/green-greece-tilos-the-meds-first-energy-autonomous-island/>).
- How small island 'renewables laboratories' are leading the way in transitioning from fossil fuels, (<https://www.reuters.com/sustainability/decarbonizing-industries/how-small-island-renewables-laboratories-are-leading-way-transitioning-fossil-2024-06-19>)
- Hrvatska strategija za vodik do 2050. NN 40/2022 (https://narodne-novine.nn.hr/clanci/sluzbeni/2022_03_40_492.html).
- International Renewable Energy Agency (IRENA), "Renewable Energy Policies in a Time of Transition", (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Apr/IRENA_IEA_REN21_Policies_2018.pdf).
- Khadem, Shafiuzzaman K.; Rosado, Sebastian P. Development of community grid: review of technical issues and challenges. *IEEE Transactions on Industry Applications*, In Press, <https://doi.org/10.1109/TIA.2018.2883010>.
- Klaić, Z., Fekete, K., & Šljivac, D. (2015). Demand side load management in the distribution system with photovoltaic generation. *Tehnički vjesnik*, 22(4), 989-995. <https://doi.org/10.17559/TV-20141205092803>.
- Mariam, L., Basu, M., Conlon, M. F., (2016). Microgrid: Architecture, policy and future trends. *Renewable and Sustainable Energy Reviews*, 64, 2016, pp 477-489.

- REA Kvarner: Turning Unije (Croatia) into an energy independent island, (https://managenergy.ec.europa.eu/managenergy-discover/news/rea-kvarner-turning-unije-croatia-energy-independent-island-2023-04-20_en).
- Smart grids and meters, (https://energy.ec.europa.eu/topics/markets-and-consumers/smart-grids-and-meters_en).
- Vijayapriya, T., Kothari, D. P. (2011). Smart Grid: An Overview. *Smart Grid and Renewable Energy*, 2(4), 305-311. <https://doi.org/10.4236/sgre.2011.24035>.
- Xing, H., Cheng, H., Zhang, Y., & Pingliang, Z. (2016). Active distribution network expansion planning integrating dispersed energy storage systems. *IET Generation, Transmission & Distribution*, 10(3), 638-644. <https://doi.org/10.1049/iet-gtd.2015.0411>.
- Whitaker, C., Newmiller, J., Ropp, M., Norris, B. (2008). "Distributed photovoltaic systems design and technology requirements," SANDIA REPORT SAND2008-0946 P, Feb 2008.
- Zou, B., Wang, J., Fushuan, W. (2017). Optimal investment strategies for distributed generation in distribution networks with real option analysis. *IET Generation, Transmission & Distribution*, 11(3), 804-813. <https://doi.org/10.1049/iet-gtd.2016.0541>.

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ISLAND FISHERMEN AND FARMERS — FORGOTTEN CHARACTERS OF ONE-DIMENSIONAL ISLAND MODERNISATION

Abstract

This paper is based on the findings and experiences of two studies conducted in collaboration with nature conservation associations. The research sample included fishermen from Lastovo, Korčula, and Vis, as well as sheep owners from Cres, Krk, Lošinj, and Rab. Historically, the identity of the Kvarner islands has been closely tied to sheep farming, while the islands of Vis, Lastovo, and Korčula were defined by their fishing traditions. However, both activities have been marginalized due to modernization, particularly the rise of tourism. Despite these challenges, fishing and livestock farming have not disappeared entirely. Our paper argues that these activities are in transition and still hold significant social and economic potential. In this paper, we present selected socio-demographic characteristics of Kvarner sheep owners and Dalmatian fishermen, as well as their perspectives on the potential role of these primary activities in the broader island economy.

Key words: *fishermen, farmers, Croatian islands, modernization*

INTRODUCTION

The Croatian coast is deeply indented, and the presence of 1,244 islands adds a unique dimension to the entirety of Croatian land. This represents an invaluable natural resource and a blessing. Therefore, it is crucial for society to manage this space and capital effectively. In recent decades, Croatian society has undergone numerous transformations, including deagrarianization, deruralization, urbanization, industrialization, the collapse of industry, and the subsequent rise of the service sector (Perkov, 2020). These processes have affected all regions of Croatia, with their impact on the islands being further intensified by unfavorable social and economic trends (Tonković & Gambrožić, 2014).

According to Defilippis (2001) there are three fundamental factors that define an island: its natural environment, the surrounding sea, and the people — the islanders — who inhabit it. There is a certain romance in islands and island life. When seeking a “specific and meaningful description of the term ‘island’, we are struck by the simplicity of the definition: ‘an island is a piece of land surrounded by water.’ “However, if we explore definitions beyond the geographical context, we find that many use the island as a metaphor for the ideal, the enchanting, and the metaphysical. This is why many poets, philosophers, and utopians envision happiness, a harmonious life, and an ideal state on an imaginary island — almost as if it were a secluded part of the real world where everything becomes attainable, harmonious, and beautiful.” (Šimunović, 1994, p. 451).

Our research on this topic began in an unusual, inductive manner. We focused on very specific and narrow groups of islanders, examining their social conditions and challenges. Namely, the two research studies discussed in this paper were conducted in collaboration with the nature conservation associations *Sunce* and *Biom*. Both projects focused on birds, particularly those inhabiting marine or coastal areas. Although protected, beautiful, and rare, birds are not typically the primary focus of sociology and sociologists. Our role, therefore, was to highlight the social context — specifically, the practices of local communities that may either support or threaten bird conservation. Through the lens of avian conservation, we were led to explore two significant island groups that are often overlooked in scientific research: fishermen and shepherds.

However, as our research progressed, we gradually moved toward a broader sociological analysis of both the Croatian islands and Croatian society as a whole. Modernization in Croatia occurred later than in other countries within our cultural sphere. The mass abandonment of primary industries began in the 1960s.

“From ancient times to the present, the economies of the Adriatic and the small and medium-sized islands of the Mediterranean have experienced economic upswings that are often more rapid than those on the mainland, but also downswings that tend to be more severe and, at times, catastrophic. These fluctuations can be attributed to a lesser extent to occasional changes in the islands’ natural conditions” (Starc, 1992, p. 117).

Traditional island occupations have always been shaped by the environment, geography, and climate. The main economic activities of islanders have traditionally included fishing, viticulture, olive growing, and animal husbandry. The issues facing island society and economy are not new to Croatian scholars or sociologists, although this topic is relatively underrepresented in sociological research. Rogić (1994), for example, identifies five key development constraints that significantly impact the transformation potential of island communities and the management of islands. These are: the peripheral position of the islands within the territorial and functional organization of Croatian society; the close dependence of the quality of natural resources on the state of

the social system; the distinct local cultural pattern of *campanilismo*; the predominance of social actors who lack the capacity for independent action; and the legacy of rentier modernization (Rogić, 1994, p. 437).

CASE STUDY 1: FISHERMEN FROM LASTOVO, KORČULA, AND VIS ISLANDS

The first study explored the relationship between fishermen and three specific offshore bird species found in the central and southern Adriatic, particularly around the islands of Lastovo, Korčula, and Vis. Komiža on Vis, in particular, has a long-standing fishing tradition. Its fishermen have mastered the craft to such an extent that they would embark on multi-day expeditions to remote, uninhabited, or sparsely inhabited Croatian islets such as Sveti Andrija, Biševo, Jabuka, Brusnik, and Palagruža (Božanić, 2020). By the late 19th and early 20th centuries, Vis was home to nine fish processing factories (Vidaček Filipec, 2022).

Given Croatia's extensive coastline, numerous islands, and the historical and current significance of the sea to the identity of local communities, one would expect more contemporary studies on fishermen. However, most existing studies primarily approach fishermen from linguistic, historical, and ethnological perspectives, often portraying them as a vanishing group. These studies generally focus on older fishermen who recount past fishing methods and community life before and after World War II. While these nostalgic accounts are valuable, they tend to emphasize the past. Today's fishing practices are different, but fishing has not disappeared. As Cocco writes in his programmatic text on maritime sociology: "Actually, the somewhat blurred socio-professional category of the 'people of the sea' should be the first strategic object of investigation for its theoretical implications in maritime sociology" (2013, p. 14-15).¹

Our research, conducted as part of a project on the interaction between fishermen and seabirds, involved 292² fishermen. The sample was narrowed to those using specific fishing methods — traps, hooks, longlines, and single or triple nets — since these techniques are more likely to result in accidental bird catches. These fishermen, often referred to as "small fishermen" due to the size of their boats (typically no larger than 7-9 meters), usually fish alone. Participants ranged from 29 to 75 years old (average age 46) and included both professional and recreational fishermen. Socioeconomic data indicated that fishermen generally saw themselves as positioned in the middle of Croa-

¹ This category of "people of the sea" would also include seafarers, who share a similar fate with fishermen. Although they are a relatively visible and well-recognized social group along the Croatian Adriatic coast, they have been inadequately studied in scientific research.

² The full name of the project is LIFE Artina — "Seabird Conservation Network in the Adriatic" (LIFE17 NAT/HR/000594) and was co-financed by the LIFE Programme of the European Union. The survey with fishermen was undertaken in 2020: <https://www.lifeartina.eu/en/research-on-the-interaction-of-fishermen-and-seabirds>.

tia's socioeconomic ladder and considered their income to be average. This supports the claim made by Čaldarović, who observes that “there might be an excessive emphasis in society on the poor position of fishermen, who earn little, live difficult lives, and are ‘left aside’ by society” (Čaldarović et al., 2007, p. 12). However, most respondents predicted a decline in the number of fishermen over the next five years, citing labor shortages, bureaucratic hurdles, and market instability (including the black market) as primary reasons.

CASE STUDY 2: SHEEP FARMERS FROM CRES, KRK, AND RAB ISLANDS

The second study we conducted for the nature conservation organization focused on sheep farmers on the Kvarner islands and their connection to griffon vultures. Since the griffon vulture is a scavenger that primarily feeds on dead sheep, the decline in sheep farming on the northern Croatian islands poses a significant threat to the survival of the vulture population. Our study aimed to uncover the social reasons behind the decreasing number of sheep farmers and sheep.

On the islands of Krk, Cres, and Rab, where the research was conducted, sheep farming is a longstanding tradition that has even shaped the landscape, with kilometers of dry-stone walls and pastures. Muraj, writing about the self-sufficiency of Cres islanders, emphasizes: “This spatial specificity no doubt influenced the consciousness of its inhabitants, making them rely to the maximum on themselves and their resources” (1995, p. 172). Sheep were used for almost everything — if not for food or clothing, then for crafting musical instruments. However, the once-large numbers of sheep and shepherds have dwindled significantly today.

The reasons behind the decline in interest in livestock farming are numerous and complex. Primarily, this decline is part of a broader trend not unique to the Croatian islands but observed in many rural regions across Croatia. The modernization process began in the late 19th century but did not immediately affect the islands. Industrialization and social modernization on the mainland encouraged islanders to migrate and seek employment outside the primary sector. These processes were further influenced by tourism on the islands, which took over the land and workforce needed for agriculture, while also opening up new employment opportunities. Livestock farming and agriculture came to be seen either as supplementary sources of income alongside paid work or as a more difficult way of earning a living for those with fewer alternatives or less education. The introduction of non-native wild animals — such as fallow deer and wild boar — and, more recently, the presence of jackals on the island of Krk, have further destabilized the already diminished number of livestock farmers.

We interviewed 24 sheep farm owners. Based on the collected data we created a threefold typology of shepherds. The first and biggest group consists of shepherds who are also workers or retirees. For them, animal husbandry is an additional financial and

physical activity — these are classical two income households. The second group includes shepherds who combine animal husbandry with other farming activities, such as professional winemaking, olive growing. These farmers generate income by integrating livestock farming with the cultivation of vines and olives. This group differs from the first in that there is no employment beside agriculture, only in some cases tourism may also be incorporated. The third and smallest group is composed of professional shepherds who focus exclusively on livestock breeding. These large-scale sheep farmers (large by Croatian coastal standards, though still considered small to medium-sized within the European Union) face significant business risks, including potential diseases and deaths of sheep, unfavorable market conditions, and possible legal changes. They typically manage a large number of livestock (an average of 437 adult sheep) and often use private or state-leased land.

Most sheep farm owners in Croatia rely heavily on government subsidies. Lamb, particularly lamb roasted on a spit, is a traditional dish and remains highly valued and sought after. Lamb is a symbol of family celebrations in Croatia and often serves as the highlight of a meal. Despite the significant effort required to procure and roast it whole (as is traditionally prepared) and its high cost, lamb is still sought after. Baptisms, first communions, confirmations, and weddings rarely take place without lamb, whether Croatian, or imported. If demand remains significant, why are there fewer and fewer farmers on the islands of Krk, Cres, and Rab? The reasons for decline in sheep farming are both social and ecological. Ecologically, the increasing number of non-native wildlife species, such as wild boars and jackals, is gradually affecting the islands of Krk and Cres. Livestock that were once left to graze freely in the fields are now suffering significant losses. As a result, farming has become much more demanding. Kilometers of pastures are being fenced with high wire, investments have risen, and livestock losses are substantial.

However, the social factors are perhaps even more significant. The number of young people willing to care for a flock of sheep is steadily declining. Paradoxically, tourism, which drives the demand for lamb, also weakens production, as young people are more often employed in the tourism sector. This shift deprives agriculture of the labor force it desperately needs (Marinović Golubić, 2024). Despite these challenges, however, the deeply rooted tradition of extensive sheep farming on the Kvarner islands has managed to endure.

SIMILARITIES AND OVERLAPS OF FISHERMEN AND SHEPHERDS ON CROATIAN ISLANDS

There are three key areas of overlap between fishermen and shepherds on Croatian islands: tradition, lifestyle, and financial considerations.

Tradition

Both occupations are predominantly male, though women farmers are also present. These activities have been integral to the ecological and social systems of the islands for centuries. Knowledge of sheep farming, as well as fishing, is passed down through generations. Initiation into these professions often begins with helping and observing parents, grandparents, and great-grandparents. Understanding the unwritten rules — such as the locations of fishing spots, pastures, roads, and watering places — involves the accumulation of generational knowledge.

Lifestyle

Both professions follow the rhythms of nature, animals, and fish, adhering to a ‘law of silence’ — they rarely disclose how many lambs were born in a given year or how many fish were caught the previous night. These occupations involve physically demanding work but offer an escape from office life, noise, and crowds. Both are primarily family businesses.

Financial Considerations

Like fishermen, sheep farmers tend to rate their standard of living as average or better than the national average, with none reporting living below average. They perceive their economic standard as combination of hard work, agriculture, tourism, and Sheep farming, whether pursued as an additional activity, a recreational pursuit, or as a primary economic activity, can be financially rewarding if challenges — such as dealing with predators, accessing markets for lamb meat, and ensuring sufficient water and pastures — are overcome. Government subsidies also support sheep farming.

However, the life of a shepherd is tough. There are no office jobs, the workday begins at 5 a.m., and shepherds must tend to their sheep in both winter and summer, drive on rough roads, contend with sharp stones, worry about sheep near roads, pay compensation for car accidents involving sheep, shear them, and search for lost animals. Yet for those who embrace this lifestyle, it offers great satisfaction and financial rewards. For example, a flock of 200 sheep can produce almost as many lambs annually.

Similarly, the same can be said for fishermen. Given the challenging conditions at sea, long-term perseverance in fishing is clearly an indication of a unique form of dedication — a way of life, or rather, a coexistence with the sea, which for many represents more than just a profession.

CONCLUSIONS

Despite its challenges, the life of a sheep farmer or fisherman offers personal freedom and the opportunity to make a living. There is a need to work on popularizing these primary activities and dispelling the stigma that labels shepherds and fishermen as uneducated, unambitious islanders. For us as researchers, these two studies, conducted in

collaboration with nature conservation organizations, have expanded our understanding of field research. They prompted a self-reflection on what constitutes sociological fieldwork and what constitutes socio-economic resource. The field was not just the sea and its depths, or vast pastures devoid of buildings, but the individuals and communities who imbue these resources with value and significance through their daily practices.

In addition, this topic invites a deeper reflection on the true sustainability of our way of life. Should our society abandon traditional activities that still ensure healthy food, a healthy lifestyle, and economically viable livelihoods? Why are we so proud of rejecting what nature has provided us? What can be done to help fishermen and shepherds continue their work with dignity and pride? Sustainability and tourism are key, intertwined priorities for Croatia, and it seems that these traditional activities best bridge the two, illustrating a potential path forward.

The Croatian state recognizes the importance of its islands, as demonstrated by the special Law on Islands, the ambitious National Island Development Plan 2021—2027, and the establishment of the “Croatian Island Product” category in 2007. This initiative aims to support island producers by encouraging the production of indigenous, high-quality products while preserving the islands’ traditions and identity. We hope that this recognition will lead to additional concrete measures that improve the quality of life for fishermen and shepherds on the Croatian islands and contribute to the overall health and self-sustainability of Croatian society.

References

- Božanić, J. (2022.). The stormy subarchipelago: The fishermen of the open-sea Croatian islands. In N. Starc (Ed.), *The Notion of Near Islands: The Croatian Archipelago* (pp. 199-241). Rowman & Littlefield.
- Cocco, E. (2013). Theoretical implications of maritime sociology. *Roczniki Socjologii Morskiej*, XXII, 5-18.
- Čaldarović, O., et. al. (2007). *Sociological study on preferences in consumption of fish and other fishery products of the population of Republic of Croatia* [Sociološka studija o preferencijama u ishrani ribom i drugim proizvodima ribarstva stanovništva Republike Hrvatske]. Sveučilište u Zagrebu, Filozofski fakultet, Odsjek za sociologiju.
- Defilippis, J. (2001). O gospodarskom razvoju hrvatskih otoka (On the economic development of the Croatian islands). *Sociologija i prostor*, 39(1/4 (151/154)), 83-96. Retrieved from <https://hrcak.srce.hr/100231>.
- Defilippis, J. (2002). Koncept i mogućnosti razvitka otočne poljoprivrede (The concept and possibilities of the development of island agriculture). *Sociologija i prostor*, 40(3/4 (157/158)), 513-525. Retrieved from <https://hrcak.srce.hr/99590>.
- Jurkota Rebrović, M. (2009). *Tradicionalno ovčarstvo otoka Cresa: Prilog istraživanju* (Traditional sheep breeding on the island of Cres: A contribution to research). Centar za održivi razvoj — Ekopark Pernat, Lubenice. Retrieved from <http://muzejovcarstva.org/wp-content/uploads/2017/09/ovcarstvo.pdf>.

- Jurkota Rebrović, M. (2017). Griffon vultures and the inhabitants of the island of Cres: Co-habitation of humans, sheep, and griffon vultures. *Etnološka istraživanja*, 22, 61-74. Retrieved from <https://hrcak.srce.hr/index.php/en/clanak/291790>.
- Karajić, N., & Čaldarović, O. (1994). Vrijeme i klima kao dimenzije otočkog života (Weather and climate as dimensions of island life). *Revija za sociologiju*, 25(1-2), 63-77. Retrieved from <https://hrcak.srce.hr/154877>.
- Marinović Golubić, M. (2024). *Long term study to include motivations and drivers for shepherds to continue or stop shepherding*. Biom Association.
- Muraj, A. (1995). The ecological awareness of the villagers of Cres. *Narodna umjetnost*, 32(1), 182. Retrieved from <https://hrcak.srce.hr/48662>.
- Perkov, I. (2020). Društvo kojeg više nema (A society that no longer exists). In D. Perković, *Govor Burnjega i Južnoga Primoštena* (pp. 11-12). Split: Naklada Bošković.
- Rogić, I. (1994). Hrvatski otoci: Sjećanje na pet razvojnih ograničenja (Croatian islands: Remembering five developmental limitations). *Društvena istraživanja*, 3(4-5 (12-13)), 437-449. Retrieved from <https://hrcak.srce.hr/32909>.
- Starč, N. (1992). Otoci, regije i razvojna politika. *Društvena istraživanja*, 1(1 (1)), 115-126. Retrieved from <https://hrcak.srce.hr/32585>.
- Starč, N. (1994). Uz temu — Hrvatski otoci (With the topic — Croatian islands). *Društvena istraživanja*, 3(4-5 (12-13)), 365-368. Retrieved from <https://hrcak.srce.hr/32903>.
- Šimunović, I. (1994). Otoci u svjetlu socio-ekonomskih kretanja (Islands in the light of socio-economic trends). *Društvena istraživanja*, 3(4-5 (12-13)), 451-466. Retrieved from <https://hrcak.srce.hr/32910>.
- Vidaček Filipec, S. (2022). Development of fish processing in Croatia. *Croatian Technical Encyclopedia. Portal of Croatian Technical Heritage*. Retrieved from <https://tehnika.lzmk.hr/preradba-ribe>.

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MYTH OR REALITY OF POWER ENERGY SUSTAINABILITY OF THE MEDITERRANEAN ISLANDS: CASE STUDY OF VIS ISLAND

Abstract

Energy sustainability is a critical challenge for Mediterranean islands, which face unique obstacles due to geographic isolation, seasonal energy demand fluctuations, and dependence on fossil fuels. Vis Island, located in Croatia's Adriatic Sea, exemplifies the complexities of transitioning to a renewable energy-based system. With a 3.5 MW solar power plant, a 1.5 MWh battery storage system, and diesel generators, the island operates on a hybrid energy model that reflects both progress and inefficiencies. This paper examines the current energy infrastructure of Vis Island, highlighting challenges such as inadequate storage capacity, grid stability issues, and high financial barriers. Comparative insights from Madeira's successful hybrid energy system provide actionable strategies for Vis, including diversifying renewable sources, expanding energy storage, and implementing smart grid technologies. The paper also emphasizes the importance of policy support, community engagement, and workforce development in achieving energy sustainability. By addressing these challenges, Vis Island has the potential to transition to a resilient and sustainable energy system, serving as a model for other Mediterranean islands. The findings underscore the broader implications of renewable energy integration for isolated regions and contribute to global efforts in achieving carbon neutrality and energy independence.

Key words: power system, renewable energy source, solar energy, wind turbine, sustainability

INTRODUCTION

Energy sustainability has become a critical goal in global efforts to combat climate change and reduce dependence on fossil fuels. Mediterranean islands, with their abundant renewable energy resources, present a unique opportunity to lead this transition. However, achieving energy sustainability in these regions is not without challenges. Geographic isolation, limited infrastructure, and the seasonal nature of energy demand driven by tourism complicate efforts to build resilient and reliable energy systems.

Vis Island, located in the Adriatic Sea, serves as a microcosm of these challenges and opportunities. With its pristine environment and vibrant tourism-driven economy, Vis exemplifies the delicate balance between development and conservation. This pa-

per explores the energy infrastructure of Vis, identifies its sustainability challenges, and proposes actionable solutions. By understanding Vis' journey, other Mediterranean islands can gain insights into achieving energy independence and reducing their environmental impact.

ENERGY INFRASTRUCTURE OF VIS ISLAND

Vis Island operates on a hybrid energy system that combines renewable energy sources with traditional connection to shore power systems. Recent advancements have improved its energy infrastructure, but significant challenges remain.

Key Components of Vis Island's Energy System

1. Solar Power Plant:

— A 3.5 MW solar power plant serves as the island's primary renewable energy source, utilizing its ample solar potential.

2. Energy Storage:

— A 1.5 MWh battery system provides some level of grid stability, storing excess solar energy for later use.

Despite these components, the energy system on Vis remains constrained by inefficiencies in energy storage and conversion.

Energy Flow on Vis Island

The island's annual energy flow reveals inefficiencies in the integration of renewable energy:

- Energy Produced by Solar PV: 14,998 kWh
- Energy Converted and Stored: 13,802 kWh
- Energy Used from Solar Sources: 7,912 kWh

CHALLENGES TO ENERGY SUSTAINABILITY

Vis Island's energy sustainability faces technical, economic, and social challenges that must be addressed to realize its potential as a sustainable energy model.

1. Seasonal Demand Fluctuations

Tourism significantly impacts the island's energy demand, with peak loads during the summer months. Seasonal variations can increase energy consumption tenfold compared to the off-season. The current infrastructure struggles to accommodate these sharp fluctuations, resulting in over-reliance on diesel generators during peak periods (University North, 2024).

2. Insufficient Storage Capacity

The 1.5 MWh battery system on Vis is inadequate for addressing seasonal or prolonged periods of low solar energy production. Advanced storage solutions are required

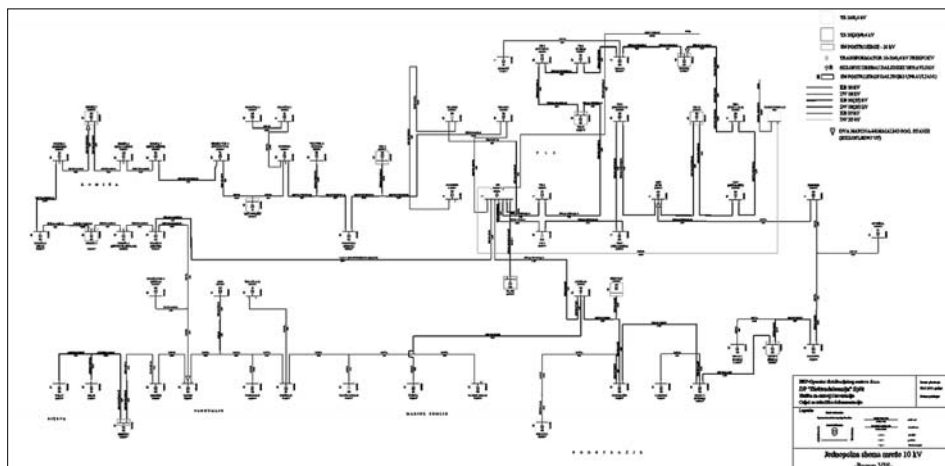


Figure 1 — Vis island power system

to enable the island to harness its renewable energy resources more effectively, especially during winter months when sunlight is scarce (REN21, 2022).

3. Renewable Energy Integration Challenges

Solar energy, while abundant, is inherently intermittent. Without advanced grid management systems, the integration of high percentages of renewable energy can destabilize the grid. Issues such as voltage fluctuations, frequency instability, and power outages are common without real-time monitoring and control technologies.

4. High Costs of Transition

The initial costs of implementing renewable energy systems, upgrading storage, and integrating smart grid technologies are significant. For small islands like Vis, these financial barriers often delay the transition to sustainable energy systems (European Commission, 2021).

5. Environmental and Social Constraints

While renewable energy systems have a smaller carbon footprint than fossil fuels, their installation can disrupt local ecosystems. Additionally, balancing the energy needs of the island's residents and its tourism industry creates social and logistical challenges.

COMPARATIVE INSIGHTS: MADEIRA'S ENERGY SYSTEM

The Portuguese island of Madeira offers valuable insights into managing energy systems on isolated islands. Madeira has successfully adopted a hybrid energy approach, combining hydroelectric and gas power with renewable energy sources to ensure grid stability and resilience.

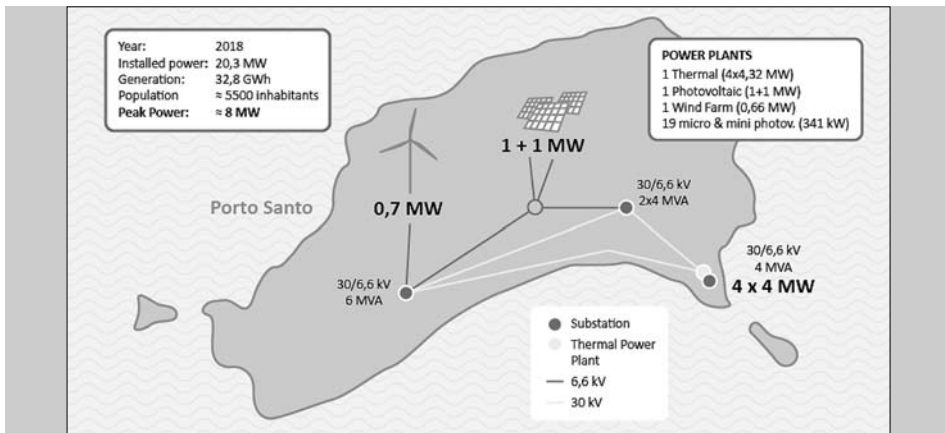


Figure 2 — Comparative Hybrid Energy System.

Source: <https://hybridpowersystems.org/Madeira2022/power-system-madeira-porto-santo>.

Strategies Implemented in Madeira

1. Hybrid Energy Systems:
 - Madeira uses a mix of hydro, gas, and solar energy, reducing reliance on any single source. This approach has proven effective in stabilizing the grid during periods of high demand.
2. Energy Storage and Diversification:
 - The island leverages pumped hydro storage to balance energy supply and demand.
3. Policy Frameworks:
 - Robust government policies incentivize renewable energy investments and ensure the long-term sustainability of energy projects.

Figure 2 highlights the advantages of Madeira's hybrid energy system, which Vis could adopt to address its own grid stability challenges.

Applying Madeira's Model to Vis

Vis Island can draw lessons from Madeira by diversifying its energy mix. For example:

- Incorporating Wind and Wave Energy: These sources could complement solar energy, reducing dependence on diesel generators.
- Investing in Pumped Hydro or Hydrogen Storage: These technologies could provide long-term solutions for energy storage, enabling the island to maintain energy independence during periods of low solar production.

PROPOSED SOLUTIONS FOR VIS ISLAND

Achieving energy sustainability on Vis Island will require a multipronged approach, focusing on technological innovation, policy reforms, and community engagement.

1. Expanding Renewable Energy Sources

While solar energy is currently the primary renewable resource on Vis, diversifying into wind and wave energy could significantly enhance the island's energy mix. These additional sources would reduce dependency on diesel generators and provide greater stability to the grid (REN21, 2022).

2. Advancing Energy Storage Technology

Improving energy storage capacity is critical to bridging the gap between production and consumption. Potential solutions include:

Flow Batteries:

- These offer long lifespans and scalability, making them ideal for island energy systems.

Hydrogen Storage:

- Excess solar energy can be converted into hydrogen, stored, and later used for electricity generation.

Pumped Hydro Storage:

- While geographically challenging, this solution could offer large-scale storage and grid stabilization.

3. Implementing Smart Grid Technologies

Smart grids equipped with automated controls and real-time monitoring systems can dynamically balance supply and demand. By predicting energy production and consumption patterns, smart grids optimize resource utilization and prevent power outages (IEA, 2022).

4. Policy and Financial Incentives

Policy interventions should encourage investment in renewable energy projects through tax breaks, grants, and subsidies. Public-private partnerships could help share the financial burden and accelerate infrastructure development.

5. Promoting Energy Efficiency

Educating residents and businesses about energy conservation can reduce overall consumption. Simple measures like installing energy-efficient appliances and implementing demand-response programs can have a significant impact on reducing energy waste.

6. Building Local Capacity

Developing a skilled local workforce capable of maintaining and optimizing renewable energy systems is essential. Training programs can empower residents to contribute to the island's energy transition while creating job opportunities (European Commission, 2021).

BROADER IMPLICATIONS FOR MEDITERRANEAN ISLANDS

The challenges and solutions discussed for Vis are not unique. Many Mediterranean islands face similar obstacles due to their isolation, reliance on tourism, and environmental vulnerabilities.

Scalable Solutions for Other Islands

The strategies employed by Vis could serve as a blueprint for other islands. By tailoring these solutions to local conditions, islands can achieve energy independence and reduce their reliance on imported fossil fuels.

Global Significance

As small, isolated ecosystems, Mediterranean islands can become testbeds for innovative energy solutions. Success in these regions could pave the way for global adoption of renewable technologies in similar contexts.

Future Vision for Vis Island

Vis Island's transition to energy sustainability requires long-term planning and collaboration among stakeholders. With the right investments in technology, policy, and community engagement, Vis could become a model for renewable energy integration on islands worldwide.

Environmental Benefits

- Reduced greenhouse gas emissions.
- Preservation of the island's natural beauty and biodiversity.

Economic Benefits

- Lower energy costs over time due to reduced reliance on fossil fuels.
- Job creation in renewable energy sectors.

Social Benefits

- Improved energy security and resilience against global energy price fluctuations.
- Enhanced quality of life for residents and tourists.

CONCLUSION

The case of Vis Island highlights the complexities and opportunities in transitioning to renewable energy systems in isolated environments. While challenges such as seasonal demand fluctuations and storage limitations persist, innovative solutions and international collaboration offer a pathway to sustainability. By learning from comparative models like Madeira and leveraging advances in technology, Vis Island can serve as a beacon of sustainability for Mediterranean islands.

This case study underscores the importance of tailored solutions, robust policies, and community engagement in achieving energy independence. As the world moves toward a cleaner, greener future, Vis Island has the potential to lead by example.

References

- International Energy Agency (IEA). (2022). *Renewable energy integration in isolated grids*.
- European Commission. (2021). *Sustainable energy for Mediterranean islands: Policy frameworks and funding mechanisms*.
- Madeira Energy Agency. (2020). *Hybrid systems for grid stability: A case study from Portugal*.
- Renewable Energy Policy Network for the 21st Century (REN21). (2022). *Global Status Report on Renewables*.

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POWER SUPPLY FOR AN ISLAND HOUSE FROM RENEWABLE ENERGY SOURCES

Abstract

Renewable energy sources are increasingly used for electricity supply today, especially in remote locations where the grid is not available or due to environmental awareness. This paper analyses the cost-effectiveness of supplying households with electricity using renewable energy sources. Three variants were considered, a stand-alone solar power plant, a hybrid combination of a solar power plant and a petrol generator, and a hybrid combination of a solar power plant and a wind turbine. The goal is to find the most cost-effective solution for supplying households with electricity at a specific location on the island, taking into account the initial investment, but also the lifespan of photovoltaic modules, wind turbines, batteries and generators. Finally, with the presented calculation results, some recommendations are given as to which variant could be optimal depending on the facility using conditions.

Key words: electricity production, island house, renewable energy sources, solar power plant, wind turbine

INTRODUCTION

Due to the high prices of electricity today, the use of renewable energy sources (RES) is becoming increasingly relevant, especially for smaller family homes in remote locations. Solar energy, as a form of clean, independent, renewable energy, has the greatest technically exploitable potential compared to other types of RES. Therefore, it is often used for water heating and/or electricity generation in an on-grid or off-grid system. Photovoltaic modules are used to obtain electricity from solar energy, and the generated electricity is converted by inverters (Power Electronics Devices) into a form suitable for sending to the grid or for use in household appliances.

The use of RES on islands is often the subject of scientific articles, such as the island of Crete in Greece (Katsaprakakis et al., 2022) or Ometepe in Nicaragua (Meza et al., 2019). The possibilities of integrating solar power plants into mini- and microgrids

are frequently considered, such as Eras-Almeida et al. (2019), Rendroyoko et al. (2024) or Srpak et al. (2014).

In this research, several variants of electricity production for the energy supply of an average household with a consumption of 6.5 kW were analysed. The observation of the cost-effectiveness of the island power system is carried out by a student of the Electrical Engineering Department of the University of North, as a practical part of his bachelor's thesis, under the supervision of his professors.

METHODOLOGY FOR SELECTING THE POWER SUPPLY SOURCES

To properly select a method for supplying energy to a facility, the energy needs are first defined. While the equipment and the kind of production line have a crucial role in industrial facilities, the comfort of living in residential facilities is paramount. The next step is to select the equipment that can be used for power supply. Finally, several possible scenarios or combinations of the proposed equipment are considered and the optimal solution is selected.

Defining the requirements of the powered object

The methodology will be tested on a pilot system of island power supply from renewable sources of an existing cottage built on the island of Krk, which does not have the possibility of connecting to the electricity grid.

The main consumers located in this facility are typical for a smaller family house:

- six energy-saving lighting fixtures, 25 W each
- 2000 W air conditioner
- 50 W television
- 1500 W electric water heater
- 500 W refrigerator.

Equipment for the implementation of power supply from RES

Due to the distance from the grid, the construction of a solar power plant as the main power source is planned. Such a solar system is called an island or off-grid power system. The basic elements required for the construction of an independent solar power plant are:

- photovoltaic modules,
- batteries
- PV charge controller
- inverter

The conversion of solar energy directly into electricity is carried out using photovoltaic modules consisting of several interconnected photovoltaic cells. The most commonly used are Polycrystalline (more efficient) or Monocrystalline (cheaper) modules as in Figure 1.

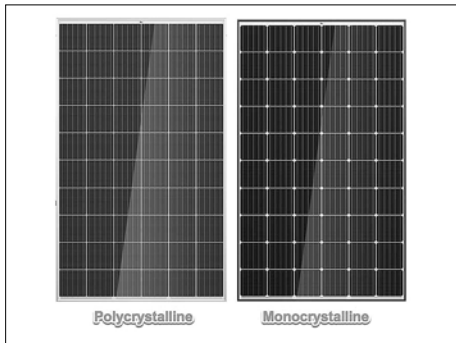


Figure 1 — Photovoltaic modules.

Source: https://libguides.wpi.edu/citingources/apa_examples.



Figure 2 — Solar battery.

Source: <https://www.solarino.hr/katalog/proizvod/CFE5120-S/cfe-lifepo4-baterija-256v-200ah-5kwh>.



Figure 3 — PV charge controller.

Source: <https://www.solarino.hr/katalog/proizvod/VICREG10/regulator-victtron-energy-10a>.



Figure 4 — Inverter / charger.

Source: <https://www.victtronenergy.com/inverters-chargers/multiplus-12v-24v-48v-800va-3kva>.

To supply a household with electricity throughout the day, solar batteries (Figure 2) are needed to store excess energy that is not consumed immediately.

The PV charge controller (Figure 3), placed between the photovoltaic modules and the batteries converts the produced variable voltage into a precisely controlled voltage used to charge the batteries, protecting them from overcharging and overdischarging.

If the solar power plant sends energy to the grid, grid-controlled inverters are used, while for isolated objects in island operation, an autonomous inverter/charger must be used as shown on Figure 4.

Solar energy can also be used to heat water through solar collectors placed on the roof of the building (Figure 5). Water heated in this way can be used for sanitary purposes or for preheating in the building's heating system in winter.



Figure 5 — Solar collector.

Source: <https://www.solarno.hr/katalog/proizvod/0307/vakumski-kolektor-35c-ijevi-i-300lit-bojl>.



Figure 6 — Wind turbine.

Source: <https://www.fruugonorge.com/galaxy-gang-6-blades-windmills-wind-turbine-generator-free-energy-china-factory-3000w-12v-24v-48v-with-mppt-charge-controller/p-238826917-512471316?language=en>.



Figure 7 — Petrol generator.

Source: <https://www.entrada.hr/agregat-flash-28-be-pro-7-s5-p611>.

In addition to solar energy, wind energy can also be used on islands to produce electricity. Therefore, the Galaxy Gang 3000 wind turbine, mounted on a 10-meter-high tower, was selected for this facility. The length of its blades is 580 mm, the rotor diameter is 1.2 m, as shown in Figure 6.

As a backup option for a secure supply, when no renewable source is available (and the batteries are discharged), it is possible to envisage a generator powered by an internal combustion engine. Although this is not an environmentally friendly solution, it is acceptable if it will be used infrequently and for a short time. The petrol genera-

tor chosen for this facility is the Lombardini flash 28 BE, with more powerful performance and reliability, shown in Figure 7.

SELECTION OF SOURCE VARIANTS FOR POWERING THE FACILITY

As the first option for power supply, only the installation of an off-grid solar power plant, with batteries as a backup, can be envisaged. According to the calculated average consumption and expected production at the facility's location, a solar power plant of 6.5 kW was selected, i.e., the installation of 16 photovoltaic modules, each with a power of 410 W.

An alternative is a hybrid combination of a solar power plant and a diesel or petrol generator, which is also often used. Then the power of the solar power plant can be reduced to 3 kW, and thus the initial investment costs. Since the power of the solar power plant is insufficient for the required monthly electricity production, a generator is used as a supplement (also with a power of 3 kW).

The third variant analysed is a hybrid combination of a solar power plant and a wind turbine. Now the electricity produced by the wind turbine compensates the reduced power of the solar power plant, and the generator is for reserve.

RESULTS

The total daily energy consumption is calculated assuming that the lighting fixtures and refrigerator operate for six hours a day, the air conditioner for two hours, the television for four hours, and the electric water heater for one hour.

$$(6 \times 25 \text{ W}) \times 6 \text{ h} + 2000 \text{ W} \times 2 \text{ h} + 50 \text{ W} \times 4 \text{ h} + 1500 \text{ W} \times 1 \text{ h} + 500 \text{ W} \times 6 \text{ h} = 9600 \text{ Wh}$$

Since the total daily energy-consumption varies due to occasional use of some appliances for longer than the above, it is recommended to calculate a reserve of 25%. Then, at least 360 kWh should be provided per month. With selection of a 6.5 kW solar power plant, even in winter months (less sunshine), the production of electricity is sufficient (almost 45% more than needed), as shown on Figure 8.

If a solar power plant of reduced power (only 3 kW) is installed, the average daily production of electricity in some months is even higher than necessary (Figure 9), but not throughout the whole year. The generator is expected to be used for four months of the year to compensate for electricity production.

In the variant of installing a solar power plant, a wind turbine and an aggregate, the solar power plant of the same power (3 kW) is envisaged, and the production per month is the same as for the previous variant. The investment costs are higher, but this solution is more environmentally friendly, because in coastal areas and on islands the wind has higher speeds in the colder months and when it is cloudy. Therefore, the production of electricity from the wind is then higher, so in this variant, the operation of the aggregate is rarely required.

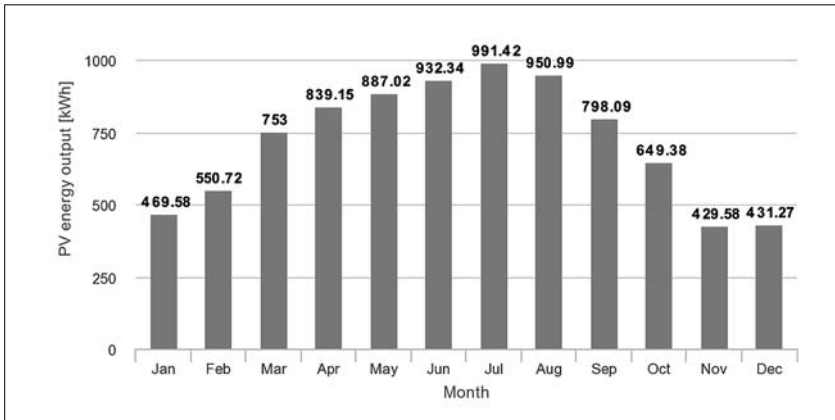


Figure 8 — Electricity production by month - only solar power plant, 6.5 kW.
Source: Novoselec, 2023.

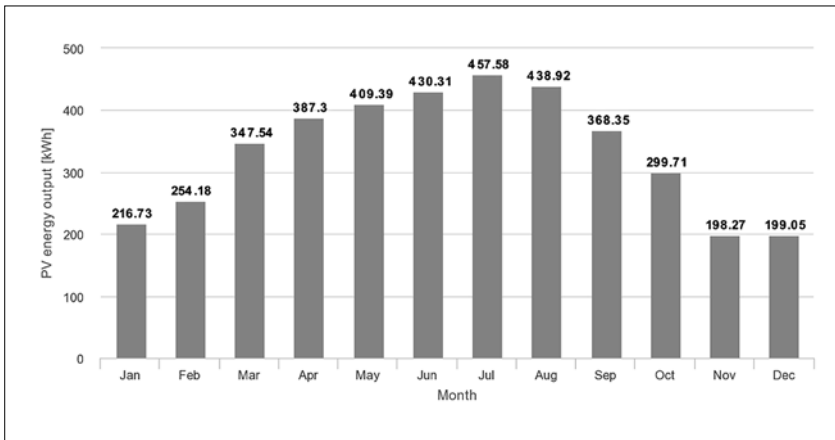


Figure 9 — Electricity production by month — reduced solar power plant (3 kW), supplemented by aggregate. Source: Novoselec, 2023.

COST-EFFECTIVENESS ANALYSIS OF A PILOT ISLAND POWER SUPPLY SYSTEM

According to the detailed calculation of the costs of purchasing and installing equipment, the cost of fuel consumption and the cost of supplying electricity from the grid, described in Novoselec (2023), a cost-effectiveness analysis is conducted here.

An investment in an off-grid solar power plant with sufficient power to cover needs throughout the year (6.5 kW) would cost close to ten thousand euros (prices in Croatia in 2023). Comparing the investment with the cost that would have to be paid for supplying electricity from the grid, the return on investment would be around 18 years.

An alternative is a hybrid combination of a solar power plant and a diesel or petrol generator, which would initially cost around eight thousand euros, but due to significant annual fuel costs, the return on investment would be in 22 years. The third analysed variant is a hybrid combination of a solar power plant and a wind turbine, which would cost around 7.5 thousand euros, i.e., the return on investment would be 15 years. If the generator is purchased as a reserve, the investment increases, but with a generator of lower power and lower fuel consumption (only for exceptional situations) this may be an acceptable option.

CONCLUSION

Despite the savings on the initial investment for installing a lower-power solar power plant when using a generator, this combination is not recommended for year-round use due to the negative environmental impact and high fuel costs. This is an acceptable solution if the house is used mostly during the warm months, so that with sufficient storage in batteries for night hours, the generator is rarely needed. The combination of a solar power plant with a wind turbine is suitable for islands because the wind speeds are highest in the months with the least sunshine. In the future, savings in electricity consumption due to the installation of solar collectors for hot water could also be investigated. Furthermore, the research on the feedback on the comfort of living from users who have installed the variants considered here can be carried out in the field.

References

- Eras-Almeida, A.A., & Egido-Aguilera, M.A. (2019). Hybrid renewable mini-grids on non-interconnected small islands: Review of case studies. *Renewable and Sustainable Energy Reviews*, 116, 109417. <https://doi.org/10.1016/j.rser.2019.109417>
- Katsaprakakis, D. A., Michopoulos, A., Skoulou, V., Dakanali, E., Maragkaki, A., Pappa, S., Antonakakis, I., Christakis, D., & Condaxakis, C. (2022). A Multidisciplinary Approach for an Effective and Rational Energy Transition in Crete Island, Greece. *Energies*, 15(9), 3010. <https://doi.org/10.3390/en15093010>
- Meza, C. G., Rodríguez, C. Z., D'Aquino, C. A., Amado, N. B., Rodrigues, A., & Sauer, I. L. (2019). Toward a 100% renewable island: A case study of Ometepe's energy mix. *Renewable Energy*, 132, 628-648. <https://doi.org/10.1016/j.renene.2018.07.124>
- Novoselec, P. (2023). *Cost-benefit analysis of using solar power plant islanding supply*. (Undergraduate thesis). Croatia, Koprivnica: University North. Retrieved from <https://urn.nsk.hr/urn:nbn:hr:122:283146>
- Rendroyoko, I., Sinisuka, N. I., Debusschere, V., Koesrindartoto, D. P., & Yasirroni, M. (2024). Integration of Solar Photovoltaic Plant in the Eastern Sumba Microgrid Using Unit Commitment Optimization. *Sustainability*, 16(1), 336. <https://doi.org/10.3390/su16010336>
- Srpak, D., Stijažić, S., & Žumiga, I. (2014). Construction of the solar power plant on the roof of the student restaurant in Varazdin. *Tehnički glasnik- Technical journal*, 8(4), 433-437. Retrieved from <https://hrcak.srce.hr/131574>

MEDIA AND COMMUNICATION;
BUSINESS AND ECONOMICS;
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TIKTOK AS A PLATFORM FOR CELEBRITY COMMUNICATION: AN EXAMPLE OF IMAGE MANAGEMENT

Abstract

This article investigates the intricate relationship between celebrity image management and discourse on TikTok, analyzing how the platform is utilized to sculpt and maintain their public persona. It examines the strategies deployed on TikTok to captivate audiences, encompassing the creation of authentic content, active participation in prevalent trends and challenges, and how TikTok's multimodal features and algorithms contribute to the performative styles of public engagement, drawing parallels between celebrity and political communication strategies. Utilizing case study analysis methodology and qualitative content analysis, the paper scrutinizes the ways in which prominent political figures from the United States, such as Donald Trump and Kamala Harris, and from Mediterranean countries, such as Giorgia Meloni and Emmanuel Macron, leverage TikTok to shape public perception and political narratives. The findings suggest TikTok's significance as an instrument for both celebrity and political image management, emphasizing the necessity for meticulous strategy and authentic engagement to fully leverage the platform's potential benefits. The research underscores TikTok's dual role as both a medium for direct communication with the audience and a strategic tool for image crafting, positioning it as a transformative platform in the digital landscape of public and political interaction.

Key words: *celebrity communication, Mediterranean politicians, American politicians, image management, TikTok language*

INTRODUCTION

TikTok, launched in 2017 as the international version of the Chinese app Douyin, has grown exponentially in recent years (Lacas, Carbonell-Bernal, Duran-Bonavila, & Contreras-Pulido, 2022). Its global popularity surged after acquiring Musical.ly in 2018, marking a key milestone. By 2020, TikTok had become a leading platform for younger audiences, and as of 2022, it reported 1.2 billion monthly users, 44% aged 16 to 24, ranking as the sixth-largest social network globally (Lacas et al., 2022). In May 2024, TikTok had an estimated 1.04 billion monthly active users worldwide (Software Cosmos,

2024). Thus, the platform is a hub for youth engagement, digital culture, and public discourse (Omnicores, 2022; Lacas et al., 2022). TikTok's language shapes content influencing young people's habits and attitudes (Chen et al., 2021) through interactions with cultural industries promoting idols and influencers (Lacasa et al., 2022). Additionally, it fosters social and political engagement, including discourse on current issues (Yadav & Rai, 2017).

Trends indicate young people's declining interest in traditional political communication (Norris, 2011; Lawless & Fox, 2015). Platforms like TikTok meet this shift by delivering content resonating with younger audiences. Through a "call-out" culture and content blending information, education, entertainment, and humor, TikTok makes political topics more relatable and engaging (Abidin, 2020; Cervi et al., 2021). For example, the Spanish political party Podemos uses TikTok's multimodal grammar and semantics to create dynamic content. Employing special effects, youthful language, and short video formats in a "game framework" approach, Podemos dramatizes conflicts and reinforces emotional narratives (Cervi, Tejedor, & Marín Lladó, 2021). While not highly interactive, their content informs and mobilizes audiences, exemplifying the politainment format merging politics and entertainment to capture young audiences (Cervi et al., 2021). Political communication on TikTok, emphasizing personalization and privatization, allows politicians to create celebrity-like messaging. In line with that, this paper examines image management and celebrity discourse through TikTok posts by Giorgia Meloni, Emmanuel Macron, Donald Trump, and Kamala Harris in 2024.

CELEBRITY COMMUNICATION AS AN IMAGE CREATION STRATEGY IN POLITICS

Grbeša and Šalaj (2023) link celebrity communication in politics to mediatization (Esser & Strömbäck, 2014), personalization (Langer, 2012), and the "re-stylization of politics" and commodification (Corner & Pels, 2003; Driessens, 2013). Personalization emphasizes politicians' style, performance, and personality, often sidelining social issues (Rahat & Sheaffer, 2007; Borčić, 2023). Privatization, as Šimunjak (2012) describes, involves strategic private life disclosures by politicians to project a "normal person" image and appeal to audiences disengaged from traditional political communication (Borčić, 2021; 2023). Corner and Pels (2003) argue that modern media highlights style, appearance, and personality, merging political leadership with media fame, which is a characteristic of celebrity communication. Therefore celebrity communication in politics stems from personalization and privatization, reshaping the way politicians engage the public.

Commercial and social platforms prioritize entertainment value alongside political content, adopting entertainment industry strategies to attract large audiences and ensure content virality. Self-presentational tactics, such as family frames and personal sto-

ries, help politicians craft relatable images (Grbeša & Šalaj, 2023; Borčić, 2023). An emotional approach is central to enhancing visibility, a hallmark of celebrity communication (Stanyer & Wring, 2004; Holtz-Bacha, 2004). These strategies transform politicians into figures with strong personal appeal, blending political messaging with celebrity culture. Grbeša and Šalaj (2023) stress that political celebrities continuously adapt to a mediatized and personalized environment, a trend extending beyond populist figures (Marsh, 't Hart, & Tindall, 2010). Self-presentation strategies, such as spectacularization and narrative role framing, are crucial to image management. Semiotic elements, like clothing, emphasize national, party, or generational identity, while music, personnel dynamics, and diverse modes of communication create ambivalent content. These approaches allow politicians to portray themselves as "one of us," "one of them," or authoritative leaders, tailoring messages to resonate with specific audiences.

RESEARCH METHODOLOGY

This study investigates how the synergy between TikTok's unique features and celebrity communication tactics enables prominent political figures from the United States and Mediterranean regions to tailor their messaging to both local and global contexts. Through qualitative content analysis, the research examines the multimodal aspects of TikTok posts by official profiles of Giorgia Meloni, Emmanuel Macron, Donald Trump, and Kamala Harris. As of December 2024, Donald Trump's official TikTok profile (@realdonaldtrump) had 14.7 million followers and 107 million likes. Kamala Harris (@kamalaharris) had 5.5 million followers and 45.5 million likes, Emmanuel Macron had 4.9 million followers and 42 million likes, and Giorgia Meloni (@giorgiameloni_ufficiale) had 2.1 million followers and 18.1 million likes.

The focus on 2024 stems from significant events, including the American presidential election, France hosting the Olympic Games, and Italy addressing key political reforms and international challenges under Giorgia Meloni's leadership.

Aligned with the research objective, the following research questions are posed:

RQ1: How do politicians use TikTok's multimodal features to shape and adapt their messages for different target audiences?

RQ2: What elements of celebrity communication are evident in the analyzed posts?

RQ3: How do global and local contexts influence the content of TikTok posts by Giorgia Meloni, Emmanuel Macron, Donald Trump, and Kamala Harris?

Due to space limitations, the analysis is illustrated with selected examples, which are referenced by the publication date in parentheses.

FINDINGS AND DISCUSSION

From the perspective of celebrity communication, this article uses the terms celebrity politicians and politician celebrities, as defined by Grbeša and Šalaj (2023). Celebrity

politicians are individuals from outside politics who enter the political sphere, while politician celebrities are politicians whose public image, private life, or celebrity connections reshape their public perception. This shift blurs the line between politics and celebrity culture, requiring political communication strategies to adapt to a highly mediated and personalized environment (Marsh, 't Hart, & Tindall, 2010, as cited in Grbeša & Šalaj, 2023). Donald Trump exemplifies this dynamic, transitioning from a celebrity politician in his first term to a politician celebrity during his second-term campaign, a pattern noted among other politicians analyzed in this study. The results of the qualitative analysis are presented for each author individually.

DONALD TRUMP

Between June 2 and November 5, 2024, Donald Trump's official account (@realdonaldtrump) posted 58 videos targeting younger audiences and leveraging social media's multimodal nature. The thematic analysis reveals a focus on the economy, criticisms of Joe Biden's administration, patriotism, and national security. The most viral video, posted on June 2, 2024 (179 million views), uses a UFC fight to symbolize Trump entering "political and real-life combat." The second most popular video (172 million views, June 12, 2024) features Logan Paul (UFC fighter) endorsing Trump, emphasizing friendship and combat themes.

Patriotism under the slogan Make America Great Again unfolds in two themes: security/endangerment and economic (in)stability. In line with that, videos incorporate patriotic symbols, a red-white-blue palette, and slogans like "Save America, Vote Trump" (September 4, 2024). Dynamic transitions and music amplify messages, while texts like "I will deliver the greatest economy" (September 20, 2024) or "We are gonna be a safe nation again" (August 21, 2024) and "Close the border for a better future" (November 2, 2024) use simplified language for accessibility. Visuals, such as grocery price comparisons (August 16, 2024) and migration graphs (October 5, 2024), highlight key issues.

Trump's portrayal alternates between a national savior and an "everyday man." This duality is shown through dramatized visuals as hero, like surviving an assassination attempt (August 20, 2024), or as a normal citizen working at McDonald's (October 21, 2024) or driving a garbage truck (October 30, 2024), but with added metatext of criticisms of Biden. Also, videos including "Kamala, you're fired" (July 25, 2024) and calling Kamala Harris "the worst vice president ever" (September 14, 2024), are frequent. Celebrity endorsements, including Logan Paul (June 12, 2024), influencer @adin (August 9, 2024), and WWE legends The Undertaker and Kane (October 18, 2024), enhance populist appeal. Volodymyr Zelensky's September 27, 2024, appearance with the promise "I will end this war" and other cultural references reinforce Trump's narrative of strength and decisive leadership.

KAMALA HARRIS

Between July 25 and November 7, 2024, Kamala Harris's official account posted 225 videos targeting younger audiences and leveraging social media's multimodal nature. The most viral video, posted on August 26, 2024 (89.8 million views), shows Harris on stage with her closest associates. The caption reads "Thank You America", featuring a massive crowd (captured by drone footage), with balloons and colors matching the American flag, a segment of the song *Outro* by M83 plays in the background.

Harris's TikTok communication during the 2024 emphasized inclusivity, empathy, and progressive policies, Harris used aesthetics, content framing, tone, and visuals to connect with young audiences, particularly women, encapsulated in the slogan "When we vote, we win". Her messages addressed reproductive rights and economic equality, criticizing the "Trump abortion ban" (July 29, 2024) and promising: "I will proudly sign the protections of *Roe v. Wade* back into law" (September 11, 2024), reinforcing her progressive leadership. Harris employed inclusive language and personal stories to build authentic connections, such as her mother's cancer survival story to highlight community values (October 8, 2024).

Contrast tactics portrayed Harris as a progressive leader versus the perceived dangers of Trump's leadership, based by explicit and subtle criticisms, such as "Donald Trump lacks the empathy to care about the suffering of other people" (October 8, 2024) and "Donald Trump is increasingly unstable. He is unfit to be President" (October 16, 2024). Furthermore, the videos contain appeals to younger generations like "Gen Z, are you ready to have your voices heard?" (October 26, 2024), as well as calls to action like "It's time to make your plan to vote" (October 27, 2024). Bright colors and often natural lighting created a trustworthy aesthetic, further enhanced by content such as directly talk with citizens. Harris participated in a dance challenge, merging a popular TikTok sound with her political message (August 30, 2024), aligning with platform trends. Celebrity endorsements boosted visibility, like for example with Jennifer Lopez urging: "Your vote is your voice. Let's get loud" (November 1, 2024) or Beyonce (October 26, 2024) and Cardi B (November 2, 2024) which added pop-culture appeal, expanding Harris's reach among young voters.

GIORGIA MELONI

Between January 15 and December 24, 2024, the official channel posted 171 videos. The most viral video, posted on June 7, 2024 (14.8 million views), shows Meloni recording herself, praising a cherry vendor and asking, "These are excellent, what variety are they?" The vendor flips a sign reading *Varieta Giorgia*. She adds, "Don't forget, we are in the countryside," takes a cherry, and praises its taste. The video cleverly uses wordplay and metonymy to highlight her persona. Giorgia Meloni's TikTok content in

2024 highlights Italian identity, patriotism, and global cooperation, leveraging platform aesthetics to engage audiences.

The posts feature striking visuals, including drone footage of landscapes, industrial zones, and Italian flags, to address migration, sustainable development, and social issues. For example, an October 31, 2024, post uses port imagery and the Italian flag to symbolize sovereignty, while an October 26, 2024, post marks Trieste's return with a flag-raising ceremony. Slogans like "Italy for Italians" and "Let's protect our borders" (November 8, 2024) reinforce her nationalist messaging, with music shifting from dramatic for migration topics to optimistic for sustainable development. A November 10, 2024, post on solar farms and wind turbines highlights innovation and youth collaboration. International engagement is central to Meloni's content, with posts on COP29 in Baku (November 13, 2024) and the MED9 conference in Cyprus (October 11, 2024) reflecting her focus on global challenges. Patriotic themes appear on Armed Forces Day (November 4, 2024), and a post on November 25, 2024, addresses violence against women. Meloni balances relatability and strong leadership, promoting her party's annual festival, Fratelli d'Italia, with the hashtag #Atreju2024 (December 8-15, 2024) and slogans like "Long live Italy, long live Fratelli d'Italia" (December 15, 2024). Celebrity endorsements, including Donald Trump calling her "a fantastic leader" (December 13, 2024) and Elon Musk praising her leadership (September 24, 2024), amplify her reach. Meloni's strategy integrates visual, textual, and audio elements for cohesive, impactful messaging. Rapid shot transitions and symbolic visuals like Italian flags and natural scenery enhance engagement. Music underscores emotional tones, and concise slogans ensure message clarity and accessibility.

EMMANUEL MACRON

Between January 15 and December 24, 2024, the official channel posted 171 videos. The most viral, posted on May 11, 2024 (13.9 million views), features a TikTok user question for Macron: What do you think about leaving Mbappé for Real Madrid? The video, seemingly self-recorded, adds intimacy with followers and mirrors the interaction style of influencers engaging with their TikTok audience. Emmanuel Macron's 2024 TikTok content highlights national pride, international relations, environmental sustainability, and sporting achievements, skillfully aligning with platform aesthetics. Using visual techniques, cultural references, and inclusive language, Macron positions himself as a global leader while appealing to diverse audiences.

The reconstruction of Notre-Dame features prominently, with posts from November 29 and December 8, 2024, showcasing the cathedral's interior and crowd reactions alongside the message, "Historic moment. Together we Notre-Dame," emphasizing unity and national pride. A December 1, 2024, post adds gratitude for restoration contributors. The 2024 Paris Olympics is another key focus. Posts on the Olympic torch's ar-

rival (July 14, 2024) and the closing ceremony (August 29, 2024) feature slogans like “Freedom, Equality, Fraternity.” Posts celebrating French athletes’ victories (August 13, 2024) and support for the basketball team (August 11, 2024) connect Macron with youth and sports, reinforcing pride. Macron’s international engagement is evident in a meeting with Morocco’s president (October 29, 2024) under the slogan “A new book to write together,” his South America graduation tour (November 16-17, 2024), and cooperation with Ukraine (October 9, 2024), presenting him as committed to global connectivity. Environmental sustainability also plays a key role, with the Paris Metro Line 14 extension (June 24, 2024) framed as “An example of what the Republic knows how to do,” showcasing innovation and environmental stewardship. Macron’s strategy blends the emotional resonance of major events with historical and modern elements. Notre-Dame’s reconstruction connects him to heritage, while the Paris Olympics emphasize unity and pride, enhanced by famous athletes. Donald Trump and Volodymyr Zelensky’s presence at Notre-Dame’s reopening ceremony (December 7, 2024) highlights the international significance of his leadership and amplifies his message.

CONCLUSION

A comparative analysis of American and Mediterranean politicians on TikTok explores how local and global contexts shape political communication and how messages are tailored for young audiences informed through platforms like TikTok. Donald Trump exemplifies the American model by turning TikTok into a stage for political spectacle, combining sarcasm, pop-culture references, and viral trends to attract younger audiences. His focus on personalization and emotional appeals illustrates effective adaptation to the platform, positioning him as a leader in digital political communication. Similarly, Kamala Harris uses TikTok to promote inclusive narratives and progressive values. Through emotional storytelling and visually engaging content, as well as celebrity endorsement tactics, she mobilizes young audiences, emphasizing their role in social change.

Mediterranean politicians, such as Giorgia Meloni and Emmanuel Macron, adapt their TikTok strategies to reflect local values while addressing global challenges. Meloni reuses clips from speeches and interviews, fostering continuity and authenticity, while Macron records content directly on his phone, creating a perception of genuine engagement among young viewers. Meloni emphasizes Italian identity and patriotism with visuals of national flags, landmarks, and unity, linking local identity to global issues. Macron showcases French heritage, national unity, and international cooperation, with posts on the Notre-Dame reconstruction and the 2024 Paris Olympics blending historical and modern elements. His focus on environmental sustainability and technological innovation highlights a forward-looking vision.

References

- Abidin, C. (2020). Mapping internet celebrity on TikTok: Exploring attention economies and visibility labours. *Cultural Science Journal*, 12(1), 77-103. <https://doi.org/10.5334/csci.140>.
- Borčić, N. (2021). Conceptual narrative frames as a linguistic tool in political communication. In K. Jurčević, L. Lipovčan Kaliterna, & O. Ramljak (Eds.), *Mediterranean issues: Book 3* (pp. 383-402). Institut Ivo Pilar, Grupa VERN', Hrvatska akademija znanosti i umjetnosti.
- Borčić, N. (2023). *Vrag je u detalju: Diskurs i imidž u politici* (The devil is in the detail: Discourse and image in politics). TIM press.
- Cervi, L., Tejedor, S., & Marín Lladó, C. (2021). TikTok and the new language of political communication. *Cultura, Lenguaje Y Representación*, 26, 267-287.
- Chen, Q., Chen, M., Zhang, W., Ma, X., & Evans, R. (2021). Factors driving citizen engagement with government TikTok accounts during the COVID-19 pandemic: Model development and analysis. *Journal of Medical Internet Research*, 23(2). <https://doi.org/10.2196/21463>.
- Corner, J., & Pels, D. (2003). Re-styling of politics. In J. Corner & D. Pels (Eds.), *Media and the restyling of politics* (pp. 1-18). SAGE Publishing.
- Driessens, O. (2013). The celebritization of society and culture: Understanding the structural dynamics of celebrity culture. *International Journal of Cultural Studies*, 16(6), 641-657. <https://doi.org/10.1177/1367877912459140>.
- Esser, F., & Strömbäck, J. (Eds.). (2014). *Mediatization of politics: Understanding the transformation of Western democracies*. Palgrave Macmillan.
- Grbeša, M., & Šalaj, B. (2023). "Send in the clowns": The rise of celebrity populism in Croatia and its implications for political marketing. *Journal of Political Marketing*, 22(3-4), 217-231. <https://doi.org/10.1080/15377857.2023.2221933>.
- Holtz-Bacha, Ch. (2004) Germany: How the private life of politicians got into the media, *Parliamentary Affairs* 57(1), 41-52.
- Lacasa, P., Carbonell-Bernal, N., Duran-Bonavila, S., & Contreras-Pulido, P. (2022). Heroes, idols, and youth influencers: Cultural industries and identity models in TikTok. *TECHNO Review*, 11(1), 2-16. <https://doi.org/10.37467/revtechno.v11.4391>.
- Langer, A. I. (2012). *Personalisation of politics in the UK: Mediated leadership from Attlee to Cameron*. Manchester University Press.
- Lawless, J. L., & Fox, R. L. (2015). *Running from office: Why young Americans are turned off to politics*. Oxford University Press.
- Marsh, D., 't Hart, P., & Tindall, K. (2010). Celebrity politics: The politics of late modernity? *Political Studies Review*, 8(3), 322-340. <https://doi.org/10.1111/j.1478-9302.2010.00215.x>.
- Norris, P. (2011). *Democratic deficit: Critical citizens revisited*. Cambridge University Press.
- Omnicores. (2022). *TikTok by the numbers: Stats, demographics & fun facts*. Retrieved from <https://www.omnicoreagency.com/tiktok-statistics>.
- Rahat, G., & Sheaffer, T. (2007). The personalization(s) of politics: Israel, 1949—2003. *Political Communication*, 24(1), 65-80. <https://doi.org/10.1080/10584600601128739>.
- Stanyer, J., & Wring, D. (2004). Public images, private lives: An introduction. *Parliamentary Affairs*, 57(1), 1-8.
- Software Cosmos. (2024). *TikTok statistics 2024*. Retrieved from <https://softwarecosmos.com/tiktok-statistics-2024/>.

- Šimunjak, M. (2012). Privatni život kao dio komunikacijske strategije hrvatskih političara: Predsjednički izbori 2009./2010. (Private life as a part of the communication strategy of Croatian politicians: Presidential elections 2009/2010). *Medijske studije*, 3(5), 34-50.
- Yadav, G. P., & Rai, J. (2017). The Generation Z and their social media usage: A review and a research outline. *Global Journal of Enterprise Information System*, 9(2), 110-116.
<https://doi.org/10.18311/gjeis/2017/15748>.

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VOCATIONAL EDUCATION ON CROATIAN ISLANDS

Abstract

Vocational education in Croatia encompasses a wide range of programs and schools that provide practical training and expertise for various industries and professions. There is continuous effort in Croatia to improve the quality of vocational education to ensure that it meets the needs of the labour market and enables young people to pursue successful careers in various fields. The state of vocational education on Croatian islands is insufficiently addressed by researchers and practitioners, despite its crucial role in ensuring the development and sustainability of communities, considering the geographical isolation and demographic characteristics of the islands. This paper addresses the specific challenges and perspectives of vocational education on Croatian islands. In particular, availability of various vocational programs on the islands, students' preferences when choosing schools and trends in vocational education in the last decade. Secondary data concerning education on Croatian islands collected by the Croatian Ministry of Science, Education and Youth (MZOM) and data about student preferences for different educational programs was used to address the specified research questions. Vocational schools comprise two-thirds (73.8%) of the total 409 secondary schools in Croatia, with 13 vocational schools located on islands (MZOM, 2024). The study highlights the issue with the availability of vocational programs on the islands, as well as a certain mismatch between available programs and students' interests. Through analysing the current situation and identifying key problems, this paper explores ways to improve the availability, quality, and relevance of vocational education on Croatian islands.

Key words: vocational education; professional interests; aspirations; education on islands; congruence

INTRODUCTION

The transition from primary to secondary education represents a critical juncture in an individual's educational trajectory, marked by significant changes in adolescents' academic and psychological functioning (Evans et al., 2018). During this period, adolescents are required to select one of the available high school study programs, a decision that shapes their educational path for the next three to four years and has substantial implications for their future career outcomes.

Numerous theoretical frameworks have sought to identify and organise the determinants and outcomes of a successful school transition. For instance, the career construction model of adaptation (Savickas, 1997; 2013) outlines four dimensions of a successful transition, highlighting personal characteristics — such as proactivity, self-esteem, and personality traits — as key predictors of positive transition outcomes. However, this model underemphasises external factors beyond adolescents' control, such as environmental affordances and constraints. Other theories, such as Bronfenbrenner's ecological model (O'Toole et al., 2014) or Social Cognitive Career Theory (Lent, 2013) consider adolescents' larger social context in determining their high school choice or transition success. For instance, high school choice could be highly dependent on the proximity of different high school programs, which could, in some instances, result in the negligence of adolescents' vocational interests in favour of staying close to their family home. However, since the congruence between 'students' vocational interests' and 'study program' is one of the important predictors of students' academic success (de Vries et al., 2024), it is crucial to investigate and mitigate structural barriers related to students' career choice, thus giving them the opportunity to choose autonomously.

In this study the focus is on education on Croatian islands, an area which is highly specific in terms of availability of different services, including education. Croatian islands are the second biggest archipelago in the Mediterranean (Magaš, 2019), with about 3.3% of the Croatian population living on them (Ministry of Regional Development and EU Funds, 2024). As such, many school age children attend both elementary and secondary school on the islands. Therefore, we will address the specific educational context and educational needs of young islanders.

Most young islanders want to continue their education at the secondary level (Babić & Lajić, 2004). They see education as an opportunity for self-development, improvement of life circumstances and better financial prospects (Babić & Laić, 2004). In Croatia, students choose between two high school tracks: the general high school programs, known as gymnasiums, and the vocational high school programs. The general high school programs are widely regarded as more prestigious and aim to prepare students for higher education. In contrast, the vocational high school programs provide specialised training to equip students for direct entry into the workforce. Consequently, these programs have a more decisive influence on students' future career trajectories, as students have less access to higher education and less opportunity to change their occupation (Matković & Šabić, 2022).

The data suggest that most of the students from the Croatian islands attend vocational school programs (Magaš, 2019). However, besides the numbered limitations of such programs for future prospects on islands, the students' educational aspirations are additionally limited by the availability and diversity of vocational schools. In terms of availability, there are no secondary schools on many islands. For instance, while the archipelago spans across seven counties, there are secondary schools on islands in only

four of those counties — the Primorsko-goranska, Zadarska, Splitsko-dalmatinska and the Dubrovačko-neretvanska county (Magaš, 2019). Hence, about half of the students decide to travel to land to attend secondary school, often leading to exhaustion and lack of time for learning (Babić & Lajić, 2004; Ministry of Regional Development and EU Funds, 2021). Secondly, the programs of education available to students are often limited in terms of vocations they can specialise for. The National program for the development of islands (Republic of Croatia, 1997) emphasizes that island vocational schools should be primarily focused on tourist, maritime and other “island specific” vocations, as they are in most demand in the local economies. While the majority of students report that they would prefer employment in tourism (Babić & Lajić, 2004), focusing exclusively on such professions is quite limiting. On a personal level, it means that students who have different preferences must leave the islands in order to gain education. On a wider level, it means additional overreliance on tourism as the main driver of development (Tomljenović et al., 2023). Taken together, both of these levels contribute to decades-long depopulation of the islands (Tomljenović et al., 2023). Thus, investigating education is of key importance, as it is the foundation of the development of islands in Croatia (Magaš, 2019).

AIM AND OBJECTIVES

The aim of this study is to analyse the availability of various vocational educational programs on the Croatian islands and to evaluate the congruence of these programs with students' professional interests. To address this aim, the following research objectives are outlined:

1. To assess the range of vocational education programs offered on Croatian islands;
2. To explore gender and demographic trends in vocational education enrolment on the islands over recent years;
3. To explore potential differences in program availability and enrolment trends across various islands and regions;
4. To determine whether the available vocational programs align with the professional interests and aspirations of students residing on the islands;
5. To provide insights that can guide policymakers and educators in aligning vocational education programs with labour market demands and student preferences.

METHODS

The study employed quantitative secondary data analysis to examine the availability of vocational education programs on Croatian islands and their alignment with students' professional interests during the 2023/24 school year. A total of 1298 students were enrolled in 13 vocational schools across the islands. This study is part of the research pro-

ject *Compatibility of students' interests and vocational high school programs: Measurement, monitoring, causes and consequences of congruence* (VETFIT) fully funded by the NextGeneration EU program.

The data used in our study is provided in deidentified format through a public platform — ŠeR Školski e-Rudnik, managed by the Croatian Ministry of Science, Education, and Youth (MZOM). The platform provides access to a specific set of statistical data from e-Matica about all schools in Croatia, whereby E-Matica is a centralized system of the Ministry of Science, Education, and Youth, used for entering the most important data about students and staff of primary and secondary schools. To contextualize the findings, we also incorporated educational data on the national level from the same source for the same school year. This broader perspective enables a more comprehensive understanding of the educational landscape. The results are presented mostly through descriptive statistics because this method allows for a clear and concise summary of the data.

RESULTS AND DISCUSSION

The aim was to analyse the availability of various vocational educational programs on the Croatian islands and to analyse the congruence or availability of programs with students' professional interests. Vocational education on Croatian islands is available in 13 schools in 12 locations which equates to 4.3% of the total number of vocational school-

Primorsko- -Goranska County	Zadar County	Dubrovačko- -Neretvanska County	Splitsko- -Dalmatinska County
Hotel and Tourism Technician	Cook	Hotel and Tourism Technician	Tourism and Hotel Commercialist
Waiter		Waiter	Cook
Cook		Cook	Hotel and Tourism
Tourism and Hotel Commercialist		Pastry Chef	Technician
Maritime Navigator		Marine Mechanic	Pastry Chef
Marine Engineering Technician		Economist	Agrotourism
Auto Mechanic		Electromechanics	Technician
Parquet Layer		Electrical Technician	Auto Mechanic
Assistant Gardener		Mechanical Computer Technician	Hairdresser
Plumber		Plumber	Stonemason
			Stone working Technician

Table 1 — School programs in vocational schools on Croatian islands by county

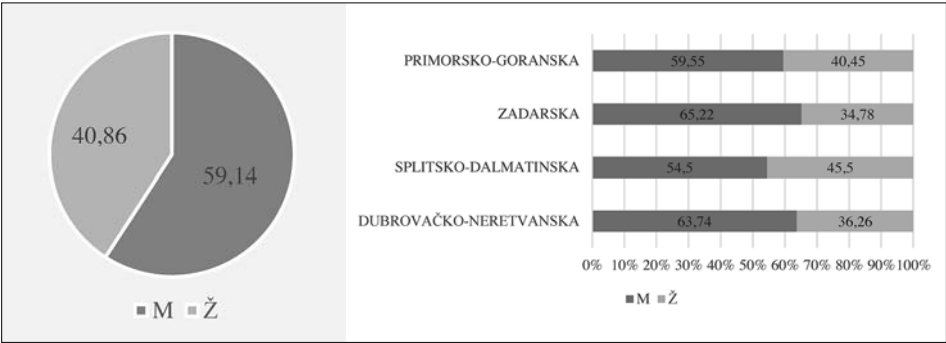


Figure 1 — Overall ratio of boys to girls in vocational schools on Croatian islands (%). (MZOM, 2024)

Is in Croatia. Vocational education on the islands is available in: Krk, Rab, Mali Lošinj, Pag, Jelsa, Supetar, Pučišća, Bol, Vis, Blato, Korčula and Vela Luka. For school year 2023/24, there are in total 1298 students enrolled in vocational education on Croatian islands. Vocational education on the islands differs from education in the rest of Croatia. The schools on the islands are smaller compared to vocational schools in the rest of Croatia, on average there are 90.9 students per school on islands compared to 328 students per school on the national level, with average class size at 11.4 students compared to 18.54.

There is a lack of variety in vocational education programs available on Croatian islands, with a strong concentration on certain sectors, particularly tourism and hospitality. The dominance of programs related to Tourism, Hospitality, and Maritime industries reflect the economic priorities and employment opportunities typical for island regions. According to the study by Babić and Lajić (2004), a majority of students report that they prefer employment in tourism. However, this narrow focus might limit career pathways for students with interests outside these sectors. The emphasis on a few key industries may overlook the potential for vocational education to prepare students for a more diverse range of careers, potentially stunting regional economic diversification and individual career development.

Further, the gender structure on islands (41% female; 59% male) is similar to the structure at the national level in vocational education (44% female, 56% male). As expected, there is a consistent male majority in vocational education across all four counties with the degree of gender imbalance varying. Zadarska and Dubrovačko-Neretvanska counties show the largest gender disparity, while Splitsko-Dalmatinska County demonstrates a relatively balanced distribution. This result is in line with the results of other researchers showing a gender gap in vocational education in general (Ray & Zaretski, 2022; Van der Meulen & Boyer, 2006). These regional differences in gender preferences and opportunities for vocational education highlight the need for further resea-

County	% diff	n
PRIMORSKO-GORANSKA	-21.66 %	-136
RAB	-31.43 %	-44
MALI LOŠINJ	-19.57 %	-46
KRK	-18.18 %	-46
DUBROVAČKO-NERETVAN...	-16.51 %	-70
VELA LUKA	-43.16 %	-41
BLATO	-13.73 %	-14
KORČULA	-6.61 %	-15
ZADARSKA	-11.54 %	-3
PAG	-11.54 %	-3
SPLITSKO-DALMATINSKA	-5.92 %	-27
PUČIŠĆA	-47.19 %	-42
BOL	-2.63 %	-2
VIS	-2.38 %	-1
HVAR	-2.35 %	-4
SUPETAR	27.85 %	22

Table 2 — Difference in the number of students in the period between 2013/2014 and 2023/2024 (%).

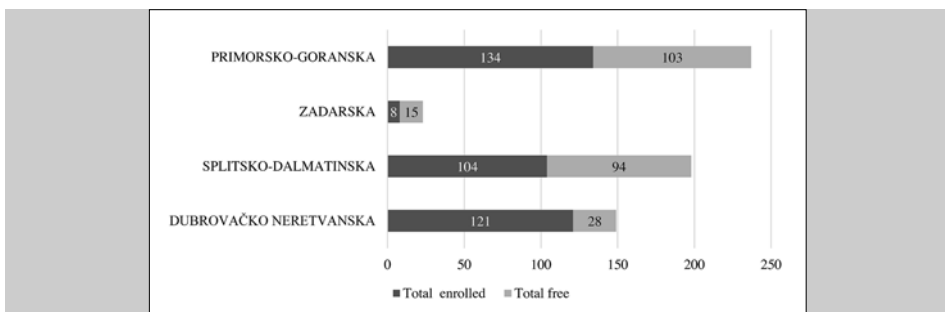


Figure 2 — Ratio of enrolled students and free places in 1st grade 2023/24 by county.

rich into contributing factors, including societal norms, local labour market demands, and the availability of vocational programs.

The results show an overall downward trend in vocational education enrolment on all islands in the last decade. This is in part caused by the general decrease in the population of young people on Croatian islands. However, the overall decline in enrolment suggests that there may be also diminishing interest in vocational education. This could be due to factors known from other studies such as perceived limited career prospects, societal stigmas regarding vocational training, or a shift towards higher education (Cedefop, 2016). In this, Primorsko-Goranska County shows the largest decline

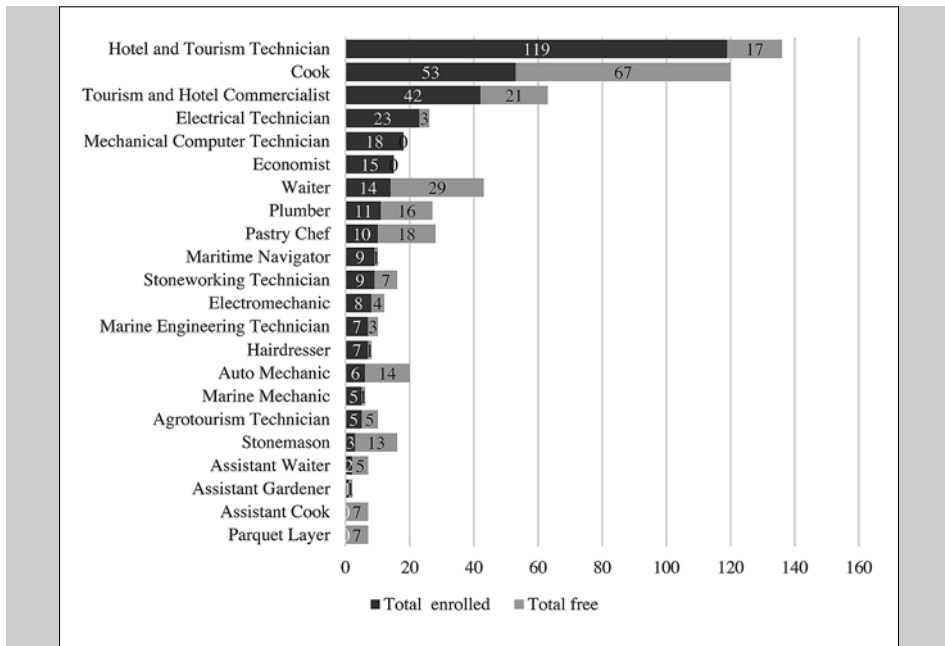


Figure 3 — Ratio of enrolled students and free places in 1st grade 2023/24 in total in vocational schools on islands by school programme

in student enrolment, with a decrease of 21.66% (-136 students). Dubrovačko-Neretvanska County also experiences a significant decrease of 16.51% of students (-70 students). Splitsko-Dalmatinska County demonstrates a more moderate decline of 5.92% (-27 students) and Zadarska County has a relatively modest decline of 11.54% (-3 students). When we look at changes of students' enrolment by specific locations, we can conclude that most locations show a downward trend in vocational education enrolment, with particularly steep declines in places like Vela Luka and Pučišća. Supetar is the only municipality in the data with a notable increase in enrolment, suggesting local factors or initiatives driving interest in vocational education. While the overall trend is negative, the extent of the decline varies significantly by location, indicating potential differences in demographic, economic, or institutional factors.

Another objective of this research was to determine whether the available vocational programs align with the professional interests and aspirations of students residing on the islands.

In all four counties there is a rather large number of places in vocational education that stay unoccupied after the 1st year students' enrolment. This could point to a mismatch between the programs offered and the students' interests or a general lack of awareness about available opportunities. This result is expected as this trend is evident also outside Croatia (Chou et al., 2019; Stalder, Choy, Le, 2023; Aldossari, 2020). The

downward trend in vocational education enrolment in general can be attributed to a combination of societal perceptions, policy inadequacies, and systemic challenges within the educational framework (Stalder, Choy, Le, 2023).

While there is a surplus of available programs, many of them do not attract sufficient student enrolment. This suggests that either the programs offered are not aligned with the interests or career aspirations of students, or there may be a lack of awareness or incentives to pursue certain fields. One potential reason for the above-mentioned mismatch is that vocational education is often viewed as a last resort for students who are perceived as less academically capable, leading to a societal stereotype that diminishes its attractiveness (Donald, Ashleigh & Baruch, 2018; Stalder, Choy, Le, 2023). Another possible reason for the declining trend is the incompatibility between students' vocational interests and the available programs, as well as lack of initiative to attract and retain students in vocational tracks (Horoshkova et al., 2020).

PRACTICAL IMPLICATIONS AND LIMITATIONS

Results indicate that vocational programs on Croatian islands predominantly focus on tourism and hospitality, potentially limiting career options for students with broader interests. Diversifying these programs to include fields like IT, renewable energy, healthcare, and creative industries could align better with future labour market demands and offer sustainable opportunities beyond tourism. A consistent male majority in vocational education, particularly in counties like Zadarska and Dubrovačko-Neretvanska, highlights the need for initiatives to encourage female participation. Strategies might include promoting non-traditional career paths for women, offering scholarships, and providing mentorship in male-dominated fields. Additionally, vocational education enrolment is declining across all islands. To reverse this trend, programs should align more closely with job market demands, offer career counselling, and promote the value of vocational skills. Mismatches between program availability and demand also call for curriculum reassessment. Engaging students and local industries through surveys or consultations can help identify in-demand skills, guiding policymakers to adjust funding and redesign offerings. Efforts should focus on scaling back underperforming programs and investing in areas with greater potential, ensuring that vocational education on the islands remains relevant and appealing. Further research is crucial to address disparities and improve outcomes in vocational education.

However, findings are shaped by certain limitations, including reliance on secondary data that lacks qualitative insights into student motivations and societal perceptions, as well as a focus on descriptive statistics that constrains deeper analysis. The narrow regional scope and emphasis on enrolment trends without exploring educational outcomes further restrict the study's broader applicability. These limitations emphasize the importance of future research that incorporates qualitative methods, explores

systemic challenges such as societal stigma and policy gaps, and considers a wider geographic and contextual scope to develop evidence-based strategies for improving the accessibility, inclusivity, and relevance of vocational education.

CONCLUSION

This analysis examined the alignment of vocational education programs on Croatian islands with students' professional interests. Findings show a predominant focus on tourism and hospitality, which, while crucial to the local economy, limits opportunities for students interested in other fields. Gender disparities in enrolment were evident, with male students dominating vocational programs, underscoring the need for initiatives to encourage female participation. Additionally, a downward trend in enrolment suggests declining interest in vocational education. Aligning programs with labour market needs and promoting the value of vocational skills could help address this issue. A mismatch between program availability and student demand was also identified highlighting the need for curriculum reassessment. In conclusion, further research is crucial to provide policymakers with the insights needed to effectively restructure vocational education on Croatian islands, allocate resources strategically, and implement policies that better align programs with student aspirations and industry demands.

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References

- Aldossari, A. S. (2020). Vision 2030 and reducing the stigma of vocational and technical training among Saudi Arabian students. *Empirical Research in Vocational Education and Training*, 12(1), 3.
- Babić, D., & Lajić, I. (2004). Obrazovne, radne i profesionalne težnje mladih otočana — primjer zadarskih otoka (Iž, Dugi otok, Ugljan) (Educational, work and professional aspirations of young islanders — an example of the Zadar islands (Iž, Dugi otok, Ugljan). *Migracijske i etničke teme*, 20(2-3), 259-282. <https://hrcak.srce.hr/7268>.
- Cedefop (2016). Leaving education early: putting vocational education and training centre stage. Volume I: investigating causes and extent. *Cedefop Research Paper 57*.
- Chou, C. P. (2019). How Taiwan education pursues equity in excellence. *Equity in Excellence: Experiences of East Asian High-Performing Education Systems*, 43-54.
- De Vries, N., Meeter, M., & Huizinga, M. (2024). Does interest fit between student and study program lead to better outcomes? A meta-analysis of vocational interest congruence as predictor for academic success. *Educational Research Review*, 100619. <https://doi.org/10.1016/j.edurev.2024.100619>.

- Donald, W. E., Ashleigh, M. J., & Baruch, Y. (2018). Students' perceptions of education and employability: Facilitating career transition from higher education into the labour market. *Career development international*, 23(5), 513-540, <https://doi.org/10.1108/CDI-09-2017-0171>.
- Evans, D., Borriello, G. A., & Field, A. P. (2018). A review of the academic and psychological impact of the transition to secondary education. *Frontiers in psychology*, 9, 1482. <https://doi.org/10.3389/fpsyg.2018.01482>.
- Horoshkova, L., Kharahirlo, V., & Khlobystov, I. (2020). Potential of development of the professional (technical and vocational) educational services market in Ukraine. *University Economic Bulletin*, (44), 63-73.
- Lent, R.W. (2013). Social Cognitive Career Theory. In S. D. Brown & R. W. Lent (Eds.), *Career development and counselling: putting theory and research to work*. (2nd ed, pp. 115-146). Wiley.
- Magaš, K. (2019). Hrvatski otoci u odgojno-obrazovnom sustavu Republike Hrvatske (Croatian islands in the educational system of the Republic of Croatia). *Magistra Iadertina*, 13(1), 181-206. <https://doi.org/10.15291/magistra.2819>.
- Ministry of Regional Development and EU Funds. (2021). *Nacionalni program razvoja otoka* (National Island Development Program).
- Ministry of Regional Development and EU Funds. (2024). *Otoci*. (Islands).
- Nawi, M. Z. M., Ahmad, N. A., Ghazali, A. M., & Anuar, M. H. M. (2024). A systematic literature review examining the impact of societal factors on students' intention to enrol in technical and vocational education and training (TVET) programs at the tertiary level. *International journal of academic research in business and social sciences*, 14(5), 746-757, <http://dx.doi.org/10.6007/IJARBS/v14-i5/21533>.
- O'Toole, L., Hayes, N., & Mhathúna, M. M. (2014). A bio-ecological perspective on educational transition. *Procedia-Social and Behavioral Sciences*, 140, 121-127. <https://doi.org/10.1016/j.sbspro.2014.04.396>.
- Ray, S., & Zarestky, J. (2022). Gender in vocational education and training: an integrative review. *European Journal of Training and Development*, 46(9), 876-893. <https://doi.org/10.1108/EJTD-12-2019-0196>.
- Republic of Croatia. (1997, February 28). *National program for the development of islands*. <https://razvoj.gov.hr/UserDocsImages/arhiva/Regionalni%20razvoj/OTOCI/Nacionalni%20program%20razvitka%20otoka.doc>.
- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life space theory. *The Career Development Quarterly*, 45, 247-259. <https://doi.org/10.1002/j.2161-0045.1997.tb00469.x>.
- Savickas, M. L. (2013). Career construction theory and practice. In S. D. Brown & R. W. Lent (Eds), *Career development and counselling handbook: Putting theory and research to work* (2nd ed, pp. 147-183). Wiley.
- Stalder, B. E., Choy, S., & Le, A. H. (2022). The standing of vocational education: a global concern with diverse meanings and implications. In *The standing of vocational education and the occupations it serves: Current concerns and strategies for enhancing that standing* (pp. 3-17). Springer International Publishing.
- Tomljenović, R., Marušić, Z., & Klarić, Z. (2023). Društvena održivost, otoci i turizam — iz perspektive lokalne zajednice (Social sustainability, islands and tourism — from the perspective of the local community). In J. Vukić & M. Jurković (Eds.), *Otočnost u suvremenom društvenom kontekstu — pogled u budućnost*. FF press.

<https://www.info.hazu.hr/wp-content/uploads/2023/02/Otocnost-zbornik-radova-ZV-za-turizami-prostor-HAZU.pdf>.

Van der Meulen Rodgers, Y., & Boyer, T. (2006). Gender and racial differences in vocational education: an international perspective. *International Journal of Manpower*, 27(4), 308-320, <https://doi.org/10.1108/01437720610679188>.

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THE USE OF INSTAGRAM IN THE PROMOTION OF ISLANDS IN ZADAR COUNTY

Abstract

This study examines the promotional communication on Instagram for islands in Zadar County, focusing on Vir, Pag and Pašman during 2023. Utilizing content analysis of Instagram posts, this research aims to uncover similarities and differences in communication approaches among the islands. The methodology relies solely on the analysis of publicly available Instagram posts, extracting data for quantitative and qualitative assessment. By scrutinizing content themes, hashtags, and user engagement metrics, the study seeks to identify prevalent promotional elements employed by stakeholders, i.e., tourism boards on the mentioned islands. The findings are expected to provide insights into the efficacy of Instagram as a promotional tool for island destinations and offer actionable recommendations for enhancing digital marketing efforts. This research contributes to advancing understanding in destination marketing and social media strategies, particularly in the context of island tourism within Zadar County.

Key words: *Instagram, islands, Zadar County, content analysis, digital marketing*

INTRODUCTION

Tourism promotion in the digital age increasingly relies on social media platforms, with Instagram emerging as a critical tool for showcasing destinations through visually compelling and interactive content. The islands of Zadar County, including Pag, Pašman, and Vir, represent unique tourist destinations whose promotion can significantly benefit from strategic digital marketing. This study explores the use of Instagram as a promotional platform by analyzing the communication strategies of Tourist Boards (TBs) for these islands in 2023. The analysis aims to assess the alignment of their promotional activities with the strategic goals outlined in key documents such as the Main Tourism Development Plan for Zadar County (2013—2023), the Zadar County Development Plan (2021—2027), and the Tourism Development Strategy for Zadar County (2024—2034).

Instagram's emphasis on visual storytelling and its extensive user base make it an ideal platform for engaging potential visitors and fostering community-driven content. However, the effectiveness of such promotion relies on the strategic alignment of social media activities with broader tourism development objectives, including enhancing the quality of offerings, creating unified messaging, and leveraging contemporary mar-

keting trends. This study utilizes content analysis to uncover similarities and differences in the TBs' communication approaches, identifying strengths, weaknesses, and areas for improvement in their Instagram strategies.

By examining Instagram posts from the most-visited islands in Zadar County, this research seeks to illuminate how well TBs utilize this platform to achieve their promotional goals. Through an evaluation of metrics such as post frequency, themes, language, hashtags, and user engagement, the study provides insights into the current state of Instagram-based tourism promotion and offers actionable recommendations for enhancing digital marketing strategies in the context of island tourism.

THEORETICAL FRAMEWORK

The integration of social media into tourism promotion has become a vital element of modern marketing strategies, with platforms like Instagram revolutionizing how destinations are presented to global audiences. The advent of social media has profoundly transformed tourism promotion, with platforms like Instagram playing a pivotal role in shaping destination images and influencing travel decisions (Tourism Teacher, 2022). Instagram's visual-centric design and extensive user base make it an ideal medium for showcasing tourist destinations, engaging potential visitors, and fostering community-driven content (Digital Travel Expert, 2023).

Social media platforms enable direct communication with target audiences while offering tools to showcase destinations effectively, fostering connections through tailored content. They serve as dynamic platforms for creating narratives and engaging travellers in real-time. Parlov, Perkovic, and Sićaja (2016, p. 142) emphasize that digital marketing facilitates stronger emotional connections with tourists by leveraging storytelling and visual content. This ability to evoke emotional resonance is particularly critical in tourism, where decision-making is often influenced by the emotional appeal of a destination.

Instagram has emerged as a dominant social media platform for tourism promotion due to its emphasis on visual storytelling and interactive features. The platform's design aligns seamlessly with the tourism industry's reliance on high-quality visuals to showcase attractions, cultural heritage, and experiences. Lai and Vinh (2013, p. 10) highlight that "visual platforms like Instagram significantly influence destination image by creating a repository of visual experiences that potential tourists rely upon." Instagram's features, including Stories, Reels, and live video, allow destinations to share dynamic and real-time updates, enhancing engagement with audiences and showcasing the vibrancy of a location. Krajnović and Hordov (2021, p. 215) underscore Instagram's effectiveness in capturing live events, which plays a critical role in portraying the dynamism and appeal of destinations.

A distinctive feature of Instagram is its ability to harness user-generated content (UGC) for tourism promotion. By encouraging tourists to share their experiences through posts, photos, and hashtags, destinations can generate authentic, relatable content that resonates with potential visitors. Parlov, Perkovic, and Sičaja (2016, p. 144) argue that "user-generated content is more trusted by consumers compared to traditional advertising, making it an invaluable resource for tourism promotion." This authenticity enhances credibility and appeal, fostering trust among prospective travellers. For instance, campaigns employing branded hashtags, such as #VisitZadar or #IslandEscape, create a collective archive of visitor experiences that showcases the diversity and richness of the destination.

A significant aspect of Instagram's influence in tourism promotion is the utilization of user-generated content (UGC). Encouraging tourists to share their experiences using specific hashtags or tagging official accounts generates authentic content that potential visitors find trustworthy and relatable (Tandfonline.com, 2021). This strategy not only amplifies the destination's reach but also fosters a sense of community among travellers. For instance, the New Zealand tourist board's collaboration with influencers in 2015 led to a 14% increase in tourism numbers, demonstrating the substantial impact of such initiatives (Tourism Teacher, 2022). Instagram's UGC also serves as a form of social proof, bolstering a destination's reputation and reach. This form of content often provides a more realistic and diverse perspective of a location, which is especially important in appealing to modern, experience-seeking travellers. The collaborative nature of UGC ensures that tourism promotion extends beyond traditional marketing efforts, enabling destinations to engage directly with travellers through shared experiences and narratives.

Collaborations with influencers further extend a destination's reach by tapping into established audiences. Influencers often provide genuine endorsements and personalized narratives that can significantly sway their followers' travel choices (DW.com, 2023). For example, the Garda Trentino Tourism Board's engagement with influencers on Instagram has been instrumental in promoting the region's attractions (European Proceedings, 2018).

Collaborating with influencers has become a cornerstone of Instagram-based tourism marketing strategies. Influencers typically have established followings and are seen as trustworthy by their audiences, making them effective ambassadors for destinations. Such partnerships allow destinations to tap into niche markets and extend their promotional reach. Krajnović and Hordov (2021, p. 212) observe that "partnerships with influencers allow destinations to extend their reach and tap into niche markets effectively." Influencers can highlight lesser-known attractions, bringing hidden gems and unique experiences to the forefront. These collaborations not only amplify the destination's visibility but also provide a personal and authentic touch that resonates with followers.

The role of influencers in promoting destinations is further enhanced by their ability to present tailored narratives and endorsements. For instance, campaigns where influencers share personalized travel stories or promote specific activities provide valuable insights into the destination's offerings. This strategy not only drives interest but also creates a deeper emotional connection between the destination and potential visitors.

Hashtag campaigns are a key element of Instagram's effectiveness in tourism promotion. By creating and promoting branded hashtags, destinations can enhance visibility and foster community engagement around shared experiences. Anđelić and Grmuša (2017, p. 185) emphasize that "social networks serve as contemporary tools for transferring information," with hashtags playing a pivotal role in disseminating information and amplifying campaigns. A well-implemented hashtag campaign encourages tourists to share their experiences under a unified banner, helping to build a digital repository of content that reflects the destination's appeal from multiple perspectives.

Campaigns like these also nurture a sense of belonging among travellers. By encouraging participation and interaction, hashtag campaigns create a community-driven narrative that strengthens the destination's brand identity. This community-oriented approach aligns with the modern traveller's desire for unique and inclusive experiences.

Despite its strengths, Instagram-based tourism promotion is not without challenges. Maintaining authenticity in content remains a critical concern, as overly stylized or exaggerated representations of destinations can lead to unrealistic expectations. Fu (2022, p. 125) warns that "over-reliance on idealized imagery may result in unrealistic expectations, ultimately harming the destination's reputation." Ensuring that content reflects genuine experiences is essential to building long-term trust with travellers.

Other challenges include managing negative feedback and ensuring inclusivity in promotional content. The need to stay updated with Instagram's changing algorithms also presents difficulties for marketers seeking to maintain consistent visibility and engagement. Furthermore, the phenomenon of overtourism, driven in part by "Insta-tourism," has placed a strain on certain locations. The influx of visitors seeking to replicate popular Instagram posts can overwhelm local resources and disrupt communities, necessitating sustainable tourism practices and mindful promotion strategies.

Instagram's emphasis on visual storytelling allows destinations to present compelling images and narratives that resonate with potential travellers. This approach not only highlights the aesthetic appeal of destinations but also conveys experiences that tourists can anticipate (National Geographic, 2016). The platform's features, such as Stories, Reels, and IGTV, provide dynamic avenues for destinations to share real-time updates, behind-the-scenes content, and interactive experiences, thereby enhancing engagement and interest (The Media Ant, 2022).

However, the rise of Instagram-driven tourism promotion is not without challenges. The phenomenon of "Insta-tourism" has, in some cases, led to overtourism, whe-

re destinations become overwhelmed by the influx of visitors seeking to replicate popular Instagram posts. This surge can strain local resources and disrupt community life, necessitating sustainable tourism practices and mindful promotion strategies (Gurvy Travel, 2022).

In the context of Zadar County, leveraging Instagram for tourism promotion involves showcasing the unique landscapes, cultural heritage, and experiences that the islands offer. By curating visually appealing content and engaging with both influencers and tourists, the region can enhance its visibility and attract a broader audience (IndianEagle, 2023). Implementing campaigns that encourage visitors to share their experiences using dedicated hashtags can create a repository of authentic content, further promoting the destination organically (Convince & Convert, 2022).

METHODOLOGY

This research employed a content analysis methodology to determine the similarities and differences in the communication strategies used by the tourist boards of islands in Zadar County on Instagram. The primary goal was to explore whether there is synergy in their communication efforts and to what extent their posts align with the guidelines outlined in relevant strategic documents for tourism development. To achieve the goal, the methodology used in this study revolves around content analysis, aimed at assessing the communication approaches of Tourist Boards (TBs) via Instagram for promoting islands in Zadar County.

For this purposes the research is guided by two primary questions:

1. To what extent does communication via Instagram differ among the analyzed Tourist Boards, and is there mutual synergy in their communication?
2. To what extent do the contents of the announcements correspond to the guidelines for communication and the development of tourist products?

These questions aim to explore the effectiveness, consistency, and alignment of Instagram-based promotional strategies with broader tourism development objectives. The sample for the study consists of Instagram posts from the most-visited islands in Zadar County during 2023. The analysis covers various aspects of the posts, including their frequency, topics, type of media used, text and video length, language, use of hashtags, and indicators of engagement. By focusing on these specific metrics, the study aims to identify patterns and discrepancies in how different TBs leverage Instagram as a tool for destination promotion.

The sample is covering posts published on Instagram profile of tourist boards of most visited islands in Zadar County in 2023 (N = 89) as such as TB Pag, TB Vir and TB Pašman. Ugljan, as the third most visited island in its county and the ninth most visited in Croatia, had not a single post published on Instagram in 2023. In the following table, data is presented on tourist arrivals and the overall ranking of the most visited

Tourist Board	Tourist arrivals Croatian island	Position among most visited	Instagram posts in 2023	Followers (April 18, 2024)
Pag	456 000	2	297 (29)	5426
Vir	90 000	8	80 (14)	1619
Ugljan	38 000	9	523 (0)	3336
Pašman	34 000	11	551 (46)	2315

Table 1 — Data about tourist arrivals, position as most visited island, Instagram posts and number of followers of the tourist boards of Pag, Vir, Ugljan and Pašman.

Source: Instagram profiles of TB Pag, Vir, Ugljan, Pašman; CNTB (2023)

islands in Croatia, the total number of Instagram posts and posts published in 2023, as well as the number of followers as of April 2023, when the content analysis was conducted.

To address the second research question, two strategic documents were analyzed: the Main Tourism Development Plan of Zadar County 2013—2023 and the Zadar County Development Plan 2021—2027. These documents provided a framework for evaluating the alignment of Ugljan's tourism promotion with the region's strategic priorities. The analysis focused on identifying development priorities and strategic goals for tourism in the Zadar region, assessing the alignment of promotional activities with these objectives, and exploring the integration of sustainable tourism practices within the strategic frameworks.

This methodology provides a systematic framework for analyzing digital communication, enabling clear and structured comparisons across multiple metrics. By focusing on Instagram, the study effectively addresses the platform's significance in contemporary tourism promotion, where visual and interactive content plays a pivotal role.

However, the methodology also presents some limitations as the study is focusing on a single year (2023) and might not fully capture long-term trends or seasonal variations in tourism promotion.

RESULTS

Analysis of Instagram activity by three islands—Pag, Pašman, and Vir—highlighting the number and percentage of posts made each month, along with the total posts across all islands. The data shows that Pag had the most posts in August (27.6%) but no posts in October. Pašman exhibited its highest activity in May (17.4%) and November (15.2%). In contrast, Vir was most active in March (28.6%) but showed no activity in several months, including May, June, and August. Overall, the total Instagram activity across the three islands was highest in February, March, and May, collectively account-

Month	Pag (N=29)	Pag %	Pašman (N=46)	Pašman %	Vir (N=14)	Vir %	Total (N=89)	Total %
January	1	3.4%	0	0.0%	2	14.3%	3	3.4%
February	4	13.8%	4	8.7%	3	21.4%	11	12.4%
March	2	6.9%	5	10.9%	4	28.6%	11	12.4%
April	2	6.9%	5	10.9%	3	21.4%	10	11.2%
May	4	13.8%	8	17.4%	0	0.0%	12	13.5%
June	2	6.9%	4	8.7%	0	0.0%	6	6.7%
July	2	6.9%	4	8.7%	2	14.3%	8	9.0%
August	8	27.6%	0	0.0%	0	0.0%	8	9.0%
September	1	3.4%	5	10.9%	0	0.0%	6	6.7%
October	0	0.0%	2	4.3%	0	0.0%	2	2.2%
November	1	3.4%	7	15.2%	0	0.0%	8	9.0%
December	2	6.9%	2	4.3%	0	0.0%	4	4.5%

Table 2 — Analysis of Instagram activity

ting for a significant portion of posts, while some months, like October, showed minimal activity. This highlights uneven promotional efforts and varying levels of engagement across the islands and throughout the year.

Across all posts, the dominant topics varied by island. Pag exclusively focused on destination promotion, accounting for 29 of its posts, while Pašman balanced destination topics with events, heritage, and other themes. Vir emphasized events and gastronomy but lagged in addressing other topics like nature and heritage. In terms of purpose, most posts aimed at promotion, particularly from Pag and Pašman, while Vir featured a higher proportion of informational announcements relative to its limited overall activity.

Language use differed across islands, with Pag prioritizing English and Pašman focusing more on Croatian content. Vir's limited output showed mixed language patterns (English and Croatian). Hashtag use was a critical differentiator, with Pag employing significantly more hashtags per post, averaging over 13, while Pašman and Vir used fewer, averaging around 6 and 4, respectively. The hashtags ranged from generic (#vacation, #islandlife) to destination-specific (#visitpag, #visitpasman), reflecting varying levels of branding and targeting.

TOPICS	Pag	Pašman	Vir	Total
Destination	29	15	0	44
Gastronomy	0	1	2	3
Nature	0	5	0	5
Heritage	0	2	0	2
Sports	0	0	0	0
Weather	0	0	0	0
People and lifestyle	0	3	0	3
Events	0	11	9	20
Awards	0	2	0	2
Tourism development of destination 0	2	0	2	
Other	0	5	3	8
PURPOSE	Pag	Pašman	Vir	Total
Promotion	29	36	2	67
Announcement/ Info	0	5	9	14
Prize game	0	0	0	0
Other	0	5	3	8
Total	29	46	14	89

Table 3 — Topics and purpose of posts

	Pag	Pašman	Vir	Total
Number of used hashtags	394	309	63	766
Number of hashtags per post	13,59	6,75	4,5	24,84

Table 4 — Use of Hashtags

	Pag	Pašman	Vir	Total
Motivational	52	34	8	94
Campaign	0	10	7	17
Source	22	12	8	42
Influencer	41	4	5	50
Destination	69	75	20	164
Term	91	97	15	203

Table 5 — Type of Hashtags

	Pag	Pašman	Vir	Total
#pag	25	-	-	
#visitcroatia	24	-	-	
#visitpag	23	-	-	
#instatravel	22	0	0	
#islandlife	22	0	0	
#vacation	22	1	0	
#visitpasman	-	10	-	
#island	0	10	0	
#sea	0	10	0	
#zadar_region		9	0	
#nature	1	9	0	
#islandvir	-	-	8	
#ilovevir	-	-	7	
#virturizam	-	-	7	
#zadarregion	0	5	5	10
#croatiafulloflife	3	11	4	7

Table 6 — Most used hashtags in posts

Engagement metrics showed stark differences. Pag achieved the highest average likes and comments per post, significantly outpacing Pašman and Vir, which had comparatively lower interaction rates. Offline engagement, such as the tagging of events or businesses, was higher on Pašman and Vir, while Pag's focus remained primarily onli-

		Pag	Pašman	Vir	Total
Offline engagement	Yes	1	15	11	27
	No	28	31	3	62
Online engagement	Like (total)	13585	2817	472	16874
	Like (average)	468,45	61,24	33,71	563,40
	Comments (total)	211	30	4	245
	Comments (average)	7,28	0,65	0,29	8,21
Tagging	Yes	24	11	0	35
	No	5	35	14	54

Table 7 — Engagement and Tagging

ne. Tagging was inconsistently applied across posts, with Vir showing no tagging activity at all.

The analysis highlighted a general alignment of Instagram content with broader strategic guidelines in terms of providing timely and unified information. However, there were gaps in harmonization across the islands and a lack of quality improvements in tourist offers as suggested by regional development strategies. Pag stood out for its strong online presence and engagement but lacked synergy with the other islands. Vir, despite having the lowest engagement, demonstrated potential in highlighting unique local elements like gastronomy. Pašman showed diversity in its topics but lacked consistent branding and engagement tactics.

DISCUSSION

The discussion reveals several key insights into the use of Instagram for promoting islands in Zadar County, particularly the activities of tourist boards (TBs) for Pag, Pašman, and Vir. The analysis highlights both strengths and gaps in their communication strategies, reflecting varying levels of engagement and alignment with strategic tourism goals.

Pag demonstrated the most robust Instagram activity, with frequent posts, high levels of engagement, and significant use of hashtags. This TB effectively utilized Instagram's visual and interactive capabilities to promote the island as a destination, focusing heavily on creating visually appealing and destination-centric content. However, despite its success in online engagement, Pag lacked offline integration and synergy with other TBs. This highlights a missed opportunity to establish a more cohesive promotional narrative across the Zadar County archipelago.

In contrast, Pašman exhibited a more diverse approach by covering a range of topics, including events, nature, and cultural heritage, alongside its promotional efforts. While this diversity adds value to its communication, the lack of consistent branding and lower engagement metrics suggest that further refinement is needed. Pašman could benefit from adopting more structured strategies for enhancing its Instagram presence, such as increasing the frequency and uniformity of posts while leveraging strategic hashtags to strengthen its identity.

Vir's Instagram activity was comparatively sparse and less dynamic, with fewer posts and limited engagement. While it focused on unique local elements such as gastronomy, Vir's lack of visual consistency and lower utilization of Instagram's interactive features reduced its impact as a promotional tool. Vir's strategy reflects a more traditional approach to communication that does not fully capitalize on Instagram's potential as a contemporary marketing platform.

Across all islands, the findings indicate a general alignment of Instagram content with regional strategic guidelines in providing timely and unified information. Howe-

ver, gaps remain in harmonization and synergy across the islands' TBs. The absence of collaborative efforts, such as shared campaigns or consistent branding across profiles, limits the collective promotional power of Zadar County's destinations.

The study underscores Instagram's potential as a dynamic tool for destination marketing, particularly in the context of visually driven platforms. However, the effectiveness of such promotion hinges on a strategic approach that integrates both online and offline activities, fosters collaboration among stakeholders, and aligns closely with broader tourism development goals. The findings call for a more unified, innovative, and adaptive use of Instagram to enhance Zadar County's appeal as a cohesive and attractive tourist destination.

CONCLUSION

This methodology provides a systematic framework for analyzing digital communication, enabling clear and structured comparisons across multiple metrics. By focusing on Instagram, the study effectively addresses the platform's significance in contemporary tourism promotion, where visual and interactive content plays a pivotal role. However, the methodology also presents some limitations as the study is focusing on a single year (2023) and might not fully capture long-term trends or seasonal variations in tourism promotion.

Instagram serves as a powerful tool in modern tourism promotion, offering dynamic and interactive means to engage potential visitors. By effectively harnessing its features and addressing associated challenges, destinations like the islands of Zadar County can significantly enhance their appeal and visibility in the competitive tourism landscape.

The study revealed an overall lack of consistent synergy among the TBs in their Instagram communication strategies. While efforts for unified promotion are evident, the diversity in approaches highlights room for improvement. TB Pag and TB Pašman exhibited stronger integration and alignment with digital communication trends, while TB Vir's strategy diverged due to its more traditional and less interactive approach. Although posts generally aligned with strategic guidelines, there remains significant potential for further integration. A more unified, creative, and adaptive approach to leveraging Instagram's capabilities would enhance communication effectiveness.

References

- Andelić, V., & Grmuša, T. (2017). Social networks as a media for promotion tourist destinations by youth. *Media, Culture and Public Relations*, 8(2), 182-193.
- Croatian National Tourism Board. (2023). *Hrvatski turizam u brojkama u 2022*. Retrieved from https://www.htz.hr/sites/default/files/2023-07/HTZ%20TUB%20HR_%202022.pdf.
- Digital Travel Expert. (2023). *Proven guide to Instagram marketing for 10+ tourism niches*. Retrieved from <https://digitaltravelexpert.com/instagram-marketing-for-tourism-brands>.

- DW.com. (2023). *How Instagram changed the tourism industry*. Retrieved from <https://www.dw.com/en/how-instagram-changed-the-tourism-industry/a-65348690>.
- European Proceedings. (2018). *Instagram and tourism promotion*. Retrieved from <https://www.europeanproceedings.com/article/10.15405/epsbs.2018.05.44>.
- Fu, Y. (2022). Rural tourism development and eco-tourism innovation path from the perspective of tourism psychology. *Tourism and Hospitality Management*, 28(1), 115-130.
- Gurvy Travel. (2022). *The Instagram effect: How social media is fueling overtourism*. Retrieved from <https://www.gurvytravel.com/blog-post/the-instagram-effect-how-social-media-is-fueling-over-tourism>.
- IndianEagle. (2023). *Unveiling Instagram's profound influence on tourism*. Retrieved from <https://www.indianeagle.com/travel diary/instagram-on-the-tourism-industry>.
- Krajnović, A., & Hordov, M. (2021). Astrotourism — A new form of tourism and its promotion through digital marketing. *CroDiM*, 4(1), 207-218.
- Lai, W.-H., & Vinh, N. Q. (2013). An application of AHP approach to investigate tourism promotional effectiveness. *Tourism and Hospitality Management*, 19(1), 1-22.
- National Geographic. (2016). *How Instagram is changing travel*. Retrieved from <https://www.nationalgeographic.com/travel/article/how-instagram-is-changing-travel>.
- Parlov, N., Perkov, D., & Sičaja, Ž. (2016). New trends in tourism destination branding by means of digital marketing. *Acta Economica Et Turistica*, 2(2), 139-146.
- Tandfonline.com. (2021). *Analyzing cultural tourism promotion on Instagram: A cross-cultural perspective*. Retrieved from <https://www.tandfonline.com/doi/pdf/10.1080/10548408.2021.1906382>.
- The Media Ant. (2022). *The role of social media in tourism marketing*. Retrieved from <https://www.themediaant.com/blog/role-of-social-media-in-tourism-marketing>.
- Tourism Teacher. (2022). *What is Insta tourism and how is it impacting travel?* Retrieved from <https://tourismteacher.com/insta-tourism>.

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THE COMMUNICATIONAL ASPECTS OF THE MEDITERRANEAN AESTHETICS SUBVERSIVE CHIC: A SYSTEMATIC LITERATURE REVIEW

A b s t r a c t

The popular term Mediterranean aesthetics, frequently used in the public media, depicts the chic qualities of Mediterranean architecture, design, landscapes, music, cuisine, and lifestyle. Scientific literature exudes a more profound meaning of the term, contextualizing subversive cultural formations. This review aims to provide insight into an expanded understanding of subversive chic dimensions of Mediterranean aesthetics depicted in scientific literature applying SLR using the PRISMA method. The research is conducted on scientific index and citation database materials from the arts, humanities, and social sciences to achieve articulated, creative, and critical insight. The finding shows that the notion of Mediterranean aesthetic embodies not only a physical but also an ontological space in which opposing political, social, and cultural ideas coexist. The aesthetic in the Mediterranean context exudes its subversive chic communicational aspects, established within three comprehensive frameworks: Migration, Sustainability, and Heritage, elaborated as different dialogues.

Key words: *Mediterranean, aesthetics, communication, subversive, chic, SLR, PRISMA*

The term Mediterranean aesthetics used in public media resonates with specific types of landscapes, music, food quality, forms of architecture, and various types of design from interior to fashion, as well as general lifestyle and mindset that exudes its chic attributes. The paper aims to provide a theoretical explanation for reading the subversive chic notion of Mediterranean aesthetics hidden under popular connotations. Academic scholars ground their work in the context of Mediterranean aesthetics, and although studies explicitly don't define its subversive chic elements, critical and activist aspects are expressed in all the research corpus as the backbone of this discourse.

Socio-cultural tradition sees communication as a symbolic process in the reproduction or production of social order, practices, and cultural context (Apuke, 2017). The broader presentation of Mediterranean aesthetics expands the observed object's critical and social aspects, whereby politics can also be characterized as aesthetic activity (Ran-

cière, 2006). The notion of subversive chic is used in various communicational contexts, from fashion to ideology, signifying when traditional norms and established structures of power are challenged, whereby blending modern style of thinking with rebellious or unconventional elements (Chic, 2024; Subversion, 2024).

The research was conducted in English and used materials from the arts, humanities, social sciences, cultural studies, architecture, design, and urbanism. The data was screened between July 10th and July 20th, 2024, sourcing the scientific index and citation databases Scopus and Web of Science (WoS), including years 2014 to 2024, to achieve eligible academic insight with creative, qualitative, and critical relevance. A mixed-method approach combined the SLR using the PRISMA method.

RESEARCH METHODOLOGY

Systematic Literature Review (SLR) using Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram is a rigorous, structured methodology that aims to identify and evaluate all relevant literature on a topic to derive conclusions about the question under consideration. Adopted by Kitchenham (2024) SLR using PRISMA phases will include the following review protocol:

Planning — problem identification and research goals, research question, dataset keywords and literature sources, review protocol string with inclusion and exclusion criteria; Conducting using PRISMA — screening and exclusion, eligibility, obtained set of literature and analysis; Reporting — report and findings.

REVIEW PROTOCOL

There is no detailed explanation of what the notion of Mediterranean aesthetics induces in an academic context, and this research aims to widen the meaning of the term and how the 'Mediterranean' is conceptualized and deployed as a communicational tool in academic works that, to some extent, discuss the aesthetic in the Mediterranean context with a focus on its subversive chic dimensions.

The following research question (RQ) is the foundation for the analysis: What are the Mediterranean aesthetic subversive chic communicational aspects in academic works that, to some extent, discuss the aesthetic in the Mediterranean context?

In the process of identifying and selecting relevant literature from the Scopus and WoS databases, the dataset topic search included: aesthet* OR esthet* (Topic) AND mediter*.

The review protocol string inclusion criteria are as follows: peer-reviewed articles, book chapters, books, proceedings papers, book or review articles, publications in English or Croatian, works published within the last 10 years, from 2014 to 2024, includes all open access types. The search focuses on subject areas like Social Sciences and Arts and Humanities (Scopus Categories), and on Architecture, Urban Studies, History

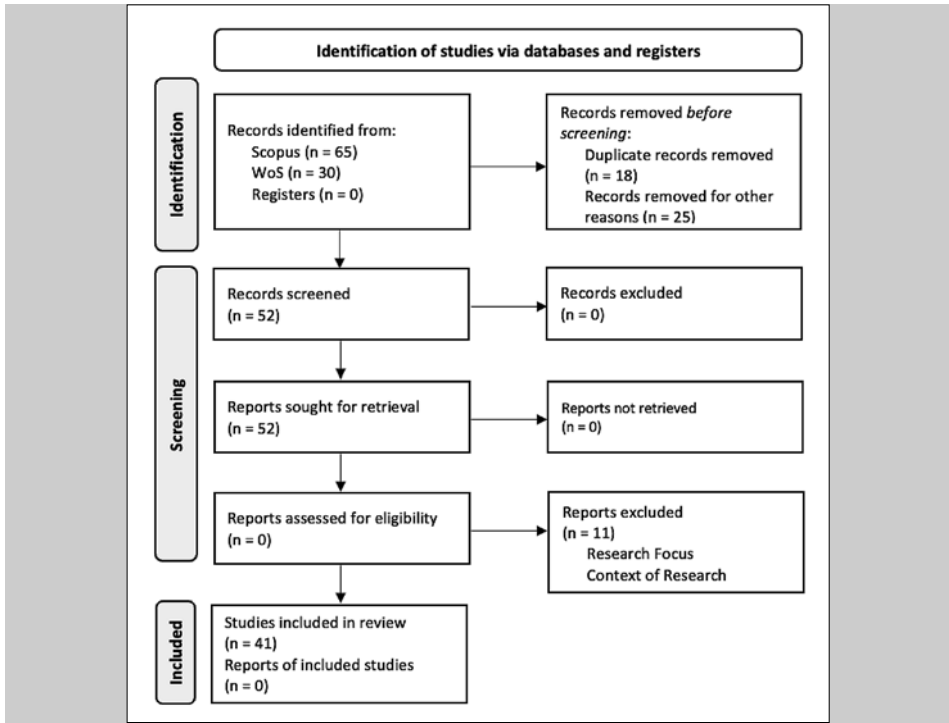


Figure 1 — PRISMA systematic review flow diagram adopted from Page et al. (2021)

or Art or Cultural Studies, Regional Urban Planning, Social Sciences Interdisciplinary, Humanities Multidisciplinary, Social Issues or Literary Theory Criticism, Music, Medieval Renaissance Studies or Communication (Web of Science Categories); Full-Text Review.

The review protocol string exclusion criteria are as follows: non-academic sources without rigorous analysis; studies with a research focus solely on Mediterranean climate, food, ecology, biodiversity, engineering, or unrelated topics, studies with a context of usage mainly on other elements than aesthetic attributes, studies where there is no visible connection between Mediterranean aesthetic and subversive chic dimensions, duplicates.

In the screening process eligibility assessment ensures that there are no threats to validity, which implies that the papers are important to further research and that they answer the research question.

According to PRISMA guidelines for SLR provided by Page et al. (2021), in the identification process, based on the dataset topic search and inclusion criteria, 95 records were identified from Scopus (N=65) and WoS (N=30). Those who met the inclusion and exclusion criteria were retained for further screening. In the first round of screening process (N=52) the abstracts and keywords were carefully read and under-

No.	Source	Type	Cited	Framework
1.	Slyomovics, 2014	Article	7	Migration
2.	Revell & Anda, 2014	Article	18	Sustainability
3.	Soufan, 2015	Article	2	Heritage
4.	Mazzara, 2015	Article	5	Migration
5.	Schiff, 2015	Review	5	Heritage
6.	Goldwyn & Silverman, 2016	Book	0	Heritage
7.	Ponzanesi, 2016	Review	5	Migration
8.	Harloe et al., 2018	Chapter	0	Heritage
9.	Bragança Dos Santos, 2018	Article	1	Sustainability
10.	Cabodevilla-Artieda, 2018	Article	2	Heritage
11.	Goldwyn & Nilsson, 2018	Book	5	Heritage
12.	García-Esparza & Altaba Tena, 2018	Article	11	Sustainability
13.	Balzan et al., 2018	Article	88	Sustainability
14.	Tsioulakis, 2019	Article	1	Heritage
15.	Paço et al., 2019	Article	20	Sustainability
16.	Pezzani & Heller, 2019	Article	25	Migration
17.	Heller & Pezzani, 2020	Chapter	0	Migration
18.	Weinrich, 2022	Article	5	Heritage
19.	Giubilaro, 2020	Article	6	Migration
20.	Mangano & Ugolini, 2020	Article	12	Sustainability
21.	Latorre-Izquierdo et al., 2021	Article	0	Heritage
22.	Angelis & Angelis, 2021	Review	0	Migration
23.	Zambrano-Prado et al., 2021	Article	20	Sustainability
24.	Ferrer Forés, 2022	Proceedings	0	Heritage
25.	Morena et al., 2022	Proceedings	0	Heritage
26.	Zivkovic, 2022	Article	0	Migration
27.	Skotheim, 2022	Article	1	Heritage
28.	Lize & Fischer, 2022	Article	1	Migration
29.	Alieva et al., 2022	Article	9	Sustainability
30.	Napoli et al., 2022	Article	14	Sustainability
31.	Pornaro et al., 2023	Article	0	Sustainability
32.	Krawczyk, 2023	Article	0	Migration
33.	Stadlinger, 2023	Chapter	0	Heritage
34.	Ajmi et al., 2023	Article	0	Sustainability
35.	Babington et al., 2023	Article	2	Sustainability
36.	Albaladejo-García et al., 2023	Article	3	Sustainability
37.	Pumo et al., 2023	Article	6	Sustainability
38.	Stafford, 2024	Article	0	Heritage
39.	Hoydis, 2024	Article	0	Migration
40.	Cetinkaya Ciftcioglu, 2024	Article	0	Sustainability
41.	Rescic et al., 2024	Article	0	Heritage

Table 1 — Papers selected for the systematic analysis (N=41)

went the process of eligibility assessment, after which the 11 reports were excluded due to inadequate context and focus of research. In the second round of the screening process (N=41) the full texts were carefully read with a focus on answering the research question.

OBTAINED SET OF LITERATURE AND ANALYSIS

The obtained set of analyzed data comprised 41 research papers from 2014 to 2024. The papers listed in Table 1 provide detailed information, including the source, the type of publication, the number of citations, and the communicational framework division.

REPORT AND FINDINGS

The communicational aspects of the Mediterranean aesthetic subversive chic are established and included in the overall research corpus, elaborated as different dialogues, divided within three comprehensive frameworks: Migration, Sustainability, and Heritage.

MIGRATION FRAMEWORK

'Border Spectacle Dialogue' (See Table 1; No. 5, 17, 18, 20, 23, 29) deploys migration across the Mediterranean geographies in explicit relation to media coverage and the political spectacle of a maritime border regime. Visual representation has become crucial with the spread of photography and art projects on migrant issues. Transforming the Mediterranean Sea into a liquid space of deadly journeys and vulnerable bodies, geopolitics combine non-colonial forms of violence and racism and opens a question of what kind of response we should give when witnessing human suffering (Giubilaro, 2020; Angelis & Angelis, 2021). The aesthetic regime is also present in the security policies embodied in the technical devices and digital militarization of the borders, where migrants themselves gain visibility and become 'subjects of power' transforming lived experiences of death and disappearance into an objectified reality that can mobilize the public as part of a counter-narrative (Mazzara, 2015; Weinrich, 2022; Lize & Fischer, 2022).

'Postcolonial Dialogue' (See Table 1; No. 2, 8) expresses the colonizing ideologies of Mediterranean physical and ontological space. Correlation between contemporary geographies and mainstream European modernities depict poetics and esthetics of 'natural occupancy' (Slyomovics, 2014). The fostered myth allows settlers' colonists to artistically produce their cultural formations as a political possibility for a dialogue with neighbors, appropriating a sense of nativeness for themselves. Postcolonial cinema converses on how existential journeys are represented and visualized. Subversives of the films allow the audience to gain a different perspective on the Mediterranean migration crisis by interrupting the Western narrative, which centers on the gaze of control (Ponzanesi, 2016).

'Nature Eroticism and Multispecies Dialogue' (see Table 2; No. 27, 33, 40) denotes how Mediterranean nature allows access to a larger cultural memory (Zivkovic, 2022). It depicts multispecies climate migration between the continents and eroticizes natural landscape while upbringing as a substitute for national identifiers. Subversive interventions within artistic practices of filming and writing are present in one's filmmaker's gaze, enabling the viewers to feel the multispecies perspective of the land, or to capture non-human subjectivities in between rationality and spirituality (Krawczyk, 2023; Hoydis, 2024).

SUSTAINABILITY FRAMEWORK

'Urban Landscape Dialogue' (see Table 2: No. 3, 10, 14, 16, 24, 31, 35, 36, 38) shows how socio- ecological, and well-being solutions drawn from the features of Mediterranean landscapes are being subverted as the aesthetic principles for urban biophilia environmental engineering, green infrastructure, and landscape architecture. Designing new green urban experiences, such as green walls, terraces, and roofs, contributes to livability and enables sustainability in higher-density environments amid climate change and increasing urbanization (Bragança Dos Santos, 2018; Zambrano-Prado et al., 2021; Ajmi et al., 2023; Pumo et al., 2023).

'Vernacular Landscape Dialogue' (see Table 2; No. 13, 21, 30, 32, 37, 41) addresses approaches to aesthetic quality in times of excessive pressure on popular tourist destinations. Vernacular landscape practices and policies serve as principles for a sustainable ecosystem service that includes aesthetical, cultural, truistic, historical, and economic dimensions.

HERITAGE FRAMEWORK

'Architectural Dialogue' (see Table 2; No. 4, 11, 25, 26, 42) addresses modern constructive ideas of the vernacular heritage that contributed to what we consider today's traditional Mediterranean architecture. It highlights how local building materials, innovations, and manufacturing affirmed Modernist architectural designs. Travertine is an example of a territory identity stone, and cement tiles characterize the architecture of Modernity. Furthermore, the defensive architecture transcends the localities in its decorative Mediterranean Gothic style. In addition to Modernity that rises above tradition, the isolation towards the hinterland and an opening by sea, modified to meet human needs while preserving nature, popularized settlements that inspire artists and tourists with their modern chic (Ferrer Forés, 2022; Morena et al., 2022).

'Cultural Heritage Dialogue' (see Table 2; No. 9, 12, 15, 19, 28, 39) dissolves around the subversive chicness of various Mediterranean artistic practices. Grecian dance greatly influenced ballet and experimental dance, depicting dance as a social practice and means of female emancipation. Ancient Greek puppetry shows its healing reactions from laughter to trauma, aligning with the religious festivals' aims that hosted such

performances (Skotheim, 2022). Byzantine literature opens East-West literary relations with roots in a broader cultural turn away from tradition toward the postmodern cosmopolitan ideal that favors differences (Goldwyn & Nilsson, 2018). Religious text Ma-wlid's poetics allowed a new experience of Arabic and reflected the rise of the Muslim population. The aesthetic of women's veiling across the Mediterranean, accepted because of secular and religious patriarchal values, powerfully shaped women's experiences, fashion, status, and personal beliefs. Insights of rehearsing ethnic-jazz Mediterranean melodies discover how aesthetical elements emerge due to personal rivalries expressing negotiation and cultural hybridity (Tsioulakis, 2019).

'Cosmopolitan Modernism Dialogue' (see Table 2; No. 7) dissolves around the historical context of the multicultural Mediterranean and the region's potential for working-class liberation across ethnic boundaries, where Modernism is deployed as an ethical and political value. Intercultural exchange of Mediterranean Modernism anticipates the postcolonial and poststructuralist concerns as dominant thinking in the humanities and social sciences in the 1970-ies. New Mediterranean aesthetics reject traditional views, and it is wrapped up in imperialist and Eurocentric ideology, abolishing the will of marginalized peoples to speak for themselves. Modern Mediterranean tendencies proposed a desire for cosmopolitan connectedness, where the local culture is not perceived as revolutionary (Goldwyn & Silverman, 2016). Terms like 'Mediterranism' imply a dominant and Eurocentric point of view that exoticizes and homogenizes knowledge of the region (Goldwyn & Silverman, 2016). Many descriptions of Mediterranean imagined space display strong resemblances to Modernism, and others are referencing as sources of creativity and wisdom, aiming cultural exchange, negotiation, and hybridity, the classical mythology, stories, archetypes, and the importance of the body sensitivity against the frigidity of pure reasoning (Goldwyn & Silverman, 2016).

'Mythic Dialogue' (see Table 2; No. 6, 22, 34) shapes the perception of subversive experiences and beliefs. The construction of cultural identity in literature issues the Mediterranean mythical aesthetics as the correlation between real and imagined truthness throughout the collective memory. Aestheticizes popular narrative of Rome's genocidal destruction of Carthaginians reveals profound anxiety concerning Phoenician ethnic instability in the Mediterranean. Subversive chic is also discussed through the artist's portrayal of the new American titans on the walls of Rockefeller Center, in paradoxical reading between the Mediterranean mythology of Atlantis, the Christian religion, and the history of the discovery of America in the service of capitalist propaganda and ideology of the 'American Dream' (Latorre-Izquierdo et al., 2021).

DISCUSSION AND CONCLUSION

The findings from the academic literature show several key insights listed as different dialogues on how the notion of Mediterranean aesthetic is utilized as a communicati-

ve tool and how it subverts traditional norms. The Mediterranean aesthetic in the scholarly discourse deconstructs popular connotations, deploying three overall communicational frameworks: Migration, Sustainability, and Heritage. The aesthetic in the Mediterranean context embodies physical and ontological space, meaning geographical, historical, mythical, and cultural. In its dialogues, it exudes the critical, political, postcolonial, and sustainable subversive chic dimensions.

The 'Migration Framework' overlaps with the visual aesthetics politics of the Mediterranean 'Border Spectacle Dialogue,' with the 'Postcolonial Dialogue' between the settlers and local communities, and with the cultural memory described through 'Nature Eroticism and Multispecies Dialogue' expressed through art projects and literature.

The 'Sustainability Framework' encloses Mediterranean aesthetics of 'Urban Landscape Dialogue' and 'Vernacular Landscape Dialogue' catalyzing subversive and sustainable solutions to extreme urbanization effects and dangers in today's times of climate crises.

The 'Heritage Framework' discusses subversive historical, architectural, cultural, mythical, and postcolonial elements of Mediterranean Modernity in 'Architecture Dialogue,' 'Cultural Heritage Dialogue,' 'Cosmopolitan Modernism Dialogue,' and 'Mythic Dialogue.'

The analysis in Table 1 shows that the most frequent type of publication is an Article (N=31), followed by Reviews (N=3), Book Chapters (N=3), Proceedings Papers (N=2), and Books (N=2). The most cited works revolve around a 'Sustainability Framework' that includes utilitarian research purposes in providing practical urban, ecological, and economic solutions.

The review didn't limit access to the plentiful paper corpus (N=41), so there were no potential constraints, such as language barriers. Possible biases in the literature, such as direct political points of view found in the corpus of 'Migration' and 'Heritage' frameworks, didn't impact the insight on the Mediterranean aesthetic, rather than giving more critical and subversive views.

Implications for future research suggest new areas for further exploration, such as the critical impact in cross-cultural and cross-political adaptations in printed and digital media coverage on Mediterranean aesthetics.

References

- Ajmi, R., Allouche, F. K., Taïbi, A. N., & Boussema, S. B. F. (2023). Developing a Qualitative Urban Green Spaces Index Applied to a Mediterranean City. *Urban Science*, 7(4), 115. <https://doi.org/10.3390/urbansci7040115>.
- Albaladejo-García, J. A., Zabala, J. A., Alcon, F., Dallimer, M., & Martínez-Paz, J. M. (2023). Integrating socio-spatial preference heterogeneity into the assessment of the aesthetic quality of a Mediterranean agricultural landscape. *Landscape and Urban Planning*, 239, 104846. <https://doi.org/10.1016/j.landurbplan.2023.104846>.

- Alieva, D., Holgado, D., De Juan, S., Ruiz-Frau, A., Villasante, S., & Maya-Jariego, I. (2022). Assessing landscape features and ecosystem services of marine protected areas through photographs on social media: Comparison of two archipelagos in Spain. *Environment, Development and Sustainability*, 24(7), 9623-9641. <https://doi.org/10.1007/s10668-021-01841-y>.
- Angelis, E. D., & Angelis, G. D. (2021). The sea as a border, the sea as an experience: Artistic engagements with the European migration crisis in three films. *Revista Crítica de Ciências Sociais*, 125, 147-166. <https://doi.org/10.4000/rccs.12268>.
- Babington, A., Hughes, M., Farrell, C., Chambers, J., & Standish, R. J. (2023). Preference for multi-layered, flowering, woody streetscape plantings in a mediterranean-type climate. *Urban Forestry & Urban Greening*, 89, 128094. <https://doi.org/10.1016/j.ufug.2023.128094>.
- Balzan, M. V., Caruana, J., & Zammit, A. (2018). Assessing the capacity and flow of ecosystem services in multifunctional landscapes: Evidence of a rural-urban gradient in a Mediterranean small island state. *Land Use Policy*, 75, 711-725. <https://doi.org/10.1016/j.landusepol.2017.08.025>.
- Bragança Dos Santos, C. (2018). Rehabilitation and renewal of Mediterranean structures. The Utopic landscape of Algarve. *REGION*, 5(1), 113-137. <https://doi.org/10.18335/region.v5i1.218>.
- Cabodevilla-Artieda, I. (2018). La arquitectura defensiva de la Corona de Aragón en los siglos XIV y XV. Entre la ballesta y la pólvora. *EGA Revista de Expresión Gráfica Arquitectónica*, 23(33), 103. <https://doi.org/10.4995/ega.2018.10393>.
- Cetinkaya Ciftcioglu, G. (2024). Understanding the crucial role of the socio-ecological values of olive groves in landscape stewardship: An empirical evidence from Akdeniz protected area of Northern Cyprus. *Rural Landscapes: Society, Environment, History*, 11(1), 1. <https://doi.org/10.16993/rl.114>.
- Chic. (2024, November 21). <https://www.merriam-webster.com/dictionary/chic>.
- Ferrer Forés, J. J. (2022). Binibeca Vell. Interpreting tradition. *Proceedings HERITAGE 2022 — International Conference on Vernacular Heritage: Culture, People and Sustainability*, 1-7. <https://doi.org/10.4995/HERITAGE2022.2022.15325>.
- García-Esparza, J. A., & Altaba Tena, P. (2018). Time, cognition, and approach: Sustainable tourism strategies for abandoned vernacular landscapes. *Sustainability*, 10(8), 2712. <https://doi.org/10.3390/su10082712>.
- Giubilaro, C. (2020). Regarding the shipwreck of others: For a critical visual topography of Mediterranean migration. *Cultural Geographies*, 27(3), 351-366. <https://doi.org/10.1177/1474474019884928>.
- Goldwyn, A. J., & Nilsson, I. (Eds.). (2018). *Reading the Late Byzantine romance: A handbook* (1st ed.). Cambridge University Press. <https://doi.org/10.1017/9781108163767>.
- Goldwyn, A. J., & Silverman, R. M. (Eds.). (2016). *Mediterranean modernism*. Palgrave Macmillan US. <https://doi.org/10.1057/978-1-137-58656-8>.
- Harloe, K., Momigliano, N., & Farnoux, A. (Eds.). (2018). *Hellenomania* (1st ed.). Routledge. <https://doi.org/10.4324/9781315277370>.
- Heller, C., & Pezzani, L. (n.d.). *Tracing violence within and against the Mediterranean frontier's aesthetic regime*.
- Hoydis, J. (2024). Parables for planetary crisis: Storytelling and multispecies migration in Amitav Ghosh's *Gun Island*. *Interventions*, 1-19. <https://doi.org/10.1080/1369801X.2024.2365155>.
- Kitchenam, B. (n.d.). *Procedures for Performing Systematic Reviews*.

- Krawczyk, M. (2023). Becoming-with donkeyness. *Environmental Humanities*, 15(2), 215-231. <https://doi.org/10.1215/22011919-10422377>.
- Latorre-Izquierdo, J., Jiménez-González, M., & Cannon, C.-E. (2021). The Atlántida of capitalism. The murals of Sert in the decorative programme of New York's Rockefeller Center. *Communication & Society*, 369-386. <https://doi.org/10.15581/003.34.2.369-386>.
- Lize, P. D., & Fischer, A. R. (2022). Death and disappearance at border crossings: Factualization devices and truth(s) accounts. *Tapuya: Latin American Science, Technology and Society*, 5(1), 2111106. <https://doi.org/10.1080/25729861.2022.2111106>.
- Mangano, S., & Ugolini, G. M. (2020). New opportunities for cruise tourism: The case of Italian historic towns. *Sustainability*, 12(11), 4616. <https://doi.org/10.3390/su12114616>.
- Mazzara, F. (2015). Spaces of visibility for the migrants of Lampedusa: The counter narrative of the aesthetic discourse. *Italian Studies*, 70(4), 449-464. <https://doi.org/10.1080/00751634.2015.1120944>.
- Morena, S., Messina, B., & Ferreyra, C. (2022, September 15). Rediscovering tradition through representation: The vaulted house of the Amalfi Coast. *Proceedings HERITAGE 2022 — International Conference on Vernacular Heritage: Culture, People and Sustainability*. <https://doi.org/10.4995/HERITAGE2022.2022.14337>.
- Napoli, G., Corrao, R., Scaccianoce, G., Barbaro, S., & Cirrincione, L. (2022). Public and private economic feasibility of green areas as a passive energy measure: A case study in the Mediterranean city of Trapani in Southern Italy. *Sustainability*, 14(4), 2407. <https://doi.org/10.3390/su14042407>.
- Paço, T. A., Cruz De Carvalho, R., Arsénio, P., & Martins, D. (2019). Green roof design techniques to improve water use under Mediterranean conditions. *Urban Science*, 3(1), 14. <https://doi.org/10.3390/urbansci3010014>.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. <https://doi.org/10.1136/bmj.n71>.
- Pezzani, L., & Heller, C. (2019). AIS politics: The contested use of vessel tracking at the EU's maritime frontier. *Science, Technology, & Human Values*, 44(5), 881-899. <https://doi.org/10.1177/0162243919852672>.
- Ponzanesi, S. (2016). On the waterfront: Truth and fiction in postcolonial cinema from the South of Europe. *Interventions*, 18(2), 217-233. <https://doi.org/10.1080/1369801X.2015.1079501>.
- Pornaro, C., Fidanza, M., & Macolino, S. (2023). Yarrow (*Achillea millefolium*) for low-input lawns in the Mediterranean environment. *Urban Forestry & Urban Greening*, 79, 127812. <https://doi.org/10.1016/j.ufug.2022.127812>.
- Pumo, D., Alongi, F., Cannarozzo, M., & Noto, L. V. (2023). Climate adaptive urban measures in Mediterranean areas: Thermal effectiveness of an advanced multilayer green roof installed in Palermo (Italy). *Building and Environment*, 243, 110731. <https://doi.org/10.1016/j.buildenv.2023.110731>.
- Rescic, S., Fratini, F., Cuzman, O. A., & Sacchi, B. (2024). Historical use of travertine in the Tuscan architecture (Italy). *Heritage*, 7(1), 338-365. <https://doi.org/10.3390/heritage7010017>.
- Revell, G., & Anda, M. (2014). Sustainable urban Biophilia: The case of Greenskins for urban density. *Sustainability*, 6(8), 5423-5438. <https://doi.org/10.3390/su6085423>.

- Schiff, R. P. (2015). On firm Carthaginian ground: Ethnic boundary fluidity and Chaucer's Dido. *Postmedieval: A Journal of Medieval Cultural Studies*, 6(1), 23-35. <https://doi.org/10.1057/pmed.2014.42>.
- Skotheim, M. A. (2022). The puppet and the puppet-master in ancient Greece: Fragments of an art form. *Open Library of Humanities*, 8(1). <https://doi.org/10.16995/olh.6568>.
- Slyomovics, S. (2014). Who and what is native to Israel? On Marcel Janco's settler art and Jacqueline Shohet Kahanoff's "Levantinism." *Settler Colonial Studies*, 4(1), 27-47. <https://doi.org/10.1080/2201473X.2013.784238>.
- Soufan, A. (2015). An overview of cement tile manufacturing and importation in Syria and Lebanon: Damascus-Beirut, 1880s-1940s. *ABE Journal*, 8. <https://doi.org/10.4000/abe.10849>.
- Stadlinger, E. (2023). The literary construction of Mediterranean identity: Memory and myth in Maria Corti. In A. Fabris, A. Göschl, & S. Schneider (Eds.), *Sea of Literatures* (pp. 65-84). De Gruyter. <https://doi.org/10.1515/9783110775136-005>.
- Stafford, G. (2024). Veiling and head-covering in late antiquity: Between ideology, aesthetics and practicality. *Past & Present*, 263(1), 3-46. <https://doi.org/10.1093/pastj/gtad017>.
- Subversion*. (2024, December 7). <https://www.merriam-webster.com/dictionary/subversion>.
- Tsioulakis, I. (2019). Rehearsing the "Éthnik-Jazz Aesthetic": Insights from practices with Athenian musicians. *Journal of World Popular Music*, 6(1), 85-102. <https://doi.org/10.1558/jwpm.38564>.
- Weinrich, I. (2022). From the Arab lands to the Malabar Coast: The Arabic mawlid as a literary genre and a traveling text. *Entangled Religions*, 11(5). <https://doi.org/10.46586/er.11.2020.9467>.
- Zambrano-Prado, P., Pons-Gumí, D., Toboso-Chavero, S., Parada, F., Josa, A., Gabarrell, X., & Rieradevall, J. (2021). Perceptions on barriers and opportunities for integrating urban agri-green roofs: A European Mediterranean compact city case. *Cities*, 114, 103196. <https://doi.org/10.1016/j.cities.2021.103196>.
- Zivkovic, Y. (2022). Communing with figs and palm trees. Nature mysticism, migration and moral maturity in Marica Bodrožić. *Oxford German Studies*, 51(3), 350-367. <https://doi.org/10.1080/00787191.2022.2116824>.

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FOOTBALL PLAYERS', COACHES' AND CLUB OFFICIALS' VIEW OF SUPPORTERS' GROUPS IN THE MEDITERRANEAN

Abstract

The way fan groups work and their activities are more and more frequently the subject of media monitoring. Fans are mostly perceived negatively, since they are often equated with hooligans and their deviant behaviour in general, because matches, especially derby matches, are where cheering turns into violent, more aggressive behaviour, which in turn is further reinforced by racist and other chauvinist outbursts. On the other hand, fan groups show no desire to change this kind of public opinion. The goal of this research is to show the way of communication among the representatives of fans, football players, coaches, club staff and football club officials, what the perception of fan groups by football players, coaches, club employees and club officials is, and finally, what the role of fan groups in the success of the club or team is. Also, this paper includes recent research in which the focus groups were also football club coaches in the Mediterranean and South-Eastern Europe, which is our general research area.

Key words: fans, football, coaches, the Mediterranean, media, communication

INTRODUCTION

Beside athletes themselves, officials and other participants partake in the sports process or a sports competition, such as volunteers and security guards, including also fans and supporters' groups whose importance in this context is growing nowadays. The organization and action of supporters' groups are often in the spotlight today, particularly when it comes to media coverage. Therefore, this paper mostly deals with the football players' perception of supporters' groups, along with the opinions of officials and coaches. Football is not just an outdoor game where the ball is passed countless times and goals are scored. Behind the scenes, there is a large organisational 'machinery' that makes this game as great as it is today. Beside football players as protagonists who invest vast efforts to achieve great results and coaches who instruct them how to accomplish their goals, there are plenty of other people who deal with other football-

related issues such as technical support, finance and marketing. Football clubs are managed by their board of directors, general assembly and/or supervisory board, marketing department and public relations department. In this view, they can be compared with any other legal entity, but there is one thing that makes the difference. It is fans that generate so much publicity in football and other sports as well. While many people are involved in sporting event organization, there is only one group of people who, depending on the situation, motivate or criticize the players. Sometimes, the coaches, managers and boards are not exempted from such criticism.

In such large organizations, it is essential that every segment is put in the right place. For example, everyone can realize the importance of promotion and public relations in world cups, European championships, UEFA Nations League and UEFA club competitions such as Champions League, Europe League and Conference League. An important role is also played by media who process and disseminate information and thus tailor public opinion. Based on the relevant literature, this paper elaborates the distinctiveness and visibility of supporters' groups as well as their conduct and points of mutual interest. The theoretical part of the paper tackles the image of supporters' groups provided by media and relating stereotyping in modern society. The concrete examples provide a clear picture of supporters' groups in certain circumstances, both in a positive and negative context. The research leans on semi-structured interviews involving football players, club officials, club management and coaches.

The research is aimed at obtaining an insight into the main football actors' view of supporters' groups, at confirming or discarding the set hypotheses and at drawing relevant conclusions based on the research results.

The research revolves around the following hypotheses:

H1: Players and coaches communicate with supporters' groups informally whereas club officials do that formally.

H2: Football players, coaches and club officials have mostly a positive attitude towards supporters' groups.

FUNCTIONAL GROUPS

In order to facilitate the explanation of the term 'supporters' groups', it may be useful to define the notion of functional groups first. What makes a certain group functional is its particular structure and organization as well as the interdependence, common goals and common enthusiasm of its members (pursuant to Forsyth, 2006, pp. 10-16). "Once when a group assumes the above features, it can be said to have become functional and subject to group communication rules" (Čerepinko, 2012, p. 95). The functionality of a particular group can be depicted through the functionality of supporters' groups themselves who are characterized by a definite structure, formal and informal leaders, and common interests — their members support the same club and the same

goals — wish that their team wins. Yet, when it comes to supporters' groups, there are some controversies regarding their misbehaviour.

SUPPORTERS' GROUPS

“Fans or supporters are individuals gathered in a group who, with their cheering, stimulate their team to achieve better results in sports games. While doing so, they can use some devices and kits. A supporters' group represents a “heterogenous crew which is an integral part of the audience in a sports game and appears to be an unstructured and unorganized social group” (Turković, 2013, p. 13). Supporters' groups in the modern sense originate from England and their history is 150 years old, though their very beginnings are allegedly related to ancient China, Greece and Rome.

There are a couple of crucial elements that make supporters' groups different from other audience. The first one refers to their intense interest in some sport. The second one relates to the intensity of their emotional identification with the club they support and the symbolic meaning of that club. The third one is their willingness to do all sorts of things to help their club achieve better results. (Lalić, 1993, p. 46)

Beside the said features, supporters' groups are recognized by their banners and flags which represent the club or national team they support. The supporters of Croatian national teams wear red-and-white checkered outfits and are characterized by the Croatian tricolour (red, white and blue) and special chants. Dutch supporters are known for their orange jerseys, due to which they are nicknamed “Oranje”, or colloquially “Oranjegekte” (orange craze) or “Oranjekoorts” (orange fever)¹. Furthermore, the supporters of Brazilian national teams wear distinctive yellow shirts while players representing Italy are called “Azzurri” due to their blue jerseys.

Like national teams, football clubs are linked with their typical colours which make them visually distinctive. Beside flags, the number of which have, some claim, considerably increased since the 1960s, Lalić (1993, pp. 171-197) mentions other parts of fan choreography, such as cap, hats, scarves and other gear which complement the visual identity of supporters' groups. Next to visual elements, there is verbal expression in the form of cheering and chanting. “Members of supporters' groups lead and guide such verbal expression, continuously cheer their team and often heckle the opponents and referees, and the events and incidents on the pitch (goals, controversial refereeing decisions etc.) mostly intensify the chanting process” (Lalić, 1993, p. 192).

Although such a cheering format should have positive connotations in theory, it is not the case in reality where one can often hear heckling and slogan-chanting aimed

¹ <https://hercegovina.in/video-nizozemski-navijaci-sportasi-i-oranje-pandemija>

at opposing teams, supporters, clubs and referees. An example of such abusive language is the 2023 La Liga match between Valencia and Real Madrid where Valencia supporters at the Mestalla stadium racially abused Brazilian player Vinícius Júnior.²

INTERVIEWING METHOD

Pursuant to Sapunar, an interview is “the simplest and in journalism, the most frequent form of two-way communication” (Sapunar, 2004, pp. 113-114). The author considers “asymmetric communication” as the main feature of an interview, which implies that the interviewee knows more about the subject matter than the interviewer. He adds that one of the tasks of a journalistic interview is to shape the communication of information from the examiner’s perspective. Beside journalistic interviewing, there are other types of interviewing — research, instructive and investigative (Sapunar, 2004, pp. 113-114). Research interviews include structured and unstructured interviews. In line with Struna³, a structured interview is “an interview with a predefined content and standardized question list seeking precise information”⁴ while a semi-structured interview is “an interview in which the examiner permits the interviewee to slightly depart from asked questions”.⁵ The research in this paper utilizes the semi-structured interviewing method for the purpose of shaping particular questions for football players, coaches, club officials and club management respectively. As an example of similar research conducted based on a target group and semi-structured interviews, one can quote a study carried out within the framework of the Erasmus+ Sports project called “Creating Life Champions” coordinated by the Youth Development Centre of Belgrade. “The objective of the study was to perform a deep analysis of the football coaches’ perspective of the educational role of sports, their personal experiences and possible pathways for strengthening that role” (Pavlović, Delibašić, Parčina, Lacković, 2024, p. 160).

The research took advantage of the experiences of football coaches dealing with children from seven mostly Mediterranean countries or with similar historical-geographical features (Croatia, Serbia, Bulgaria, North Macedonia, Greece, Turkey and Portugal), whose age ranged from 11 to 15 years. The study took account of all professional and ethical standards promoted by the Ethics Committee of the Institute for Philosophy and Social Theory of the University of Belgrade. “In an open conversation, the coaches talked about how they see the educational role of football coaches in children’s life and how a perfect football coach and a perfect football practice should look like” (Pavlović, Delibašić, Parčina, Lacković, 2024, p. 161).

² <https://sportklub.n1info.hr/nogomet/skandal-u-spanjolskoj-vinicius-zrtva-rasistickog-vrijedanja>

³ Hrvatsko strukovno nazivlje (Croatian specialized terminology).

⁴ <http://struna.ihj.hr/naziv/strukturirani-intervju/20988>

⁵ <http://struna.ihj.hr/naziv/polustrukturirani-intervju/25250>.

INTERVIEWS ABOUT THE PERCEPTION AND KNOWLEDGE OF SUPPORTERS' GROUPS

The interviews were conducted with the aim to investigate and analyse the football players', coaches' and club officials' perception of supporters' groups. There was a total of 15 examinees or more precisely, seven club officials, four males and three females, aged 27, 33, 35, 40, 45, 49 and 55 respectively, three coaches aged 41, 45 and 48 respectively, and five football players aged 18, 20, 22, 23 and 26 respectively. The identity of the interviewed persons is anonymous and known only to the interviewers. The answers encompass only some general information (age, sex and position in the club).

INTERVIEWING LIMITATIONS AND RELATING PROBLEMS

The most difficult part of the interviews was to come into contact with the interviewees and schedule the interviews. Due to the volume of the assignment and non-harmonized timetables, both sides needed to make compromises. The examinees were reached via e-mail as well as through agents, club spokesmen and personal contacts. The online interviews were hampered by unstable internet connection whereas the interviews conducted via e-mail lacked eye contact, gesticulation and voice tone.

INTERVIEWS WITH CLUB OFFICIALS

A total of seven club officials were interviewed, out of which there were three females aged 27, 33 and 45 respectively, and four males aged 35, 40, 49 and 55 respectively. The interviewed persons have different positions in their clubs, from top management to background staff. Semi-structured interviews were utilized since the questions were adapted to the examinees' positions in the clubs. The interview questions were divided into two segments. The first one revolved around general questions, i.e., knowledge of the supporters' world, relationship and communication with supporters' groups. The second one was based on the interviewees' opinion about the influence of supporters' groups on team performance and their role in clubs' operations.

For example:

Interview — club official/coach/player

General information

1. Sex:
2. Age:
3. What is your role in the club — player, coach, board member or some other kind of a club official?

General knowledge of the supporters' world

1. How much do you know about the activities of supporters' groups in Croatia and worldwide?

2. What is your general opinion about supporters' groups?
3. Are you acquainted with fan-related incidents? Can you name some?
4. Are you familiar with the humanitarian action and positive examples of the activities of supporters' groups? Can you give us some examples?

Relationship and communication with supporters' groups

5. Have you met any supporters' group members? If yes, what is your relationship with them — friends, acquaintances, family members...

6. Are you in contact with supporter' group members? If yes, how do you assess your communication? How do you communicate with them — personal contact, socializing, social networks, other communication channels such as Viber or WhatsApp.

7. Is there formal or informal communication between the club and supporters' group? Can you specify it?

8. Do you personally or does the club provide assistance in the performance of supporters' group activities? Can you give us some examples?

Influence of supporters' group on team performance and club activities

9. Have you noticed that the cheering by the supporters' group has effect on your team performance? Has the fan support resulted only in better team performance or has it sometimes entailed negative effects — can you give us some examples?

10. Which role, according to your opinion, should the supporters' group have in club activities (e.g., coordinated arrival at the stadium and participation in the events organized by the club, purchasing tickets and fan gifts and requisites, membership in the club or direct participation in the operations of club bodies)? In which bodies — managing board, assembly, supervisory board or similar?

ANALYSIS OF CONDUCTED INTERVIEWS

There was a total of 15 interviews, out of which seven club officials, three coaches and five football players were interviewed.

Generally, the opinion of the interviewees about supporters' groups is predominantly positive although they mention a negative side thereof. All the examinees are acquainted with the negative occurrences and incidents caused by supporters' groups. One club official held though that "most of the things can fall into fan repertoire". Another club official and a member of club management indicate the seriousness of the situation and issues related to the negative occurrences and incidents caused by supporters' groups. The club management member highlighted "The ultras subculture exists in principle for itself, though at first glimpse, it seems that football fanatics regard the victory of their team as their primary goal. They are well-organized and there is a clear hierarchy". One interviewed coach partly justifies their behaviour because they

need to stick to their codes. Other coaches mentioned their misbehaviour such as fights and the use of pyrotechnic.

When it came to the positive examples of the activities of supporters' groups, all the examinees revealed their contribution in the Homeland War where they fought as volunteers. Besides, their assistance in hard times, such as earthquakes, floods, fires and the COVID-19 pandemic, needs to be pointed out too. Finally, one must not forget their charity work in which they take part together with the clubs they support.

The next group of questions referred to the communication with supporters' groups. The formal communication is performed on the club website and by means of social networks, newsletters, press statements, billboards, leaflets rendered during football games, at the round table where representatives of supporters' groups and members of club management meet, at ordinary meetings and on the phone. One club official stated that every club is obliged to appoint an official for communication with fans pursuant to the "Licencing Regulation". Such an officer represents a link between the club and its fans, and serves to enhance the dialog between them. His/her work depends on the information received from both sides. Furthermore, he/she informs the fans on relevant decisions of the Managing Board and vice versa. In addition, he/she is expected to build a relationship not only with different supporters' groups and initiatives but also with the police, security officers and other clubs' officials who have the same task, all for the purpose of making the fans behave in compliance with effective safety instructions. With respect to informal communication modes, the interviewees mentioned spending time with the supporters in the corridor before the game.

In regard to providing the supporters' groups with assistance in their activities, the examinees singled out common participation in humanitarian action, aid when finding tickets and organizing away trips, mediation in discussions, support in some fan activities, aid when preparing banners and flags, socializing with the supporters and various promotions.

The last group of questions relates to the influence of supporters' groups on team performance or their role in clubs' operations. Considering the influence of supporters' groups on team performance, the respondents also mentioned some negative effects of supporters' behaviour at the stadium. An example thereof could be heckling and deviant behaviour.

Regarding the question whether the supporters' group should be involved in actual clubs' activities or not, only one player provided an affirmative answer while one player gave no answer. All the other respondents believed that the fans' opinion should be listened to, but they should not have the authority to make relevant decisions. Moreover, their primary role should be to attend football games and cheer the team. A couple of older interviewees stated that they see supporters' groups as harbingers of changes, primarily democratic ones. One coach found that supporters' groups represent the only independent social group, i.e., the last trace of democracy. The exami-

nees mainly emphasized initiation of humanitarian and similar action by supporters' groups.

CONCLUSION

This paper has led to the conclusion that the communication of supporters' groups with football players and coaches is less formal than their communication with club officials and background staff. Active athletes mostly have a positive attitude towards supporters' groups. They point out the vital role of supporters' groups in helping their team to achieve better results. Furthermore, it is believed that supporters' groups put positive pressure on the players. Although the examinees are aware of the negative sides of supporters' groups, their charity work and willingness to help in difficult situations come to the fore nonetheless.

The paper is aimed at obtaining an insight into the football players', coaches', club officials' and club management's view of supporters' groups and at its comparison with the image of supporters' groups created by media, which is mostly negative. There is no previous research on this issue, based on the view of those involved in the sports process. Interviews with active athletes and their attitudes and opinions thus set ground for the research in this paper. The paper also encompasses investigation of the influence of fan support and the pressure put on the players on general team performance.

Although supporters' groups are mostly portrayed in a bad light by media, football players deem them as creators of positive atmosphere and positive pressure, and hence give them credit for good results of football clubs. It is important to break the link between supporters' groups and hooliganism, and to stop shedding the light on the misbehaviour of supporters' groups, which results from the sensationalism in media and brings to their bad reputation, generalization and stereotypes.

The research results and analysis have confirmed the set hypotheses which reads as follows:

- H1: Football players and coaches prefer informal communication with representatives of supporters' groups while club officials and background staff prefer formal communication with them. The interviews with the interviewed football players disclose their various relationship with members of supporters' groups. Some never communicate with supporters' groups whereas others have friends in supporters' groups. As mentioned above, coaches communicate with fans mostly informally and qualify their relationship as decent.
- H2: Football players, coaches and club officials mostly have a positive attitude towards supporters' groups. Although all the respondents mentioned negative occurrences connected with the activities of supporters' groups, a positive perception thereof definitely prevails. What can be often heard is the positive

pressure put on the players by supporters' groups, their cheering, their charity work and various constructive projects initiated by them.

Despite the obtained results, it might happen that further research on this topic would lead to different conclusions. It is crucial to mention the positive sides (undoubtedly there are many examples thereof) of supporters' groups in media and to diminish their sensationalistic portrayal. However, it is also important to publicly condemn the deviant behaviour of supporters' groups.

References

- Bodin, D., Robène, L., & Héas, S. (2007). *Sport i nasilje u Europi* (Sports and violence in Europe). Knjiga trgovina. Zagreb.
- Čerepinko, D. (2012). *Komunikologija. Kratki pregled najvažnijih teorija, pojmova i principa* (Communicology: A short overview of the most important theories, notions and principles). University North. Varaždin.
- Lalić, D. (1993). *Torcida. Pogled iznutra* (Torcida: View from the inside). AGM. Zagreb.
- Pavlović, A., Delibašić, B., Parčina, I., & Lacković, K. (2004). *From Football to Life Champions: International training practices and the pedagogical role of the football trainers*. Belgrade. Institute for philosophy and social theory. Koprivnica University North.
- Sapunar, M. (1995). *Osnove znanosti o novinarstvu* (Basics of journalism). Epoha. Zagreb.
- Turković, H. (2016). *Nogometni navijači i drugi sportovi - noviji primjeri iz suvremenog hrvatskog društva* (Football fans and other sports - Recent examples of contemporary Croatian society). Master's Thesis. University of Zagreb, Faculty of Kinesiology. Zagreb.

Internet sources

- <https://www.footballfancast.com/opinion-2/the-top-10-football-ultra-groups> (accessed on 23 May 2024).
- <https://www.goal.com/en/news/what-is-a-football-ultra-serie-a-hardcore-fan-culture-explained/aohlk-ilvcywp1v3c8e1f1a37w> (accessed on 23 May 2024).
- <https://sportklub.n1info.hr/nogomet/premier-league-nogomet/a112703-Heyselska-tragedija-ili-osveta-se-najbolje-sluzi-hladna> (accessed on 25 June 2024).
- <https://hercegovina.in/video-nizozemski-navijaci-sportasi-i-oranje-pandemija> (accessed on 25 June 2024).
- <https://abcportal.info/navijacke-grupe-u-hrvatskoj-donijele-povijesnu-zajednicku-odluku> (accessed on 25 June 2024).
- <http://struna.ihjj.hr/naziv/strukturirani-intervju/20988> (accessed on 26 June 2024).
- <http://struna.ihjj.hr/naziv/polustrukturirani-intervju/25250>.

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CIRCULARITY PRINCIPLES IN THE RECREATIONAL BOATING SECTOR: SUSTAINABLE END-OF-LIFE BOAT MANAGEMENT ALONG THE INDUSTRY VALUE CHAIN

A b s t r a c t

The challenges of sustainable management of end-of-life boats are growing significantly in the contemporary recreational boating industry, creating pressure along the industry value chain. Therefore, the issues of efficiently managing recreational boats that lose their market function and economic value in the service sector and boats that have reached their end-of-life are also growing. The paper explores the circularity approach and the applications of the 4R strategies (Reduce, Reuse, Recycle, Reverse Logistics) in the recreational boating industry value chain and, consequently, the sector's sustainable development. The paper aims to determine best practices in the recreational boating value chain related to the CE principles and the sustainable management of end-of-life boats and to propose an analytical framework for studying CE in the recreational boating industry. Qualitative research methods were used, including a bibliographic review and in-depth interviews. The findings show that stakeholders in the nautical industry value chain apply the principles of the circular economy to a minimal extent, while only a few consider the challenges associated with the sustainable management of end-of-life boats. The results show that a key problem is the costs that limit the possibility of stakeholders investing more in applying circular economy principles in the recreational boating sector.

Key words: circular economy, 4R framework, nautical tourism, industry value chain, end-of-life recreational boats, sustainable development

INTRODUCTION

The recreational boating sector, as one of the most propulsive industries related to tourism, strongly contributes to the economic prosperity of many coastal areas worldwide, creating jobs and generating substantial revenues (Marušić, Kovačić, & Peronja,

2024). The recreational boating market size is valued at USD 23.2 billion in 2024. It is expected to reach USD 36.1 billion in 2032, with a 4.9% Compound Annual Growth Rate (CAGR) between 2024 and 2032 (Business Research Insights, 2024). The charter sector employs around 20.000 people, while marinas employ between 40.000 and 70.000 people, depending on the impact of the market demand and seasonality (ECSIP Consortium, 2015). The total number of ships in European waters made of composite materials is more than 6.5 million, and with quality maintenance, they can reach a lifespan of more than 50 years (European Boating Industry, 2023). At the same time, the recreational boating industry, through business operations and infrastructure projects, negatively affects the environment and the quality of life in the local community.

Industry players in the recreational boating industry are primarily focused on costs and profitability (European Commission, 2017). Despite the limited financial resources they have as small and medium-sized enterprises (European Boating Industry, n.d.), actors in the industrial value chain are forced to respond to the pressure of legislative regulation and the demands of environmentally conscious boaters and develop business models that lead to the reduction of negative social and ecologic impacts, as well as towards sustainable development (United Nations, 1987; Porter & Kramer, 2006). The paper explores the circularity approach and the applications of the 4R strategies (Reduce, Reuse, Recycle, Reverse Logistics) in the recreational boating industry value chain.

CIRCULARITY PRINCIPLES

The circular economy is an industrial concept that is applied to minimize the consumption of non-renewable resources and limit emissions of harmful gases into the atmosphere (Ellen MacArthur Foundation, 2013; Eisenreich, Fuller, Stuchtey, & Gimenez-Jimenez, 2022). The CE implies a transition from a linear model of resource consumption with a 'take-make-dispose' pattern towards a circular model based on the principles of circularity such as reduction, reuse, recycling, and reverse logistics (Ellen MacArthur Foundation, 2015; Uvarova et al., 2023). While a linear economy results in biodiversity loss, climate change, waste, and pollution (Ellen MacArthur Foundation, 2024), the CE is focused on minimizing negative ecological impact and "zero waste" results of business operations. Through processes such as maintenance, refurbishment, remanufacturing, repurpose, reuse, recycling and composting, products and materials are kept in circulation at their highest value (Ellen MacArthur Foundation, 2024, Uvarova et al., 2023). The transition from a linear to a CE model reduces the loss of valuable materials, creates new jobs and better economic results, and stimulates eco-design development (Ellen MacArthur Foundation, 2024). The application of CE principles is often based on digitalization and eco-innovations (Cristoni & Tonelli, 2018; Cornejo-Ortega & Chávez Dagostino, 2020) and should result in lower consumption of non-renewable resources, lower emissions of harmful gases into the atmosphere,

reduction of the amount of waste, extension of the product life cycle and ultimately better business performance of all actors within the industrial value chain (Ellen MacArthur Foundation, n.d.).

Numerous scientists and practitioners worldwide are interested in researching the concept of CE due to its connection with the concept of sustainable development, as well as the possibility of its operationalization (Ghisellini, Cialani, & Ulgiati, 2016; Murray et al., 2017; Kirchherr, Reike, & Hekkert, 2017). According to Kirchherr et al. (2017), the circular economy is often described as a combination of reduction, reuse, and recycling activities. Researchers have used different principles and classifications to research the principles of the circular economy. Some researchers proposed six (6) principles, including redesign, reduce, reuse, recycle, remanufacture, and repair. Some others made a classification with ten (10) principles of CE: reduce, reuse, recycle, refuse, rethink, repair, refurbish, remanufacture, repurpose, and recovery (Bag, Gupta, & Kumar, 2021; Morsetto, 2020). Uvarova et al. (2023) identified sixty (60) principles of the CE and categorized them into four basic groups: reduce, reuse, recycle, and reverse logistics. Some CE principles are interconnected and more often implemented in companies than other organisations (Uvarova et al., 2023).

This paper uses the classification of CE principles proposed by Uvarova et al. (2023). In addition to the previously described pressures related to reducing the industry's negative impacts on the environment and local communities, the recreational boating industry faces the problem of effective end-of-life boats (ELB) management.

END-OF-LIFE BOATS (ELBS) MANAGEMENT

Recreational boats have a very long lifespan, which can vary for many reasons, such as the materials used in manufacturing, boat usage, maintenance, repair or rebuild, and more. Still, even when properly maintained, boats and equipment tend to deteriorate with use and exposure to the sun and marine environment. Contemporary recreational boats are dominantly constructed from composites or fiber-reinforced polymers (FRP) (ICOMIA, 2007), making recycling solutions more complex, challenging, and costly. Vessels made of FRP materials dominate the recreational boating market, outperforming boats made of traditional materials like wood and metal. According to experts' estimates, the number of end-of-life boats (ELB) in the European Union until 2030 will reach more than 30,000 boats per year (European Boating Industry, 2023). Uncontrolled dumping of ELB negatively affects the environment; for instance, uncontrolled burning of ELB generates fumes harmful to human health and the environment, resulting in air, soil, and water pollution with a long-term effect (Norwegian Environment Agency, 2014). Issues relating to ELBs are growingly pressuring and challenging the global recreational boating industry, calling for viable solutions for their management.

The final disposal of end-of-life boats (ELBs) has notable impacts on the natural environment, society, and economies. Therefore, the issue of demolishing or recycling end-of-life recreational boats is rising and receiving more attention in literature and industry considerations.

ECSIP Consortium (2015) considers that end users should take responsibility for the disposal and recycling costs of ELBs or that the costs of recycling ELBs should be shared along the industry value chain. Most European countries do not have a structured system to recycle and demolish used boats. The expanding problem of demolishing and recycling end-of-life boats in the global recreational boating industry has led to the establishment of demolishing sites and systems involving recycling companies. However, the industry lacks solutions for recycling composites.

METHODOLOGY

This manuscript uses qualitative research methods, including bibliographic review and in-depth interviews with experts, using a semi-structured questionnaire as a research instrument. The bibliographic review enabled insight into the latest knowledge related to the concept and principles of CE. The paper identified key recreational boating industry value chain actors based on secondary data analysis. It created a framework for analyzing the industry value chain, considering the relationships between actors, the principles of the CE, and the CE principle's effects on the economy, society, and environment. Furthermore, secondary data analysis enabled the identification and classification of CE practices into diverse categories related to CE principles. In-depth interviews with experts in the Republic of Croatia evaluated and enhanced the framework and classified industry practices related to CE principles. The sample included eight (8) industry experts, all with at least 5 years of experience: four (4) senior managers from the manufacturing and service recreational boating industry, two (2) university professors from maritime studies, and two (2) independent experts employed in public administration, responsible for the development, planning, and legal regulation of the sector. Interviews were recorded. All the co-authors of this article participated in the analysis of the recorded interviews, first independently and then as a team.

RESULTS AND DISCUSSION

Based on the secondary data analysis, this paper identified and classified existing CE practices in the observed industry into diverse categories related to CE principles. Table 1 shows the identified examples/practices. The results of in-depth interviews with experts in Croatia confirm that the industry implements all four categories of CE principles: reduce, reuse, recycle, and reverse logistics. The results also show that the level of implementation varies according to the actors in the industrial value chain and the principles implemented. Business activities related to the two CE principles, reduce and

	Definition	Example	Implementation level in the Republic of Croatia*
R1 Reduce	Reducing the consumption of non-renewable resources and limiting the environmental footprint	Reduce activities: design innovation (manufacturers), digital solutions (all actors), renewable energy sources such as solar and wind energy (all actors), vessel sharing (charters), vessel maintaining (marinas), usage of eco nautical cleaning detergents (marinas and charters), etc.	• Goals, plans, reports • Operations and activities • Investments, projects and initiatives
R2 Reuse	The use of a product again for the same purpose in its original form or with little enhancement or change (Ellen MacArthur Foundation, 2013)	Reuse of vessels, spare parts, and materials: redistribution of vessels to new markets (charters), reselling of vessels to new customers (charters), vessels refurbishment (boat manufacturer), component remanufacturing (parts manufacturer), vessels refit (shipyards)	• Goals, plans, reports • Operations and activities
R3 Recycle	Transforming a product or component into its basic materials or substances and reprocessing them into new materials (Ellen MacArthur Foundation, 2013)	Recycle activities: eco-design, recyclable materials (manufacturers), waste collection and sorting (charters, marinas), recycling of vessels/components (shipyards, companies specializing in recycling), etc.	• Goals, plans, reports
R4 Reverse Logistic	The movement of products, parts, and materials through the industrial value chain backward	Reverse logistics activities: purchase the vessel from the vessel owner/ individuals or charter companies, vessels refurbishment and remanufacturing and selling second-hand vessels to customers with a warranty for a certain period (manufacturers), etc.	• Goals, plans, reports

Table 1 — Examples of the CE principles application in the recreational boating industry. Implementation level*: 1) Goals, plans, reports; 2) Operations and activities; 3) Investments, projects, and initiatives; 4) •Strategic partnerships and clustering within and outside the industrial value chain. Source: Adapted from Ellen MacArthur Foundation, 2013.

reuse, are widespread in the manufacturing and service industry. In contrast, examples of the recycle and reverse logistic principles are more visible within the manufacturing industry. Furthermore, the level of implementation varies from principle to principle. Circular solutions related to the reduce principle are implemented at the level of goals and plans, operations, and activities, as well as investments in digitization and renewable energy sources.

Conversely, implementing circular solutions related to the principles of recycling and reverse logistics is very limited and usually refers to the goals and plans of manufacturers, charter agencies, and marinas. Furthermore, the paper created a framework for analyzing the relationships between actors in the industrial value chain, the principles of the CE, and the effects of CE principles on the economy, society, and environment (Figure 1).

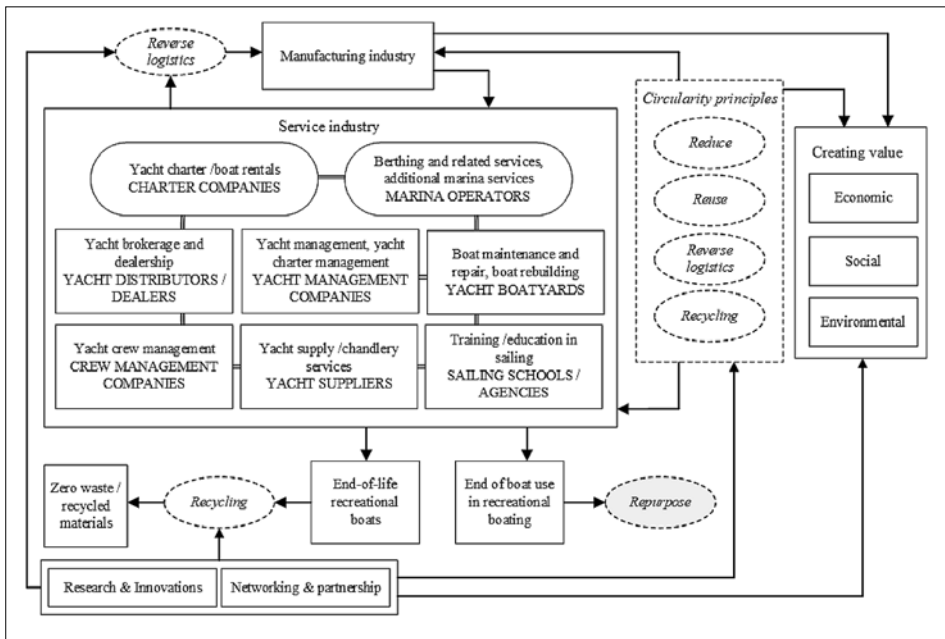


Figure 1 — Implementation of circularity principles in recreational boating: from boat production to responsible practices and zero waste across the industry value chain.

Source: Framework developed from concepts presented in the ECSIP Consortium, 2015; ICOMIA, 2007; in-depth interviews.

Through in-depth interviews, industry experts confirmed the validity of the created framework (Figure 1). Industry experts particularly emphasized the problem of focusing on costs and profits, which prevents significant investments and a more comprehensive application of CE principles in the recreational boating sector. Also, experts suggest that effectiveness of managing ELBs depends on more explicit legislation and the involvement of all actors in the ELBs disposal process. Finally, the industry experts pointed out that for practical application of principles and more significant environmental footprint reduction, it is necessary to develop eco-innovations, networking, and partnerships in the recreational boating industry.

CONCLUSION

The recreational boating industry strongly contributes to the economic development of many coastal areas worldwide. Simultaneously, the business operations of actors along the industrial value chain cause negative social and environmental impacts. A particular challenge for the manufacturing and service industries in recreational boating is the disposal of ELBs, the number of which is continuously growing and polluting valuable natural resources. The recreational boating industry is under pressure from increasingly stringent regulations, environmentally conscious boaters around the world, and envi-

ronmental non-profit organizations such as the Ellen MacArthur Foundation, which require major shifts in a company's business and operating model towards more environmentally friendly business practices (Eisenreich et al., 2022). In response to external pressure, the recreational boating industry introduces CE principles into business. By implementing CE principles, the industry reduces its negative social and environmental impact and develops the prerequisites for long-term improvement in business performance. Results of this research conducted on a sample of industry experts confirm that the industry implements all four categories of CE principles: reduce, reuse, recycle, and reverse logistics, but the level of implementation varies concerning the participants in the industrial value chain and the principles applied. Industry experts particularly emphasized the problem of focusing on costs and profits, which prevents significant investments and a more comprehensive application of CE principles in the recreational boating sector. Furthermore, experts suggest that the effectiveness of ELBs management depends on more explicit legislation and the involvement of all actors in the ELBs disposal process. Finally, the industry experts pointed out that for practical application of principles and more significant environmental footprint reduction, it is necessary to develop eco-innovations, networking, and partnerships in the recreational boating industry.

References

- Bag, S., Gupta, S., & Kumar, S. (2021). Industry 4.0 adoption and 10R advance manufacturing capabilities for sustainable development, *International Journal of Production Economics*, 231. <https://doi.org/10.1016/j.ijpe.2020.107844>.
- Business Research Insights. (2024). *Recreational boating market report*. Available at <https://www.businessresearchinsights.com/market-reports/recreational-boating-market-118185>.
- Cornejo-Ortega, J. L., & Chávez Dagostino, R. M. (2020). The Tourism Sector in Puerto Vallarta: An Approximation from the Circular Economy. *Sustainability*, 12(11), 4442. <https://doi.org/10.3390/su12114442>.
- Cristoni, N.F., & Tonelli, M. (2018). Perceptions of Firms Participating in a Circular Economy. *European Journal of Sustainable Development* 7(4), 105-118. <https://doi.org/10.14207/ejsd.2018.v7n4p105>.
- ECSIP Consortium. (2015). *Study on the competitiveness of the recreational boating sector. Final report*. Rotterdam, Brussels.
- Eisenreich, A., Fuller, J., Stuchtey, M., & Gimenez-Jimenez, D. (2022). Toward a circular value chain: Impact of the circular economy on a company's value chain processes. *Journal of Cleaner Production*, 378. <https://doi.org/10.1016/j.jclepro.2022.134375>.
- Ellen MacArthur Foundation. (2013). *Towards the circular economy: Economic and business rationale for an accelerated transition*. Available at <https://www.ellenmacarthurfoundation.org/towards-the-circular-economy-vol-1-an-economic-and-business-rationale-for-an>.
- Ellen MacArthur Foundation. (2015). *Growth within: A circular economy vision for a competitive Europe*. Available at <https://www.ellenmacarthurfoundation.org/growth-within-a-circular-economy-vision-for-a-competitive-europe>.

- Ellen MacArthur Foundation (2024). *Building prosperity: Unlocking the potential of a nature-positive, circular economy for Europe*. Available at https://emf.thirdlight.com/file/24/917VBvU91D3WukP91sVU9N-l3x/EMF_Building%20Prosperity_July_2024.pdf.
- Ellen MacArthur Foundation (n.d.). *Circular economy introduction: What is a circular economy?* Available at <https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview>.
- European Boating Industry. (2023). *A European Roadmap on the implementation of the circular economy for end-of-life recreational boats*. Available at https://www.europeanboatingindustry.eu/images/Reports/EBI%20roadmap_03_24.pdf?t=1711641194.
- European Boating Industry (2024). *EU Dialogue on End-Of-Life of Pleasure Crafts: Final Report*. Available at <https://www.europeanboatingindustry.eu/about-the-industry/studies-and-reports>.
- European Boating Industry (n.d.). *EBI position paper: Environmental sustainability*. Available at https://www.europeanboatingindustry.eu/images/Documents/Position_papers/EBI-position-paper--Environmental-sustainability.pdf.
- European Commission/Directorate-General for Maritime Affairs and Fisheries. (2017). *Assessment of the impact of business development improvements around nautical tourism — Final report*. Available at <https://data.europa.eu/doi/10.2771/26485>.
- Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production*, 114, 11–32. <https://doi.org/10.1016/j.jclepro.2015.09.007>.
- International Council of Marine Industry Associations ICOMIA. (2007). *Decommissioning of end-of-life boats: A Status Report*. London, United Kingdom.
- Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An analysis of 114 definitions. *Resources, Conservation and Recycling*, 127, 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>.
- Marušić, E., Kovačić, K., & Peronja, I. (2024). *Perspective chapter: Nautical tourism degrowth — Sustainable solutions in the nautical ports' value chain*. IntechOpen. <https://doi.org/10.5772/intechopen.1007566>.
- Morseletto, P. (2020). Targets for a circular economy. *Resources, Conservation and Recycling*, 153. <https://doi.org/10.1016/j.resconrec.2019.104553>.
- Murray, A., Skene, K., & Haynes, K. (2017). The circular economy: An interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics*, 140, 369–380. <https://doi.org/10.1007/s10551-015-2693-2>.
- Norwegian Environment Agency (2014). *End-of-life boats (ELB) in Norway, environmental survey*. Mepex. Norway.
- Porter, M., Kramer, M. (2006). Strategy and society: The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84(12), 78–93.
- United Nations (1987). *Report of the world commission on environment and development: Our common future*. Available at: <https://www.brundtland.co.za/other-publication/brundtland-report-1987-our-common-future>.

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PERMITS IN THE MARITIME DOMAIN OF THE REPUBLIC OF CROATIA

Abstract

The Republic of Croatia, during 2023, introduced a new legal framework for its maritime domain. This reform includes changes in the procedure that allows activities to be conducted in the maritime domain without limiting its general use. Previously, such activities were carried out based on concession approvals, which were granted upon request. In the new legislative framework, concession approvals are replaced by permits, and there is a significant change in the method of granting permits compared to the previous model — a public tender model has been introduced. This new model represents a significant step forward in the development of legal regulation of the maritime domain, enabling clearer and more transparent conducting of numerous activities in the maritime domain. In this paper, we will explain the new legal framework for permits and the beginning of its application in Croatian practice.

Key words: *Maritime domain, Croatia, permits, legal regulation, economic activities, legal frame*

INTRODUCTION

The maritime domain in the Republic of Croatia is defined by the *Maritime Domain and Seaports Act* (2023) (hereinafter: MDSP) as a public good of interest to the Republic of Croatia, subject to special protection and utilized under the conditions and in the manner prescribed by the Act itself (Article 4, Paragraph 1 of MDSP). Through this provision, the MDSP continues the tradition originating in Roman law, wherein the sea, and consequently the coastline, were regarded as public goods.

Article 5, Paragraph 1 of the MDSP stipulates that the maritime domain is excluded from legal transactions and cannot be subject to ownership or other real rights under any legal basis. Also, structures and other objects permanently connected to the maritime domain are considered its integral part (Article 5, Paragraph 3) (Bolanča, 2005).

General use of the maritime domain is additionally defined by the general legal framework, specifically the *Ownership and Other Real Rights Act* (1996). Article 3, Paragraph 2 of this Act states that certain parts of nature, by their inherent characteristics, cannot be subject to ownership or other real rights by any physical or legal person and

are intended for the use of all, such as atmospheric air, water in rivers, lakes, and seas, and the seashore (public goods) (Nakić, 2016).

If something is a public good without a designated owner, the question arises as to how it can be used. The MDSP stipulates (Article 11) that the maritime domain is primarily intended for general use but may also be allocated for special use or economic utilization.

The general use of the maritime domain implies that everyone has the right to use the maritime domain in accordance with its nature and purpose (Kundih, 2000, p. 7). This includes the freedom to use the sea, the freedom to access the coastline, the freedom to walk along the shore, the freedom to use the beach, and the freedom to swim (Vojković, 2023).

As previously noted, there are two additional forms of utilization of the maritime domain as provided under Article 11 of the MDSP: special use and economic utilization.

Special use of the maritime domain constitutes a time-limited right to use the maritime domain for activities that are not conducted for profit, either with or without the right to use structures and perform spatial interventions. Article 45 of the MDSP enumerates examples of special use, including the needs of state administration bodies or legal entities with public authority and the use of infrastructure such as bridges, water supply, sewage, energy facilities, and others. The right to special use is acquired through a Decision issued upon request in an administrative procedure (Article 46, Paragraph 1 of the MDSP).

Economic utilization of the maritime domain is a time-limited right to use the maritime domain, with or without the right to use structures and perform spatial interventions. Economic utilization involves activities on the maritime domain conducted for the purpose of generating economic profit (Stanšić & Bogović, 2017).

The MDSP, in its terminology section, specifies that the right to economically utilize the maritime domain is acquired through a concession. Article 48, Paragraph 2 clarifies that a concession on the maritime domain is a time-limited right to economically utilize the maritime domain, with or without the right to build, and is acquired through a concession agreement.

The concession granting process is considered one of the most complex administrative procedures, beginning with the preparation of extensive documentation (Vojković, 2024). Alongside the MDSP, the *Concessions Act* (2017), aligned with the *Directive on the award of concession contracts* (2014), is applied in concession procedures.

The concession grantor is obligated to prepare a Feasibility Study for the concession grant, a comprehensive document in accordance with the general regulation governing concessions (Vojković, 2024). The concession granting procedure involves two legal acts — the concession decision and the concession agreement — and the concession itself is granted through a special, detailed procedure (Đerđa, 2006).

This procedure is appropriate for complex economic utilizations of the maritime domain, often involving high-value investments and extensive operations, such as concessions for ports, mariculture, beaches, shipyards, managed beaches, salt pans, and others.

However, numerous smaller-scale economic activities also occur at sea and especially along the coastline. Such activities generally do not impede or restrict the general use of the maritime domain, such as the sale of ice cream and beverages from kiosks and coolers, the rental of umbrellas, deckchairs, and paddle boats, the sale of food from mobile units on the beach. It is worth noting that, on a beach where sun loungers are rented, swimming remains free, and where there is an ice cream stand, passage remains unrestricted.

Legal practice has long recognized that concessions are not suitable for regulating such small-scale economic activities that do not hinder general use. Therefore, in 1996, the institute of *concession approval* was introduced, which was replaced in 2023 by the new MDSP with *permits for the maritime domain*.

CONCESSION APPROVALS — THE PREVIOUS MODEL

Concession approvals have a long tradition in Croatian law. Following the adoption of the first decision on granting a concession on the maritime domain under the rules of the then *Maritime Code* (1994), which regulated issues related to the maritime domain, it became evident that the concession-granting procedure was excessively lengthy and slow, rendering it unsuitable for meeting the requirements of simple economic activities (Sobol, 1996). Consequently, the *Maritime Code Amendments Act* (1996) introduced the institute of concession approval.

This solution, the introduction of a special institute for concession approvals, aligns with legal doctrine. Borković writes about “special use”, the expansion of possibilities for utilizing certain public goods based on specific authorization, provided that the structure of the public good is not altered, citing the example of placing a kiosk on a street, which does not prevent citizens from using the street (Borković, 2002, p. 599).

When the matters of the maritime domain and ports were addressed in a separate *Maritime Domain and Seaports Act* (2003), the provisions on concession approvals were carried over almost unchanged into this new regulation. Under the provisions of the 2003 Act, concession approvals could be granted for performing activities on the maritime domain that neither excluded nor restricted its general use. Concession approvals were issued upon request for a period of up to five years, although in practice, they were usually granted for one year (Felić, 2022).

The implementation of these provisions revealed certain shortcomings. The fundamental problem was that concession approvals were granted based on requests. The

question arose as to how to proceed when multiple applicants, each fulfilling all the requirements, applied for the same activity at the same micro-location (Seršić, 2006).

The procedure for awarding concession approvals in cases where two or more applications were submitted for the same activity at the same micro-location relied on the order in which the requests were submitted, which led to numerous irregularities. Legal doctrine rightly emphasized the need for legislative improvement of this process in such cases by prescribing objective selection criteria (Čović, 2020).

PERMITS FOR THE MARITIME DOMAIN

Introduction to Permits for the Maritime Domain

The Explanatory Memorandum of *the Final Draft of the Maritime Domain and Seaports Act* states: “Concession approvals are replaced by permits, which are granted based on a public tender process for a period ranging from two to five years. This approach ensures that permit holders for the maritime domain are provided with sufficient time to recoup their investments on the one hand, and on the other, encourages greater investments in the assets used for the activities previously covered by concession approvals” (Croatian Parliament, 2023). According to the MDSP glossary, a *permit for the maritime domain* is an administrative act granting the holder a time-limited right to perform activities on the maritime domain without restricting or excluding its general use.

Domain Management Plan

Numerous activities can be conducted on the maritime domain. On a single beach, one or even several types of services can be offered. Some local governments may prioritize activities such as renting sun loungers, umbrellas, and selling ice cream, while others might focus on more diverse and dynamic tourist services.

It is therefore mandated that activities planned for the maritime domain must be specified in the *Maritime Domain Management Plan*. According to Article 39, Paragraph 1 of the MDSP, the executive body of a local government unit or the director of a public institution for protected natural areas is required to prepare a Draft Maritime Domain Management Plan for a five-year period. This plan includes the planned activities on the maritime domain, their implementation priorities, funding sources, maintenance plans, beach nourishment and construction plans for the maritime domain, a plan for granting permits, and a monitoring plan for permit holders.

Allocation of Permits for the Maritime Domain

According to Article 71 of the MDSP, based on the Maritime Domain Management Plan, the executive body of the local government unit must announce a public tender for granting permits for the maritime domain (Paragraph 1). Similarly, for protected natural areas, the tender is announced by the director of the relevant public institution for nature protection, while for port areas, it is announced by the port authority director.

Based on the received bids in the public tender, the decision to grant a permit to the most favourable bidder (a significant change!) is made by the executive body of the local government unit, the director of the public institution for protected natural areas, or the director of the state or county port authority (Article 71, Paragraph 3).

This provision addresses the major issue with the previous concession approval system — what happens when multiple interested parties apply for the same activity at the same micro-location. Now, the permit will be granted to the bidder offering the highest fee. Furthermore, Article 71 includes several general provisions. For instance, it states that a permit may only be granted for activities and the use of the maritime domain of lesser significance (Paragraph 5). The decision to grant a permit for the maritime domain is an administrative act enabling the economic entity to perform activities that do not restrict the general use of the maritime domain (Paragraph 7).

Permits are granted for a period of two to five years (Paragraph 9). Exceptionally, a permit may be issued upon request for a period of up to 20 days for temporary or occasional activities, with the possibility of restricting general use by fencing off areas and charging entry fees (Paragraph 9). This option is intended for concerts and similar events on the coastline. In conclusion, compared to the previous regulations on concession approvals, the new MDSP provides clearer and more detailed procedural rules for granting permits for the maritime domain (Baće, 2023).

Rights and Obligations of Permit Holders for the Maritime Domain

The rights and obligations of permit holders for the maritime domain are outlined in Article 72 of the MDSP. The first provision establishes a general principle that the permit holder may perform activities on the maritime domain only to the extent and under the conditions specified in the permit (Paragraph 1).

Furthermore, it is stipulated (Paragraph 4) that the permit issuer is responsible for ensuring that the maritime domain is utilized within the scope and boundaries set forth in the permit. Additionally, Paragraph 5 reiterates a provision from the glossary, emphasizing that the permit issuer must ensure that the permit holder does not restrict the general use of the maritime domain.

Article 72 of the MDSP also includes a provision for the revocation of permits for the maritime domain. According to Paragraph 6, if it is determined that the maritime domain is being used beyond the scope and conditions specified in the permit and/or if the permit holder restricts general use, the permit issuer is obligated to issue a decision to revoke the permit.

Distribution of Revenue Collected from Permits

Article 42, Paragraph 2 of the MDSP regulates the distribution of fees collected from permits for the maritime domain. The fees are allocated as follows: 70 percent to the

budget of the local government unit and 30 percent to the budget of the regional (county) government unit.

It is worth mentioning that exceptions to the above rule exist for the allocation of fees collected from permits within legally protected natural areas. Fees collected from permits in port areas are entirely allocated to the income of the port authority. This precise definition of the distribution of permit fees aims to eliminate ambiguities in practice.

CONCLUSION

The new Maritime Domain and Seaports Act (MDSP) of 2023 represents a significant change in the management of Croatia's seas and coastline. The maritime domain, including its marine component, encompasses over one-third of the national territory of the Republic of Croatia and is of exceptional economic importance to the country.

Concession approvals have been replaced with permits, but this change is more than just terminological. Permits are granted through a transparent tender process and are intended to be issued for longer periods than concession approvals. This approach encourages greater economic investments and is expected to result in a broader and richer offering of various tourist and other services.

The new framework is undoubtedly a significant improvement, providing greater clarity and precision. It is to be hoped that the provisions of the MDSP concerning permits for the maritime domain will be successfully implemented in practice.

References

- Act on Amendments to the Maritime Code (Zakon o izmjenama i dopunama Pomorskog zakonika, 1996). *Official Gazette* (Narodne novine), 43/96 (repealed).
- Baće, M. (2023). Dozvola na pomorskom dobru kao novi pomorskopравни institut u hrvatskom zakonodavstvu (Maritime domain permit as a new maritime law institute in Croatian legislation). *Zbornik radova Pravnog fakulteta u Splitu*, 60(4), 691-715. <https://doi.org/10.31141/zrpf.2023.60.150.691>.
- Bolanča, D. (2005). *Pomorsko dobro danas* (Maritime domain today). In M. Kuzmić & J. Nakić (Eds.), *Pomorsko dobro* (pp. 3-20). Zagreb: Inženjerski biro.
- Borković, I. (2002). *Upravno pravo* (Administrative law). Zagreb: Narodne novine.
- Croatian Parliament (Hrvatski sabor). (2023). Final Draft of the Maritime Domain and Seaports Act (Konačni prijedlog Zakona o pomorskom dobru i morskim lukama), P.Z. (Act Proposal) no. 439, July 6, 2023.
- Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts Text with EEA relevance, ELI: <http://data.europa.eu/eli/dir/2014/23/oj>.
- Čović, S. (2020). Sporni aspekti dodjele koncesijskih odobrenja na pomorskom dobru u upravno-sudskoj praksi (Controversial aspects of granting concession approvals on the maritime domain in administrative court practice). *Zbornik radova Pravnog fakulteta u Splitu*, 57(1), 211-237.

- Derđa, D. (2006). Pravna priroda odluke o koncesiji. *Croatian Public Administration* (Hrvatska javna uprava), 6(1), 63-91.
- Felić, E. (2022, May 2). Koncesijska odobrenja poduzetnici katkad dobiju tek kad sezona već počne (Entrepreneurs sometimes receive concession approvals only when the season has already begun). *Lider*. Retrieved from <https://lidermedia.hr/komentari/koncesijska-odobrenja-poduzetnici-katkad-dobiju-tek-kad-sezona-vec-pocne-142509>.
- Kundih, B. (2000). *Pomorsko dobro i granice pomorskog dobra* (Maritime domain and maritime domain boundaries). Edicija Božičević.
- Maritime Code (Pomorski zakonik, 1994). *Official Gazette* (Narodne novine), 17/94 (repealed).
- Maritime Domain and Seaports Act (Zakon o pomorskom dobru i morskim lukama, 2023). *Official Gazette* (Narodne novine), 83/23.
- Maritime Domain and Seaports Act (Zakon o pomorskom dobru i morskim lukama, 2003). *Official Gazette* (Narodne novine), 158/03 (repealed).
- Nakić, J. (2016). Pomorsko dobro — opće ili javno dobro? (Maritime domain — general or public good?). *Zbornik radova Pravnog fakulteta u Splitu*, 53(3), 797-832. <https://doi.org/10.31141/zrpf.2016.53.121.797>.
- Ownership and Other Real Rights Act (Zakon o vlasništvu i drugim stvarnim pravima, 1996). *Official Gazette* (Narodne novine), 91/96, 68/98, 137/99, 22/00, 73/00, 129/00, 114/01, 79/06, 141/06, 146/08, 38/09, 153/09, 143/12, 152/14, 81/15, 94/17.
- Seršić, V. (2006). *Koncesijsko odobrenje kao instrument gospodarskog iskorištavanja dobara s posebnim osvrtom na pomorsko dobro* (Concession approval as an instrument of economic exploitation of goods with special reference to the maritime domain). In M. Kuzmić & J. Nakić (Eds.), *Pomorsko dobro* (pp. 39-82). Zagreb: Inženjerski biro.
- Seršić, V. (2011). *Koncesije na pomorskom dobru* (Concessions on the maritime domain). Novi informator.
- Sobol, B. (1996). Umjesto koncesije — koncesijsko odobrenje. *Bilten — Županija primorsko-goranska* (Instead of a concession — concession approval. Bulletin — Primorje-Gorski Kotar County). Cited in Kundih, B. (2000). *Pomorsko dobro i granice pomorskog dobra*. Zagreb: Edicija Božičević.
- Stanišić, F., & Bogović, M. (2017). Koncesije na pomorskom dobru — odnos zakona o koncesijama i zakona o pomorskom dobru i morskim lukama (Concessions on the maritime domain — the relationship between the law on concessions and the law on the maritime domain and sea-ports). *Pravni Vjesnik*, 33(1), 73-104. Retrieved from <https://hrcak.srce.hr/180413>.
- Vojković, G. (2023, August 16). Nova regulacija pomorskog dobra — nakon 20 godina (New regulation of the maritime domain — after 20 years). *IUS-INFO*. Retrieved from <https://www.ius-info.hr/aktualno/kolumne/nova-regulacija-pomorskog-dobra-nakon-20-godina-56102>.
- Vojković, G. (2024). New Legal Framework for Concessions in Maritime Ports of the Republic of Croatia. *Pomorski Zbornik*, 64(1), 157-176. Retrieved from <https://hrcak.srce.hr/31897>.

SOCIOLOGY AND PSYCHOLOGY



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ZRČE BETWEEN MORAL PANICS AND A SUCCESSFUL TOURIST PRODUCT: AN ANALYSIS OF MEDIA NARRATIVES IN THE CONTEXT OF CLUB CULTURE ON THE ISLAND OF PAG

Abstract

This study examines Croatian media portrayals of Zrće, a key electronic music destination on Pag Island, from 2004 to 2024 using Stanley Cohen's moral panic framework. Through qualitative content analysis of various media outlets, three main discourses emerged: moral panic, touristic product, and cultural-artistic. Initially, Zrće was depicted as a societal threat with sensationalist reports on drugs and public disorder, exemplified by Nacional's 2004 headline "Paška Sodoma and Gomora." Over time, the narrative shifted to promoting Zrće as a successful tourist and economic hub, though sensationalist elements remained. The findings affirm Cohen's theory while addressing contemporary critiques about media dynamics. The study concludes that while Zrće has achieved economic legitimacy, the enduring Sodoma and Gomorrah metaphor underscores the complex interplay between media narratives and subcultural integration, necessitating an updated theoretical approach to moral panic in the digital age.

Key words: Zrće; moral panics; tourism; electronic music; qualitative content analysis

THEORETICAL FRAME

The term "moral panic" was first introduced by Jock Young in the early 1970s, particularly in his studies of drug users. However, it was Stanley Cohen (1972) who significantly expanded and formalized the concept in his influential work, *Folk Devils and Moral Panics: The Creation of Mods and Rockers*. Cohen's analysis was primarily inspired by the clashes between two youth subcultures in Britain — the Mods and the Rockers — in 1964, which he viewed as a case study of moral panic triggered by media sensationalism and societal reactions to youth deviance. Cohen (1972) defined moral panic as a condition where a group or individual behavior is labeled as a threat to societal norms, leading to exaggerated public concern and media coverage. This phenomenon often involves the identification of "folk devils", or individuals or groups who

are scapegoated as the source of societal problems. The media plays a crucial role in amplifying these concerns, often using sensational language that stirs public fear and prompts calls for action, such as stricter laws or social controls.

Stanley Cohen's theory of moral panic has faced several criticisms since its inception like oversimplification of complex issues, neglect of agency of social actors, lack of attention to structural factors, variability in public reaction and relevance in contemporary society. Some scholars question the continued relevance of Cohen's concept in the context of modern media dynamics, particularly with the rise of digital and social media (McRobbie & Thornton, 1995; Critcher, 2008; Garland, 2008; Goode & Ben-Yehuda, 2009.) McRobbie and Thornton (1995) argue that Cohen's original framework does not adequately account for the complexities introduced by modern media, especially with the rise of multi-mediated environments. They suggest that the nature of moral panic has changed due to the proliferation of various media forms, which can both amplify, and diffuse panic rather than simply instigate it. They called for a rethinking of how moral panics are conceptualized in the context of contemporary society, where media plays a more nuanced role in shaping public perception and discourse.

Electronic music culture, encompassing genres like techno, house, trance and others, from the beginning of its development at the end of the 80ties, has frequently been subject to moral panic, particularly in how it's represented in the media. In 1988, the British tabloid *The Sun* proclaimed rave as the new dance trend, but soon after the initial enthusiasm, the media, spurred by two deaths caused by ecstasy, began to write very negatively about the new youth cultural phenomenon. Newspapers started to spread unprecedented moral panic with confusing and often exaggerated reports, inflated headlines, and calls for police action (Collin & Godfrey, 1997, p. 97). In the context of early stages of scene development Critcher (2003) analyzed how moral panics led to disproportionate policy responses in the case of rave culture by discussing the UK's Criminal Justice and Public Order Act 1994, which granted authorities extensive powers to shut down unlicensed music events. He argued that such legislation was heavily influenced by media-induced moral panic, disproportionately targeting this type of event and infringing on civil liberties. The initial media moral panic related to early rave culture subsided after the initial shock, primarily because of certain changes in how the scene operated, primarily the fact that illegal raves transformed into controlled club culture (Thornton, 1995). However, from numerous studies of various electronic music scenes from the mid-1990s to today, it is evident that media narratives often frame this youth subculture within the context of moral panic, which has various repercussions on the scene and its dynamics. Tammy L. Anderson's (2009) ethnographic work *Rave Culture: The Alteration and Decline of a Philadelphia Music Scene* provides an in-depth look at how negative media coverage contributed to the decline of the local electronic music scene. Anderson highlights how sensationalist reporting on drug-related incidents overshadowed the community aspects of the scene, leading to

stigmatization and regulatory crackdowns. Similarly, St. John (2009) analyzes how sensationalist reporting and negative portrayals in the media have amplified public fears and misunderstandings about rave events, often highlighting drug use and illegal activities while neglecting the positive aspects of the culture. Thornton (2014) also argues that the media significantly amplifies moral panics by sensationalizing and exaggerating aspects of rave culture. She underlines how newspapers and television often focus on negative elements such as drug use, illegal activities, and deviant behavior, which distorts public understanding and creates a heightened sense of fear and urgency. Nevertheless, Thornton highlights the complex interplay between media representation, public perception, and the dynamics of youth subcultures by arguing that negative portrayals may stigmatize the scene, but they can also increase its appeal to those seeking alternative identities.

METHODOLOGY

For the purposes of this paper, we conducted a qualitative content analysis of media texts that focus on Zrće as a party destination. Zrće is a beach in the town of Novalja on the island of Pag, which, with the opening of open-air clubs specializing in electronic music in the early 2000s, became known as a party destination where parties take place all summer long, day and night. The aim of this paper was to examine the various ways in which the electronic music club culture, specifically in the context of Zrće destination, is constructed and presented in the Croatian media, and how these constructions and presentations have changed over time.

The analysis covered the period from 2004 to 2024, and included three national, three local, and two specialized media outlets. Our primary focus was on the tone and topics in analyzed articles and we identified three main discourses: discourse of moral panic, discourse of a tourist product and the cultural-artistic discourse. Across this timeframe, we identified a notable shift in media reporting on Zrće. The initial dominance of moral panics in media reporting was eventually challenged by narratives portraying Zrće as a successful tourist product. Elements of both discourses continue to appear in recent media coverage. Meanwhile, a third, more stable discourse with the focus on music and artists has persisted over time, but remained largely confined to specialized media outlets.

RESULTS

The first article that used the metaphor of Sodom and Gomorrah was published in weekly newspaper *Nacional* in August 2004. The headline read, “Paška Sodoma and Gomora: Novalja — Oasis of Sex, Drugs, and Alcohol.” Although it was a report that did not have an openly condemning tone, the emphasis was on the local population's

shock caused by youth behavior, who had overrun their previously peaceful town, which was suitable for family tourism.

Parties last until the early morning hours, and in Novalja, locals claim it is impossible to rest. Many locals have witnessed drugged couples engaging in sexual acts in public places. Owners of private accommodations claim they had to carry out drugged guests who were unable to leave the apartments at the agreed time. Municipal workers report finding discarded needles and syringes daily at Zrće, one of the most beautiful Adriatic beaches. All of this has led traditional tourists, primarily families, to stop coming to Novalja. (Nacional, number 457, 17. 8. 2004)

In Večernji List, an article titled “Zrće or What to Do with Evil?” was published in 2007. The author of the text declares the following:

Sodom was a prompt for God to check everything himself and intervene. Without downplaying the dangers young people at Zrće are exposed to, only personal experience and involvement give us the right to say something. Shouldn't we all be obliged to help the youth on all levels so that the evil of Sodom and Gomorrah doesn't escalate? (Večernji list, 28. 7. 2007)

In the early years, the media often wrote about Zrće as a controversial, provocative project that promoted immorality, i.e., values that did not align with Catholic and family moral codes or mainstream societal norms. Drug and alcohol consumption was criticized as an unacceptable aspect of party culture, with particular attention given to nudity and public sex, which emerged as central themes of public outrage. In addition, the criticism focused on noise, large amounts of garbage, and other disruptions to the traditional way of life in the local community.

After the first few years of festivals, which reflected the media's shock at this new youth culture, a certain level of normalization is evident in the shift of media discourse. Zrće project had the backing of the local government, and a discourse promoting Zrće as a new and successful tourist product began to emerge in the media. The city of Novalja, along with the Tourist Board and numerous private businesses, actively promoted Zrće as a party destination. It is important to emphasize that these two discourses operated simultaneously for most of the time. In the summer of 2010, Jutarnji list published an article titled *Zrće is not Sodom and Gomorrah, but a Great Brand*. In 2011, in the same newspaper, an article was published titled *Zrće Attracts Everyone: It's Not Sodom and Gomorrah, but a Business Paradise. And in a Bikini*. These and similar articles highlight the project's tourist and financial benefits, as well as the national promotion it generates and the advantages it provides to the local community. Eleven years after the report that called Zrće *Sodom and Gomorrah*, for the first time Nacional published an article titled *In 2015 We Explored the Zrće Phenomenon: We Spent Hundreds of Thousands of Euros on the Best DJs, Barely Survived, and Created the Croatian Ibiza*. This article gave a platform to the people who initiated the entire project,

effectively functioning as a form of PR and promotion for the Zrće project and for clubbing tourism in general.

A third discourse on Zrće emerged predominantly within specialized media (e.g., *Klubskascena*). This cultural/artistic discourse focused on the performing artists, the music, and reports on music events. However, aside from PR announcements, this discourse occupied little space in mainstream media.

After the initial phase, national media outlets, including Index, the largest and most widely-read liberal portal, frequently published reports framed within different discursive perspectives. These ranged from coverage of police actions and PR announcements to reports addressing both the allegedly destructive party culture and the financial success of Zrće. Nevertheless, the legacy of the moral panic framework persisted, evident in clickbait headlines fixated on drugs, alcohol, nudity, body parts, morality, and comparisons to Sodom and Gomorrah.

DISCUSSION AND CONCLUSION

The present study aimed to examine the construction and presentation of electronic music club culture, specifically focusing on Zrće as a party destination, within Croatian media discourse over a two-decade period (2004–2024). Utilizing Stanley Cohen's (1972) concept of moral panic as the primary theoretical framework, the analysis identified three predominant discourses: moral panic, touristic product, and cultural-artistic discourse. The findings both reinforce Cohen's original framework, while also engaging with contemporary critiques and adaptations proposed by scholars such as McRobbie and Thornton (1995), Critcher (2008), and others.

Initially, the media portrayal of Zrće strongly aligns with Cohen's concept of moral panic. The early articles, such as Nacional's 2004 report labeling Novalja as "Paška Sodoma and Gomora", exemplify the identification of "folk devils" through sensationalist language and the depiction of rave culture as a threat to societal norms. This mirrors Cohen's (1972) depiction of how media sensationalism amplifies public fear and societal concern, leading to calls for regulatory action. The emphasis on drug use, public sexual acts, and disruption of traditional lifestyles echoes Cohen's assertion that moral panics often focus on what is perceived as deviant behavior that challenges established norms. Moreover, the 2007 *Večernji List* article, which invokes the metaphor of Sodom and Gomorrah, underscores the religious and moral undertones typical of moral panic narratives. The portrayal of rave culture as inherently immoral and harmful to youth reinforces the stigmatization of the subculture, consistent with Cohen's identification of scapegoated groups as the source of societal problems. This phase of media discourse demonstrates the initial stages of moral panic, characterized by heightened media scrutiny and public anxiety.

Over time, the media discourse around Zrće exhibited a notable shift from moral panic to normalization and the promotion of Zrće as a successful touristic and economic venture. By 2010, articles in *Jutarnji list* reframed Zrće from a symbol of immorality to a “great brand” and a “business paradise”. This transition highlights a critical aspect of contemporary media dynamics that Cohen’s original framework does not fully encompass, primarily because the complexities of modern, multi-mediated environments had not yet emerged when his theory was developed. The normalization of Zrće in media narratives points to an evolution in the moral panic framework, where initial sensationalism can gradually shift towards commodification and mainstream acceptance as the subculture gains economic significance.

This shift also resonates with the argument that modern media environments facilitate both the amplification and diffusion of moral panics. The initial moral panic may have been amplified by traditional media outlets, but the subsequent normalization indicates a diffusion process where the subculture gains legitimacy and economic importance, mitigating earlier negative portrayals. The portrayal of Zrće as a business success and tourist attraction aligns with McRobbie and Thornton’s (1995) call for a rethinking of moral panic in the context of contemporary media, highlighting the dual role media plays in both constructing and legitimizing subcultures.

Despite the normalization trend, the persistence of sensationalist discourse in national media outlets underscores the ongoing relevance of moral panic dynamics. Headlines laden with terms like “sex,” “drugs,” “nudity,” and references to “Sodom and Gomorrah” indicate that elements of moral panic remain entrenched in media narratives. This duality, where Zrće is simultaneously promoted as a touristic asset and vilified as a source of societal decay, reflects the complex interplay between different media discourses identified by Thornton (2014). The continued presence of moral panic elements suggests that while the subculture has achieved a degree of normalization, the potential for renewed moral panic persists, especially as media outlets look for attention through sensationalism.

CONCLUSION

There are distinct media discourses regarding Zrće as a party destination. In mainstream media, this analysis revealed that the same outlets promoted both the discourse of moral panic and the discourse of Zrće as a successful tourist product at different times, depending on specific events and situations associated with Zrće. The third discourse, focusing on a specific genre of music and performing artists, aside from PR announcements, did not gain significant traction in mainstream media and was essentially limited to specialized outlets. While this indicates that media promoted different discourses on Zrće, it is important to note that the moral argument of Sodom and Gomorrah persisted, as references to this metaphor were found even in texts primarily focused on

Zrće as a tourist product. This metaphor has become the dominant media label for Zrće over the last 20 years of reporting on its party scene, branding it with an enduring image of a morally corrupt and sinful place.

The analysis of Croatian media discourse surrounding Zrće from 2004 to 2024 underscores the multifaceted nature of moral panic as conceptualized by Cohen (1972), while also reflecting the complexities introduced by modern media environments. The initial portrayal of Zrće as a source of societal threat aligns with traditional moral panic dynamics, whereas the subsequent normalization and promotion of Zrće as a touristic and economic asset demonstrate the evolving interplay between media narratives and subcultural integration. These findings not only validate aspects of Cohen's theory but also highlight the need for its adaptation to account for contemporary media influences and the dynamic nature of public perception. As electronic music culture continues to evolve, ongoing research is essential to understand the shifting landscapes of moral panics and their implications for subcultures and society at large.

References:

- Anderson, T. L. (2009). *Rave culture: The alteration and decline of a Philadelphia music scene*. Temple University Press.
- Cohen, S. (1972). *Folk devils and moral panics: The creation of mods and rockers*. MacGibbon and Kee.
- Collin, M., & Godfrey, J. (1997). *Altered state*. Serpent's Tail.
- Critcher, C. (2003). *Moral panics and the media*. Open University Press.
- Critcher, C. (2008). Moral panic analysis: Past, present and future. *Sociology Compass*, 2(4), 1127-1144.
- Garland, D. (2008). On the concept of moral panic. *Crime, Media, Culture*, 4(1), 9-30.
- Goode, E., & Ben-Yehuda, N. (2009). *Moral panics: The social construction of deviance* (2nd ed.). Wiley-Blackwell.
- McRobbie, A., & Thornton, S. (1995). Rethinking 'moral panic' for multi-mediated social worlds. *The British Journal of Sociology*, 46(4), 559-574.
- St John, G. (2009). *Technomad: Global raving countercultures*. Equinox Publishing.
- Thornton, S. (2014). Moral panic, the media and British rave culture 1. In T. Rose, & A. Rosse (Eds.), *Microphone fiends*. Routledge, 176-192.

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EMOTIONAL EATING AND EATING ATTITUDES AMONG YOUNG WOMEN IN CONTINENTAL AND MEDITERRANEAN CROATIA

Abstract

Emotional eating involves overeating in response to negative emotions, while eating attitudes refers to beliefs, thoughts, feelings, and behaviours about food. Studies suggest a link between emotional eating and disordered eating attitudes, especially in individuals with higher body mass index (BMI). This study explored emotional eating and eating attitudes among 1337 young women (aged 18-21) from Continental and Mediterranean Croatia, focusing on how emotions drive eating and the role of BMI. Data were collected online using BMI calculations, the Emotional Eating Questionnaire, and the Disordered Eating Attitudes Scale — Short Form. Results revealed significant links between specific emotions and emotional eating, with patterns differing by BMI. Overweight women exhibited higher emotional eating levels, particularly in Continental Croatia, where negative emotions such as stress, bad mood, and loneliness had a stronger impact. Regional differences in eating attitudes were minimal. These findings indicate the importance of addressing emotional triggers and BMI in designing interventions to encourage healthier eating behaviours among young women.

Key words: *emotional eating, eating attitudes, body mass index, regional differences, women*

INTRODUCTION

Negative emotions increase the urge to eat, which temporarily alleviates emotional distress (Emotional eating theory, Bruch, 1973). This behaviour involves consuming excessive amounts of food to reduce inner tension caused by negative emotions (Macht, 2008). Research has linked perceived stress and worries to emotional eating, particularly among adolescents (Nguyen-Rodriguez, Unger, & Spruijt-Metz, 2009).

Studies in non-clinical populations show that emotional eating is widespread (Armitage, 2015; Bennett, Greene, & Schwartz-Barcott, 2013; Konttinen, Männistö, Sar-

lio-Lähtenkorva, Silventoinen, & Haukkala, 2010). While both men and women report overeating under stress (Bennett et al., 2013; Laitinen, Ek, & Sovio, 2002), women tend to eat more (Bennett et al., 2013). Interestingly, while emotional eating is commonly linked to overeating during negative emotional states, research suggests that positive emotions can also trigger overeating (Cardi, Leppanen, & Treasure, 2015; Macht, Haupt, & Salewsky, 2004).

Emotional eating is strongly associated with disordered eating behaviours and psychological distress. Emotional eaters often exhibit lower self-esteem, body image concerns, and higher levels of disordered eating compared to non-emotional eaters (Lindeman & Stark, 2001; Barnhart, Braden, & Price, 2021). Among adolescents with loss of control eating, higher emotional eating is linked to heightened disordered eating attitudes (Stojek et al., 2016).

The relationship between emotional eating, BMI, and weight gain has been extensively studied. Individuals who overeat in response to emotions are more likely to be overweight or obese (Geliebter & Aversa, 2003; Kontinen et al., 2010; Ozier et al., 2008). Perceived stress explained a larger proportion of the variance in emotional eating among overweight and obese participants compared to the general population (Sims et al., 2008). Overweight and obese individuals may struggle with recognizing and managing emotions, often using food as a maladaptive coping mechanism (Spoor, Bekker, Van Strien, & van Heck, 2007; Ozier et al., 2008).

It is evident that research shows a link between emotional eating, higher BMI, and disordered eating attitudes. Individuals who engage in emotional eating often struggle to regulate their emotions, using food as a maladaptive coping mechanism. This challenge is particularly evident among those with higher BMI, who may experience additional difficulties in recognizing and managing their emotional states. In other words, emotional eating not only contributes to weight gain but is also associated with more disordered eating attitudes.

Given the established connection between perceived stress, worries, and emotional eating, especially among adolescents (Nguyen-Rodriguez, et al., 2009), and the tendency for women to eat more in response to stress (Bennett et al., 2013), it appears that young women may be particularly vulnerable to emotional eating and disordered eating attitudes.

Therefore, in this study we explore the relationship between emotional eating and eating attitudes among young women with varying BMIs from two distinct Croatian regions: Continental and Mediterranean Croatia. By examining how emotions trigger the urge to eat, this research aims to provide insight into a connection between emotional eating, BMI, and eating attitudes within these unique cultural and geographical contexts.

METHOD

Participants

A convenience sample of 1337 young women aged 18 to 21 ($M = 19.8$; $SD = 1.1$) from Croatia (primarily from Continental Croatia, 73.7%) was used in this cross-sectional study. Most participants (82.7%) had completed a four-year high school education, while 8.5% held an undergraduate degree.

Measures

Body mass index (BMI), calculated as weight (kg) divided by height squared (m^2), was used to assess participants' nutritional status (WHO, 2010).

Emotional Eating Questionnaire (EEQ) (Wildwood Family Clinic, n.d.) includes 18 items assessing emotional triggers for eating (e.g., "When someone disappoints me, I feel the need to eat something"). It has six factors (eating due to bad mood, stress/worry, anger, boredom, loneliness or positive mood), rated on a 5-point Likert scale (1 = "Strongly disagree" to 5 = "Strongly agree"). Total scores range from 18 to 90, with higher scores indicating stronger emotional eating tendencies. The scale demonstrates high internal reliability ($\alpha = .92$) (Blažev, 2023).

Disordered Eating Attitude Scale — short version (DEAS-S) (Alvarenga et al., 2020) measures beliefs, thoughts, and behaviours related to food. It consists of 17 items with binary (Yes/No) (e.g., "Does eating ever feel unnatural to you?"), and 5-point Likert scale responses (1 = "Always"; 5 = "Rarely/Never") (e.g., "I worry about how much a certain kind of food or meal will make me gain weight."). Total scores range from 18 to 80, with higher score reflecting more disordered eating attitudes. Internal reliability for the scale is strong (Cronbach's $\alpha = .88$, Alvarenga et al., 2020).

Procedure

Data was collected online via Lime Survey from April 21 to May 20, 2021. The questionnaire was shared through Facebook student groups, paid advertisements targeting women aged 18-21 on Facebook and Instagram, and emails to schools and universities via contacts. Completion took 30-40 minutes. Participants were informed about the study's purpose, confidentiality, anonymity, voluntary participation, and their right to withdraw. They confirmed eligibility as women aged 18-21 and provided consent to proceed. No personal data was collected unless participants entered a prize raffle by providing an email, which was deleted after winners were notified. Prizes included store vouchers. Ethical guidelines were followed, with participants given contact details for Croatia's Eating Disorders Centre for any distress and researchers' emails for questions.

RESULTS

Table 1 summarizes descriptive statistics for BMI categories, emotional eating, and eating attitudes among young women from Continental and Mediterranean Croatia. BMI distribution was similar in both regions, with about 70% in the normal range, less than 20% overweight, and under 10% underweight. No obesity cases were reported. Emotional eating scores (18-90 scale) were nearly identical across regions (Continental: $M = 51.5$; Mediterranean: $M = 51.6$), indicating moderate emotional eating overall. Eating due to boredom and good mood scored highest ($M \approx 10.0$), while bad mood, stress/worry, and loneliness were slightly below average ($M \approx 8.0$). Anger had the lowest scores ($M = 5.8$), making it the least common trigger. Eating attitudes (17-83 scale) showed minimal regional differences (Continental: $M = 31.9$; Mediterranean: $M = 32.0$). These low scores suggest that disordered eating attitudes are not pronounced among young women in both regions.

To explore the relationship between emotional eating and eating attitudes among young women with varying BMI across Continental and Mediterranean Croatia, a one-way ANOVA was conducted, with LSD post-hoc tests identifying specific group differences (Table 2).

In Continental Croatia, significant BMI-related differences in emotional eating were observed for triggers such as bad mood, stress or worry, anger, and loneliness. Overweight young women reported the highest emotional eating scores for bad mood

		Continental Croatia		Mediterranean Croatia		
		<i>F</i>	%	<i>f</i>	%	
Body mass index category	Underweight	86	8.7	32	9.1	
	Normal	722	73.3	252	71.6	
	Overweight	177	18.0	67	19.0	
	Obese	0	0	0	0	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	Scale range
Emotional eating	Sum	51.5	15.4	51.6	15.4	18-90
	Bad mood	8.6	3.45	8.8	3.4	3-15
	Stress or worry	8.2	3.8	8.1	3.9	3-15
	Anger	5.8	2.9	5.8	2.8	3-15
	Boredom	10.4	3.3	10.4	3.4	3-15
	Loneliness	8.2	3.5	8.3	3.5	3-15
	Good mood	10.3	2.9	10.2	3.0	3-15
Eating attitudes		31.9	13.5	32.0	13.6	17-83

Table 1 — Descriptive statistics of the BMI, emotional eating questionnaire and disordered eating scale (DEAS-S) (N = 1337)

	Group	Continental Croatia				Mediterranean Croatia			
	BMI	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
Bad mood	Underweight	7.4	3.1	9.5*	<.001	8.3	3.3	2.5	.082
	Normal	8.6	3.4			8.6	3.3		
	Overweight	9.4	3.8			9.6	3.8		
Stress or worry	Underweight	6.8	3.3	14.0*	<.001	7.7	4.2	3.4	.034
	Normal	8.1	3.7			7.8	3.7		
	Overweight	9.3	4.1			9.2	4.5		
Anger	Underweight	5.0	2.3	17.3*	<.001	5.5	2.7	1.3	.285
	Normal	5.6	2.7			5.7	2.7		
	Overweight	6.8	3.5			6.3	3.3		
Boredom	Underweight	9.9	3.7	2.0	.134	10.2	3.3	0.1	.914
	Normal	10.3	3.3			10.4	3.3		
	Overweight	10.7	3.2			10.3	3.7		
Loneliness	Underweight	7.5	3.1	13.2*	<.001	7.3	3.5	2.8	.061
	Normal	8.0	3.4			8.3	3.5		
	Overweight	9.4	3.8			9.1	3.6		
Good mood	Underweight	10.0	3.0	1.7	.183	10.3	2.8	0.1	.935
	Normal	10.3	2.9			10.3	3.0		
	Overweight	10.7	3.1			10.1	3.1		
Eating attitudes	Underweight	24.9	12.1	46.3*	<.001	27.2	13.3	7.7*	.001
	Normal	30.8	12.3			31.2	12.5		
	Overweight	39.6	15.6			37.3	16.3		

Table 2 — One-way ANOVA: Differences in BMI in relation to emotional eating and eating attitudes for Continental and Mediterranean Croatia (N = 1337).

Note: BMI — Body mass index category; * $p < .001$.

($M = 9.4$), followed by normal-weight ($M = 8.6$) and underweight women ($M = 7.4$), with significant group differences ($F(2, 982) = 9.5$, $p < .001$). Similarly, emotional eating triggered by stress or worry was highest among overweight women ($M = 9.3$), followed by normal-weight ($M = 8.1$) and underweight ($M = 6.8$), with significant differences across groups ($F(2, 982) = 14.0$, $p < .001$). Trends were consistent for anger (overweight: $M = 6.8$, normal-weight: $M = 5.6$, underweight: $M = 5.0$, $F(2, 982) = 17.3$, $p < .001$) and loneliness (overweight: $M = 9.4$, normal-weight: $M = 8.0$, underweight: $M = 7.5$, $F(2, 982) = 13.2$, $p < .001$). However, no significant differences were found for emotional eating triggered by boredom ($p = .134$) or good mood ($p = .183$).

In Mediterranean Croatia, emotional eating differences across BMI categories were less pronounced. Eating triggered by stress or worry was the only significant trigger, with overweight women scoring higher ($M = 9.2$) than normal-weight participants ($M = 7.8$), with significant group differences ($F(2, 348) = 3.4$, $p = .034$). No significant differences were observed between overweight and underweight women or between normal-weight and underweight women for this or other emotional triggers, including bad

mood ($p = .082$), anger ($p = .285$), boredom ($p = .914$), loneliness ($p = .061$) or good mood ($p = .935$).

Disordered eating attitudes varied significantly by BMI in both regions. In Continental Croatia, overweight young women had the highest scores ($M = 39.6$), followed by normal-weight ($M = 30.8$) and underweight women ($M = 24.9$), with significant differences ($F(2, 982) = 46.3, p < .001$). Similarly, in Mediterranean Croatia, overweight participants demonstrated the most disordered eating attitudes ($M = 37.3$), followed by normal-weight ($M = 31.2$) and underweight women ($M = 27.2$), with significant differences ($F(2, 348) = 7.7, p = .001$).

DISCUSSION

The findings of this study align with the emotional eating theory, which posits that negative emotions increase the urge to eat, serving as a mechanism to alleviate emotional distress (Bruch, 1973). Emotional eating was particularly prevalent among overweight young women in both Continental and Mediterranean Croatia, with variations observed across BMI categories. These results support previous research suggesting that individuals with higher BMI are more prone to emotional eating (Konttinen et al., 2010; Ozier et al., 2008) and may rely on food as a maladaptive coping mechanism for managing negative emotions (Spoon et al., 2007; Ozier et al., 2008).

In Continental Croatia, overweight young women reported significantly higher levels of emotional eating triggered by specific negative emotions, such as bad mood, stress or worry, anger, and loneliness, compared to their normal-weight and underweight counterparts. These results indicate the link between emotional eating and negative emotional triggers, as previously suggested in studies emphasizing the role of stress and anxiety in emotional eating (Nguyen-Rodriguez et al., 2009). The lack of significant differences in emotional eating triggered by boredom or positive emotions, such as good mood, further indicate the specific association between negative emotions and emotional eating in this region.

On the contrary emotional eating differences across BMI categories in Mediterranean Croatia were less pronounced. Significant variations were observed only for emotional eating triggered by stress or worry, with overweight young women reporting higher levels than their normal-weight counterparts. This regional discrepancy may reflect cultural or environmental factors influencing emotional responses to food, as well as differing attitudes toward body image and eating behaviours. While specific emotions such as anger and loneliness were significant in Continental Croatia, these triggers did not significantly differentiate emotional eating patterns in Mediterranean Croatia, possibly suggesting a potential moderating effect of cultural or geographical context.

The association between BMI and disordered eating attitudes also emerged strongly in both regions. Overweight young women demonstrated significantly more disordered eating attitudes than their normal-weight and underweight peers, a finding consistent with prior research linking emotional eating to heightened concerns about body image and weight (Barnhart, et al., 2021; Stojek et al., 2016). This suggests that emotional eating not only contributes to weight gain but also worsens disordered eating behaviours.

The regional differences in emotional eating patterns indicate the importance of context in understanding these behaviours. While young women in Continental Croatia exhibited a broader range of emotional triggers for eating, young women in Mediterranean Croatia demonstrated a narrower focus, primarily on stress or worry. This distinction may point to variations in social or environmental stressors, cultural attitudes toward food, and coping mechanisms between the two regions.

These findings show the need for targeted interventions addressing emotional eating and disordered eating attitudes among young women, particularly those with higher BMI. Further research should explore the cultural and environmental factors that shape emotional eating behaviours across different regions.

CONCLUSION

Emotional eating was particularly prevalent among overweight individuals, especially in response to negative emotions such as stress/worry, bad mood, and loneliness. These findings align with existing theories and research, showing that individuals with higher BMI are more vulnerable to emotional eating. In Continental Croatia, emotional eating was linked to a broader spectrum of negative emotions, whereas in Mediterranean Croatia, it was predominantly triggered by stress/worry. This shows the importance of cultural context in shaping emotional eating. The association between higher BMI and disordered eating attitudes suggests that emotional eating not only worsens weight issues but also contributes to disordered eating patterns. Future research should focus on the cultural determinants of emotional eating to inform targeted strategies for prevention and intervention. Addressing emotional eating and promoting healthier eating attitudes, particularly among young women with higher BMI, are essential for improving well-being.

References

- Alvarenga, S., Souza, S., & Andrade, D. (2020). Item Response Theory-based validation of a short form of the Disordered Eating Attitude Scale (DEAS-s) to a Brazilian sample. *Cadernos de Saúde Pública*, 36(2). <https://doi.org/10.1590/0102-311x00169919>.
- Armitage, C. J. (2015). Randomized test of a brief psychological intervention to reduce and prevent emotional eating in a community sample. *Journal of Public Health*, 37(3), 438-444. <https://doi.org/10.1093/pubmed/fdv054>.

- Barnhart, W. R., Braden, A. L., & Price, E. (2021). Emotion regulation difficulties interact with negative, not positive, emotional eating to strengthen relationships with disordered eating: An exploratory study. *Appetite*, 158, 105038. <https://doi.org/10.1016/j.appet.2020.105038>.
- Bennett, J., Greene, G., & Schwartz-Barcott, D. (2013). Perceptions of emotional eating behavior. A qualitative study of college students. *Appetite*, 60, 187-192. <https://doi.org/10.1016/j.appet.2012.09.023>.
- Blažev, D. (2023). *Provjera biopsihosocijalnog modela ortoreksije*. [Doctoral dissertation, Faculty of Humanities and Social Sciences, University of Zagreb]. <https://doi.org/10.17234/diss.2023.8734>.
- Bruch, H. (1973). *Eating disorders. Obesity and anorexia nervosa*. Riverside: Behavior Science Book Service.
- Cardi, V., Leppanen, J., & Treasure, J. (2015). The effects of negative and positive mood induction on eating behaviour: A meta-analysis of laboratory studies in the healthy population and eating and weight disorders. *Neuroscience & Biobehavioral Reviews*, 57, 299-309. <https://doi.org/10.1016/j.neubiorev.2015.08.011>.
- Geliebter, A., & Aversa, A. (2002). Emotional eating in overweight, normal weight, and underweight individuals. *Eating Behaviors*, 3(4), 341-347. [https://doi.org/10.1016/s1471-0153\(02\)00100-9](https://doi.org/10.1016/s1471-0153(02)00100-9).
- Kontinen, H., Männistö, S., Sarlio-Lähteenkorva, S., Silventoinen, K., & Haukkala, A. (2010). Emotional eating, depressive symptoms and self-reported food consumption. A population-based study. *Appetite*, 54(3), 473-479. <https://doi.org/10.1016/j.appet.2010.01.014>.
- Laitinen, J., Ek, E., & Sovio, U. (2002). Stress-related eating and drinking behavior and body mass index and predictors of this behavior. *Preventive Medicine*, 34(1), 29-39. <https://doi.org/10.1006/pmed.2001.0948>.
- Lindeman, M., & Stark, K. (2001). Emotional eating and eating disorder psychopathology. *Eating Disorders*, 9(3), 251-259. <https://doi.org/10.1080/10640260127552>.
- Macht, M. (2008). How emotions affect eating: A five-way model. *Appetite*, 50(1), 1-11. <https://doi.org/10.1016/j.appet.2007.07.002>.
- Macht, M., Haupt, C., & Salewsky, A. (2004). Emotions and eating in everyday life. Application of the experience-sampling method. *Ecology of Food and Nutrition*, 43(4), 11-21. <https://doi.org/10.1080/03670240490454723>.
- Nguyen-Rodriguez, S. T., Unger, J. B., & Spruijt-Metz, D. (2009). Psychological Determinants of Emotional Eating in Adolescence. *Eating Disorders*, 17(3), 211-224. <https://doi.org/10.1080/10640260902848543>.
- Ozier, A. D., Kendrick, O. W., Leeper, J. D., Knol, L. L., Perko, M., & Burnham, J. (2008). Overweight and obesity are associated with emotion- and stress-related eating as measured by the Eating and appraisal due to emotions and stress questionnaire. *Journal of the American Dietetic Association*, 108(1), 49-56. <https://doi.org/10.1016/j.jada.2007.10.011>.
- Sims, R., Gordon, S., Garcia, W., Clark, E., Monye, D., Callender, C., & Campbell, A. (2008). Perceived stress and eating behaviors in a community-based sample of African Americans. *Eating Behaviors*, 9(2), 137-142. <https://doi.org/10.1016/j.eatbeh.2007.06.006>.
- Spoor, S. T. P., Bekker, M. H. J., van Strien, T., & van Heck, G. L. (2007). Relations between negative affect, coping, and emotional eating. *Appetite*, 48(3), 368-376. <https://doi.org/10.1016/j.appet.2006.10.005>.
- Stojek, M. M. K., Tanofsky-Kraff, M., Shomaker, L. B., Kelly, N. R., Thompson, K. A., Mehari, R. D., Marwitz, S. E., Demidowich, A. P., Galescu, O. A., Brady, S. M., Yanovski, S. Z., & Yanovski, J. A. (2016). Associations of adolescent emotional and loss of control eating with 1-year

changes in disordered eating, weight, and adiposity. *International Journal of Eating Disorders*, 50(5), 551-560. <https://doi.org/10.1002/eat.22636>.

Wildwood Family Clinic. (n.d.). *Emotional eating questionnaire*. <https://wp.wildwoodclinic.com/wp-content/uploads/2014/08/Emotional-Eating-Questionnaire-SG.pdf>.

World Health Organisation (WHO). (2010, May 6th). *A healthy lifestyle — WHO recommendations*. <https://www.who.int/europe/news-room/fact-sheets/item/a-healthy-lifestyle-who-recommendations>.

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SHOULD WE STAY OR SHOULD WE GO? FAMILIES WITH YOUNG CHILDREN AND LIFE ON THE CROATIAN ISLANDS

Abstract

Island life has unique advantages and disadvantages as compared to life on the mainland. In Croatia, islanders sometimes express a higher quality of life and emphasise stronger community ties with a higher level of solidarity, better climate and environmental resources, and a slower-paced, more relaxed lifestyle than on the mainland. However, specific disadvantages can lower the quality of life on the island, such as: insufficient transport connections, a lack of local infrastructure and retail outlets, inflexibility of work and the imposition of seasonal work, and a lack of cultural content and leisure activities. Island life can be even more challenging for families with young children due to the lack of necessary medical services (especially pediatric care), and elective informal educational or cultural content. Considering both sides of the arguments for island living, it is impossible to escape the recorded fact that the island population in Croatia is ageing. This paper will present findings based on data collected through semi-structured interviews, focusing on nuclear families or single-parent families with one or more children at a maximum of 10 years of age. The research is focused on presenting various reasons and motivations for families with young children to stay on (or immigrate to) the islands or to emigrate to the mainland. The goal is to determine their common or differentiating reasons for decisions regarding their family, as well as to identify the participants' views of the advantages and disadvantages of island life.

Key words: Island; family; young children; young people; emigration; immigration

INTRODUCTION

As the elderly population on the Croatian islands is above-average, we were interested to see some advantages and disadvantages recognised by families with young children (age 10 or under) when describing their reasons for remaining on the island or relocating to the mainland. The emigration of young people and the numerical dominance of the older population is a central problem almost always mentioned whenever researchers analyse island life (Babić, Lajić, & Podgorelec, 2004; Klempić Bogadi, & Podgorelec, 2023). This unfavourable demographic situation influences the revitalisation of the islands (Papić, 2022), a situation that is especially prominent regarding families with young children. However, apart from recognising the challenges and problems of is-

land life, our participants discuss certain advantages that Babić, Lajić and Podgorelec (2004) mention in the context of ecological and postmodern values.

THEORY

Of the 3.1% of the Croatian population that lives on the islands (National Development Plan for Islands 2021—2027), the 2021 census showed that just under 12% were young people aged 14 and under.¹ Klempić Bogadi and Podgorelec (2023) show how decades of emigration from the islands has had a dominant influence in shaping the present-day demographics of the Croatian islands. Educational opportunities are a factor the authors mention as important to quality of life on the island for families with children. They note that, for example there is no pre-school education on any of the small islands, and that this lack of a preparatory year for schooling is indirectly considered a problem in later successfully mastering basic elementary school knowledge. In addition to pre-school education, difficulties related to children travelling daily to and from school on the mainland are sometimes noted as a reason for families relocating from the islands to the mainland, as well as a limiting factor for new families immigrating to the islands. Although research often shows that islanders are aware of all the positive aspects of island life, the emigration of the young population often impacts the socio-psychological mood of the island population (Babić, Lajić, & Podgorelec, 2004). Babić, Lajić and Podgorelec claim that the positive aspects and advantages of island life could retain young islanders, as well as attracting new residents. They divide these factors into natural and social resources: natural resources include clean air and sea, a pleasant climate, and peace and quiet; social resources include the advantages of community, such as neighbourship, friendships, acquaintances with people, and the creation of necessary social networks. It is interesting to connect the findings of previous research with the findings of research on the mental health of the inhabitants of remote Scottish islands, which show that the mental health and well-being of islanders are significantly better than that of the residents of mainland cities. This has been attributed to the closely knit social networks of communities, which are more prominent in smaller and more isolated areas such as islands (Halliday, Clemens, & Dibben, 2022).

Although they are aware of the positive aspects of island life, for families with children, the problem is of a broader scope due to the unavailability of practical services that have a large impact on quality of life. Several studies have examined the lack of social and cultural activities, economic conditions (e.g. employment opportunities and working conditions), poor transport connections, and the unsustainability of tourism as

¹ The census also showed that nearly 60 percent were people aged 15 to 64, while 31 percent were 65 and older. Compared to the 2011 census, the most significant change is in the age group of 65 and older, which is shown to be nearly 10 percent lower (at just 22.45 percent of the population) than in 2011.

some of the problems cited by islanders (Nakićen, & Čuka, 2016; Barada, Marcelić, & Zdravković, 2014; Šimunović, 1994; Vukušić, Krnić, & Dergić, 2021).

Previous research has shown that young people living on the islands are aware of the limiting characteristics of island life. Babić and Lajić (2004) examine the educational, labour, and professional aspirations of young islanders, once again confirming the reality of the decrease in the islands' young population. They also emphasise the socio-economic dimensions of family relationships that influence young people's desire to leave the island; they specifically note the tradition of male family members mainly inheriting family property, which negatively affects young men's aspirations towards further education and potential relocation from the island.

METHODOLOGY

This article will present research findings as part of a review and analysis of the lives of young families on the islands. This topic arose as a part of research into the living conditions and participation of young people in Croatian society under the TYPEs project (Types of Youth Participation in Croatian Society).²

A total of 10 interviews were conducted with members of 10 families that live or previously lived on the Croatian islands. The interview protocol was organized into four main topics: introduction (about themselves and their families), location (about the location where they currently live), about the island (what the island represents to them, life on the island), and quality of life (activities, details on living conditions). The participants were selected using the snowball method, which affected the number and variety of islands represented. However, this was accounted for by choosing one island each from the categories of small, medium, and large islands. The age range of the participants was from 35 to 47; an equal quantity of them became parents in their late twenties and in their early thirties. Interviews lasted for an average of 25 minutes. The data collected was analysed using the NVivo R1 qualitative data analysis program.

CONDITIONS IMPORTANT FOR LIFE ON THE ISLAND

One of participants' main reasons for moving to the island or staying on the island after having children was the desire or need to provide a "childhood like in olden days" (Iva). This perception of childhood was often mentioned, concluding: "Quality of life... as long as we have young children, I would not trade the island for the mainland" (Ma-

² The paper is the result of research conducted under the "TYPEs: Types of Youth Participation in Croatian Society" internal project of the Ivo Pilar Institute of Social Sciences, which is being carried out as part of the development and implementation component of programme funding. The project is financed by the European Union - Next/GenerationEU. The views and opinions expressed are those of the author exclusively, and do not necessarily reflect the official position of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.

ra), or as Tara said: "I think it is one of those places that are dying out where it is a privilege to grow up". However, even though participants often discussed advantages when explaining why they decided to move to or stay on the island, their experiences and perceptions were usually influenced by specific conditions they encountered.

Describing their lives as islanders, participants - especially those with young children - discussed the advantages and disadvantages they encountered. We distinguished nine important conditions for life on the island: 1) Safety; 2) Community characteristics; 3) Environmental quality of life; 4) Free time; 5) Economic conditions; 6) Educational opportunities; 7) Health care; 8) Transport connections; 9) Tourism.

POSITIVE ASPECTS OF LIFE ON THE ISLAND

The aspects of life on the islands that were seen as positive were safety, community characteristics, and environmental quality of life. These conditions were specified as the main reasons why participants moved to the island or remained on the island after having children.

Participants discuss their feelings of safety, but mostly safety for their children, stating: "Children have freedom, mainly because it is safe" (Tara). More specifically, Kata explains what she means when she mentions safety for children: "Everyone knows them and the children know the island because it is small. There is no danger that someone will kidnap or hurt them" (Kata). Even the perception of dangers to children living on the island differs from the concept of security as it is mentioned here: "The most important thing is that your child knows how to swim. And if your child knows, 99% of the other nonsense doesn't matter" (Jere).

Another condition participants mention is community characteristics, describing the type and intensity of relationships in the community. These relationships are often explained as close and long-term, meaning relationships with other parents (who have children of the same age) as important support systems. In this sense, the community is described as "one big family" (Mara). However, although participants discuss a close and connected community from a positive perspective, they also mention its limitations. Community connections are sometimes perceived as being too close among islanders as opposed to those who came from the mainland, concluding that "they stick together" (Zia). Jere is also aware of this, but interprets it as a part of a psychological defence mechanism among locals: "Many people come and go, and that's why people behave like that. Like, why should I build a relationship with you if you are going to leave?".

In addition to a rich social life in the form a close-knit, safe community, island residents also recognise the high environmental quality of life. These qualities include the clean environment, homegrown food, and low or imperceptible pollution. Participants describe growing vegetables, which contributes to the family's economic well-being.

They also describe the influence that island life has on their children in the form of a relationship with nature, a recognition of the importance of knowledge and skills to help them grow food, but also “opportunities to get to know nature, embodying it” (Tara). All these things are mentioned in a positive context as compared to life on the mainland, where the density of the inhabited area, and thus traffic pollution, did not allow them to dedicate themselves to growing their own food to such a great extent. Describing what she misses since having moved back to the mainland, Tonka says: “I miss the coziness. You have your garden, you have your yard — that kind of easy life. Here (in the city) you always have to rush somewhere. You are shut in an apartment. Also — that clean air...”.

EQUALLY CRITICAL/CONSCIOUS OF ADVANTAGES AND DISADVANTAGES

The participants describe and are aware of advantages and disadvantages in terms of free time and economic conditions. As concerns free time, the participants mention sports activities, hobbies, and cultural and religious activities. The perception of the availability of activities is heavily affected by the degree to which the available activities are important to them. While equal proportion of participants say that they are satisfied or dissatisfied with the range of activities, all of them consider the issue important, and it is one of the first things they mention. This was especially apparent when discussing activities for children. The lack of a sufficient number of extracurricular activities for children is sometimes seen as an opportunity for families to spend more time together. As concerns economic conditions, participants described having the opportunity to “do whatever job you want because there is not enough of anything there” (Rada). However, although the possibility of finding employment easily was one of the most important conditions for families to stay on or come to the island, the disadvantage manifests itself in the form of limiting wages: “There are jobs available, but the wages are not keeping up with high rents and the general rise in prices” (Tara).

NEGATIVE ASPECTS OF LIFE ON THE ISLAND

Some conditions mentioned by the participants, such as educational opportunities, health care, transport connections, and tourism are most often discussed negatively and with an emphasis on problems in these areas. Educational opportunities for children on the islands are usually limited to elementary school, which means that some of the participants' families will have to temporarily relocate their children to the mainland when they begin secondary school. This is the reason some families decided to move the whole family to the mainland, while some decide to do so even before the children begin secondary school. The primary reason for relocating the family mentioned most often by the participants was related to the perceived lack of socialisation due to

the small size of generations of island children: “When I had my daughter, I realised there would be only five of them in their year in elementary school, and that was catastrophic” (Jere); “My daughter is now starting school here (on the mainland) and I am glad that there will be more children. There were only three of them in her generation on the island, so here they will get socialised in a way they could not there” (Kata). Another condition almost always mentioned as a negative aspect of life on the island was the lack of health care, especially paediatricians. This condition is the most important and the first to be mentioned by the participants. The problem with the availability of paediatric care manifests in paediatricians coming to the island once a week, or even once a month. In addition, families must sometimes travel several hours by boat just for medical examinations, and this is also dependent on weather conditions.

Transport connections are the problem mentioned most often after the availability of medical care. Ferry connections to and from the islands are an issue for families with young children. In addition to difficult access to the mainland in case of medical need or emergency, families and individuals also have problems with the schedules of connections, which make it difficult for people to come to work on the island: “It would be more useful if there were more lines from the mainland to the island, so people could come to the island to work and go back the same day” (Jere). Also, transport connections are highly dependent on the weather, so there is always the fear that a medical emergency may come at a time when the lines are closed: “It happens maybe five times in the winter that the ferry doesn’t run, and then we are cut off from the mainland for three days... you pray to God that nothing happens to you for those three days and that’s that” (Mara).

The last condition that appears in the interviews with the participants is tourism. Apart from the fact that the participants criticise the insufficient development or even the lack of a local tourism strategy and investment in the sustainability of island tourism, they also mentioned they encountered it themselves, which turned out to be an insurmountable obstacle. For participants who did not have family property on the island, the lack of housing suitable for families that was available year-round was a problem: “One of the main problems was that we didn’t have a place to live. You can live there (in an apartment) until June, but after that—move along, mate! You find an apartment and then after the first of June they kick you out and rent it to tourists” (Jere).

CONCLUSION

There are conditions that make life on the islands both easier and more difficult for families with children. In interviews conducted with ten families living on islands that can be classified as small, medium, and large islands, we detected nine conditions that are important to life on the island. According to discussion with the participants, these conditions were divided into three groups: positive aspects of life on the island, aspects

perceived as both advantageous and disadvantageous, and negative aspects of life on the island. The conclusion that can be drawn from this research is that young people have a desire to live and raise children on the islands, but this is often negatively influenced by national and local development strategies. The conditions discussed as negative aspects are educational opportunities, health care, transport connections, and tourism. These negative aspects have less to do with economic conditions or the range of leisure activities available. Motivations for staying on the island include conditions that can be associated with a perceived higher quality of life, i.e. safety, community characteristics, and environmental quality of life.

References

- Babić, D., & Lajić, I. (2004). Obrazovne, radne i profesionalne težnje mladih otočana — primjer zadrarskih otoka (Iž, Dugo otok, Ugljan) (Educational, work and professional aspirations of young islanders — an example of the Zadar islands (Iž, Dugo otok, Ugljan). *Migracijske i etničke teme*, 20(2-3), 259-282.
- Babić, D., Lajić, I., & Podgorelec, S. (2004). Otočni izazovi: život na periferiji, odlazak ili revitalizacija otočnog mikrosocijalnog ambijenta (Island challenges: life on the periphery, departure or revitalization of the island's microsocial environment). *Sociologija sela*, 42(165/166), 255-276.
- Halliday, K., Clemens, T., & Dibben, C. (2022). The island effect: Spatial effects on mental wellbeing and residence on remote Scottish islands. *Wellbeing, Space and Society*, 3, 1-7.
- Klempić Bogadi, S., & Podgorelec, S. (2024). Kvaliteta života kao čimbenik demografske održivosti otočnih zajednica (Quality of life as a factor in the demographic sustainability of island communities). In J. Vukić, & M. Jurković (Eds.), *Otočnost u suvremenom društvenom kontekstu. Pogled u budućnost*, 51-66., Filozofski fakultet u Zagrebu.
- Nakićen, J., & Čuka, A. (2016). Demografski razvoj otoka Brača i sklonost otočana iseljavanju (Demographic development of the island of Brač and the tendency of the islanders to emigrate). *Migracijske i etničke teme*, 32(3), 319-251.
- Papić, A. (2022). Obrazovna iskustva i aspiracije mladih na otoku- primjer otoka Ugljana (Educational experiences and aspirations of young people on the island - the example of the island of Ugljan). *Socijalna ekologija*, 31(2), 27-53.
- Šimunović, I. (1994). Otoci u svjetlu socio-ekonomskih kretanja (Islands in the light of socio-economic trends). *Društvena istraživanja: časopis za opća društvena pitanja*, 3(4-5), 451-466.
- Vukučić, D., Krnić, R., & Dergić, V. (2021). Sociological aspects of life on the island — an example of activism through the community platform "Pokret otoka". In K. Jurčević, , Lj. Kalitera Lipovčan, R. Medić, R., & O. Ramljak (Eds.), *Mediterranean Impressions, Concepts, Stories*. Croatian Academy of Sciences and Arts, Scientific Council of Anthropological Research (HAZU); Institute of Social Sciences Ivo Pilar, VERN Group, 271-282.

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THE LEFT-RIGHT POLITICAL SPECTRUM AND ITS CONNECTION TO BASIC HUMAN VALUES: INSIGHTS FROM MEDITERRANEAN COUNTRIES

A b s t r a c t

This paper focuses on the prevalence of the left-right orientation, on the example of the Mediterranean countries. The aim of this paper is to explore the relationship between left-right political orientation and basic human values based on Schwartz's theory. The study uses available data from the international research project European Social Survey (ESS), covering three waves conducted between 2016 and 2021. The analysis was carried out using descriptive statistics, factor analysis, and multiple linear regression. Key findings indicate that political orientation and values remained stable during the observed period. Additionally, it was found that for individuals leaning more toward the left, the value of "universalism" was the strongest predictor. Meanwhile, for those leaning toward the right, "security" and "tradition" emerged as strongest predictors. The results align with existing knowledge about the general reluctance to adopt extreme political positions. However, in the case of Mediterranean countries, this indicator can still be explained by certain values, which also serve as a guide for political behavior.

Key words: left-right political orientation; values; predictive power of values; ESS; Mediterranean countries

SOCIO-POLITICAL ORIENTATIONS

The concept of socio-political orientations indicates the essential connection between social, political and economic changes and value orientations. Value orientations are better understood through scales that summarize attitudes about a particular value or issue rather than a direct question (Thomassen, 2001). One of the key sources for researching socio-political orientations is the European Social Survey (ESS, n.d.-a).

When discussing socio-political orientation according to the ESS, few concepts should be considered: political interest, political efficacy, political participation, party affiliation, political support, and self-placement and perception of political parties on the left-right dimension (Thomassen, 2001). In this paper, the emphasis will be placed on the last concept.

According to Comşa (2008), the left-right orientation serves as a tool to understand complex political contexts. While variations along the left-right spectrum can be analyzed and compared across and within individual countries, Evans and Whitefield (1998, as cited in Comşa, 2008) argue that the meaning attached to the left-right orientation is relatively stable in established democracies and maintained by various sources, both institutional and informal.

Inglehart and Klingemann (1976) outlined three components of left-right orientation: social placing of individuals; values; and identification with specific political parties. In his research, Rapeli (2014) stated that the proportion of those unwilling to take a position did rise during this period, but this increase did not pose a significant threat to the perceived importance of the left-right political dimension. Havlik (2019) stated that political centrism is a common expression of dissatisfaction with political parties and party democracy, while Engler (2020) noted that political centrism will be even important in the future political transformations and coalition-building strategies.

VALUES

Fundamental human values serve as standards for evaluating various forms of behavior and attitudes, as well as guiding principles in people's lives. The ESS questionnaire includes a thematic unit referred to as the Portrait Values Questionnaire (PVQ), which will be discussed in the methodological section of this paper. In general, Schwartz's Theory of Basic Values identifies 10 core values (Schwartz, Caprara, & Vecchione, 2010).

This group of values can be defined as normative principles and beliefs about governance, citizenship, and society. As such, they serve as focal points for positioning oneself within a political context. However, there is no consensus on the content or number of these values. Davidov, Schmidt and Schwartz (2008) argue that fundamental human values provide structure and consistency to political attitudes and choices. As such, they have predictive potential for determining an individual's political behavior and attitudes.

However, the relationship between values and political orientations needs to be viewed in relation to a certain context. Thorisdottir, Jost, Liviatan, and Shrout (2007) found that traditionalism predicts right-wing orientation across Europe, while universalism aligns with the left in Western Europe and the right in Eastern Europe. Security needs correlate with the right in Western and the left in Eastern Europe. Also, Piurko, Schwartz, and Davidov (2011) found that in traditional countries, right-wing orientation aligns with tradition, conformity, and security. In liberal countries, the right reflects tradition, power, conformity, and security, whereas the left emphasizes universalism and benevolence.

RESEARCH AIMS

According to previous studies two research aims can be outlined. The first aim is to provide a descriptive analysis of political orientation along the left-right spectrum and the

dominant values over time, while the second aim is to explore the relationship between left-right political orientation and values.

METHODOLOGY

Population and data source

The data from the ESS were used, covering three survey waves: ESS8 (2016—2017), ESS9 (2018—2019), and ESS10 (2020—2021). For the purposes of this study, Mediterranean countries that participated in at least two of the three observed waves were included, covering a total of 27,737 respondents. This approach ensured more robust results, derived from data spanning multiple time points. After weighting the data using the available weight “unweight”, the distribution of respondents across the countries is as follows: Croatia (1.6%); France (37.9%); Italy (35.9%); Montenegro (0.3%); Portugal (6.1%) and Spain (18.2%).

Measures

Socio-political orientations

In this paper, Thomassen's (2001) classification of different political segments, referred as socio-political orientations (divided into six concepts) was used. To measure the concept of “self-placement and perception of political parties on left-right dimension” Thomassen (2001) proposed a single variable: “Placement on the left-right scale” with an 11-point range from 0 (left) to 10 (right) (ESS, n.d.-b).

Basic values

The ESS questionnaire (ESS, n.d.-b) includes a shortened version of Schwartz's scale for measuring values, known as the Portrait Values Questionnaire (PVQ), which consists of 21 items. Items are presented on a scale from 1 (very much like me) to 6 (not like me at all). To ensure a more intuitive interpretation of the results, the scale was recoded so that 1 represents “not like me at all”, and 6 represents “very much like me”. Each value is represented by two items, except for universalism, which is represented by three. These items serve as descriptive portraits of 21 individuals, describing their goals, aspirations, or desires, implicitly emphasizing the importance of certain values (Davidov et al., 2008).

To examine the factor structure of these items, a principal component factor analysis with varimax rotation was conducted ($KMO = 0,870$; Bartlett's test of sphericity = $2 = 221,400.8$; $df = 210$; $p < 0.00$; total variance explained = 46.25%). As shown in Table 1, the factor analysis failed to differentiate the 10 factors corresponding to the 10 values, resulting in only three components. However, it should be noted that authors such as Knoppen and Saris (2009) have highlighted that this shortened version of the original Schwartz scale may exhibit lower stability. The items in the table are grouped into broad-

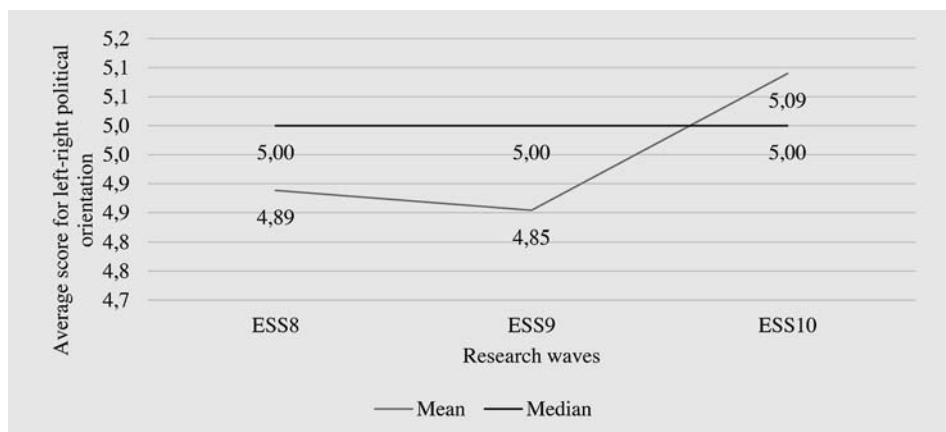
Important to/that...	Components		
	1	2	3
do what is told and follow rules (1)	0.114	0.627	-0.118
to behave properly (2)	0.446	0.468	-0.118
be humble and modest, not draw attention (3)	0.662	0.088	-0.094
follow traditions and customs (4)	0.268	0.559	-0.147
live in secure and safe surroundings (5)	0.381	0.548	-0.032
government is strong and ensures safety (6)	0.456	0.466	0.011
show abilities and be admired (7)	-0.084	0.590	0.403
be successful and that people recognize achievements (8)	-0.090	0.681	0.386
be rich, have money and expensive things (9)	-0.342	0.501	0.386
get respect from others (10)	0.003	0.700	0.110
have a good time (11)	0.153	-0.181	0.664
seek fun and things that give pleasure (12)	0.120	0.004	0.702
think new ideas and being creative (13)	0.263	0.067	0.504
make own decisions and be free (14)	0.315	0.109	0.448
try new and different things in life (15)	0.208	0.140	0.641
seek adventures and have an exciting life (16)	-0.126	0.058	0.728
help people and care for others well-being (17)	0.692	0.090	0.200
be loyal to friends and devote to people close (18)	0.669	0.098	0.189
people are treated equally and have equal opportunities (19)	0.613	-0.086	0.178
understand different people (20)	0.640	-0.014	0.230
care for nature and environment (21)	0.595	0.197	0.114

Table 1 — Set of items to measure Schwartz basic values

der dimensions for describing values, as described by Knoppen and Saris (2009). It can be concluded that items 1 to 10 (except item 3), are grouped into component 2 known as “conservation” and “self-enhancement”. Items 11 to 16 are grouped into component 3 known as “openness to change”. Finally, items 17 to 21 are grouped into the component 1 known as “self-transcendence”.

Data analysis

The SPSS (v20) program was used for various analysis. Basic descriptive statistics, as well as tabular and graphical representations, were used to present the distribution of respondents on the left-right political spectrum and the prevalence of their values. To examine the dimensionality of the value-related items, principal component factor analysis was used. Following this validation process, composite index was calculated for each value by averaging the scores of the corresponding items. Multiple linear regression was used to explore the relationship between the left-right political orientation (as the crite-



Graph 1 — Left-right political orientation over time

tion variable) and the 10 universal values (as predictor variables). The analysis also accounted for the effects of control variables, including research waves, countries, gender, age, and education (dummy variables).

RESULTS

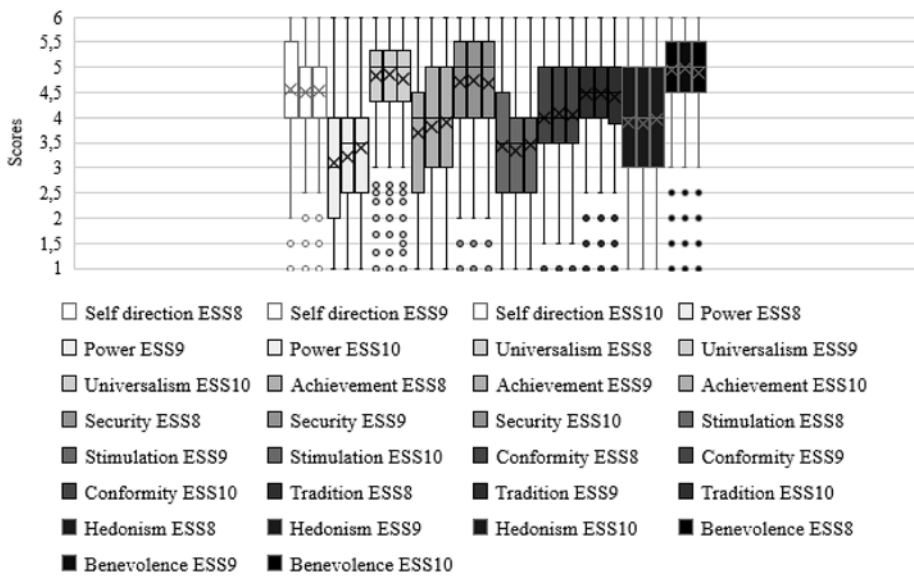
Political orientation and dominant values in Mediterranean countries

As illustrated in Graph 1, respondents across all research waves tended to position themselves near the political center. However, there was a slight shift toward the right, evident in the most recent research wave ($M = 5.9$; $SD = 2.29$).

In Graph 2, the predominant values in Mediterranean countries are presented. The lowest average score on the scale is 1 (respondents don't identify with the values) and the highest possible score is 6 (respondents fully identify with the values). The analysis shows that the highest average scores were recorded for the values "benevolence" (between 4.9 and 5.0), "universalism" (around 4.8), and "security" (between 4.7 and 4.8). This indicates that respondents identified most strongly with these values. On the contrary, the values with the lowest average scores were "power" (between 3.1 and 3.4), "stimulation" (between 3.4 and 3.5), and "achievement" ($M=3.8$, $SD=1.3$). This suggests that respondents identified least with the mentioned values. When examining changes over time, no significant shifts were observed. However, the value of "power" showed consistent increases over time. Besides "power", only the value of "achievement" showed a consistent upward trend in its average score over time.

The relationship between political orientation and dominant values

For the second research aim, multiple linear regression was conducted, and the following conditions were found to be met. Standardized residuals ranged between -3.0 and



Graph 2 — Distribution values in Mediterranean countries

3.2, indicating no significant issues with univariate outliers (maximum Cook's distance = 0.01). Also, multicollinearity was not a concern, as the VIF values for all predictor variables were 1.7 or lower.

Results are presented in Table 3. The correlations between variables are relatively weak, particularly when observing the relationship between predictors and the criterion variable. All correlations were found to be statistically significant at the 5% level, which is understandable given the large sample size used in the study.

The regression model was significant ($F(10, 35250) = 257.41$; $p = 0.000$) and explained 6.8% of the variability in the dependent variable ($R = 0.261$; adjusted R square = 0.068). With introduction of control variables “research waves”, “countries”, “gender”, “age”, and “education” the characteristics of the model were as follows: ($F(26, 35114) = 122.0$; $p = 0.000$); $R = 0.288$; R square = 0.083; and adjusted R square = 0.082). The enter method was used, including 10 predictor and 16 dummy control variables in the model (Table 4).

All predictors, except for “self-direction”, “achievement”, and “hedonism” were significant at the 5% significance level. However, most predictors had low B coefficient values ($<0,1$), with the exception of three predictors with relatively higher values ($>0,2$). Observing individual predictors, it can be concluded that the value “universalism” had the highest negative B coefficient ($B = -0.683$), indicating that individuals who strongly identify with this value tend to lean more to the left. In contrast, positive regression coefficients with relatively higher values were observed for the predictors “security” ($B =$

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)	1,00	-0,04	0,10	-0,16	0,05	0,11	-0,02	0,09	0,10	-0,02	-0,06
(2)		1,00	0,17	0,37	0,27	0,22	0,41	0,09	0,11	0,33	0,36
(3)			1,00	-0,02	0,56	0,27	0,24	0,34	0,17	0,12	0,05
(4)				1,00	0,10	0,32	0,22	0,22	0,33	0,21	0,56
(5)					1,00	0,31	0,37	0,28	0,14	0,18	0,13
(6)						1,00	0,08	0,44	0,43	0,07	0,36
(7)							1,00	0,03	0,02	0,49	0,21
(8)								1,00	0,43	-0,05	0,25
(9)									1,00	0,01	0,38
(10)										1,00	0,25
(11)											1,00

Table 3 — Correlations between variables in the regression model.

(1) placement on left right scale; (2) self_direction; (3) power; (4) universalism; (5) achievement; (6) security; (7) stimulation; (8) conformity; (9) tradition; (10) hedonism; and (11) benevolence.

	B	Std. Error	Beta	t	Sig.
(Constant)	5,197	0,108		48,13	0,000
Control variables	*	*	*	*	*
Self-direction	0,012	0,015	0,005	0,84	0,402
Power	0,071	0,014	0,034	5,04	0,000
Universalism	-0,683	0,020	-0,229	-34,53	0,000
Achievement	-0,002	0,013	-0,001	-0,15	0,885
Security	0,291	0,014	0,130	20,37	0,000
Stimulation	0,054	0,013	0,027	4,11	0,000
Conformity	0,094	0,013	0,045	7,00	0,000
Tradition	0,271	0,015	0,118	18,55	0,000
Hedonism	0,005	0,013	0,002	0,36	0,717
Benevolence	-0,075	0,019	-0,026	-3,92	0,000

Table 4 — Results of multiple regression examining the relationship between political orientation and dominant values. *16 dummy variables for research waves, countries, gender, age, and education

0.291 and “tradition” ($B = 0.271$). This suggests that individuals who strongly identify with these values tend to lean more to the right.

CONCLUSION

This paper focuses on the left-right political spectrum and analyzes its relationship with values based on Schwartz’s theory. Available ESS data conducted between 2016 and 2021 were used. The first research aim was to describe the state of left-right political orientation and dominant values in Mediterranean countries, comparing three time points.

Results show that respondents predominantly positioned themselves in the political center, with no significant oscillations or trends across the three waves. However, a slight increase in the average score was observed in the last wave, suggesting a subtle shift toward the right compared to previous waves. Nonetheless, these results should be interpreted cautiously, as they do not indicate a clear trend of aligning more with right-wing political options. Instead, it is more appropriate to conclude that the political center remains dominant in these countries, which is consistent with similar research findings (Rapeli, 2014; Havlik, 2019; Engler, 2020). Regarding the prevalence of values, the analysis showed that values remained stable across the three time points, except for “power”, which exhibited a slightly stronger increase. The most prevalent values were “benevolence”, “universalism”, and “security”.

For the second research aim, regression analysis was used to examine the predictive characteristics of individual values concerning left-right political orientation. Specifically, the analysis showed that those who identified more with “universalism” tend to lean left, while those who aligned with “security” and “tradition” tend to lean right. Although only a limited number of predictors had higher regression coefficients values, their explanatory direction aligned with previous research (Thorisdottir et. al., 2007; Piurko et. al., 2011).

In summary, the left-right political orientation indicator serves as a relevant and stable measure for describing political orientations in Mediterranean countries. This political divide can be partially explained through the values prevalent in these societies. Future research should expand the range of predictors to gain a clearer understanding of the socio-political context and specificities of each country. Spatial comparisons between countries, alongside temporal ones, would help further assess the stability of the observed patterns.

References

- Comşa, M. (2008). Ideological self-placement: Identification, sophistication, bases. In M. Voicu & B. Voicu (Eds.), *The values of Romanians: 1993—2006* (pp. 63-114). Institutul European.
- Davidov, E., Schmidt, P., & Schwartz, S. H. (2008). Bringing values back in: The adequacy of the European social survey to measure values in 20 countries. *Public Opinion Quarterly*, 72(3), 420-445. <https://doi.org/10.1093/poq/nfn035>.
- Engler, S. (2020). Centrist anti-establishment parties and their protest voters: more than a superficial romance? *European Political Science Review*, 12(3), 1-19. <https://doi.org/10.1017/S1755773920000132>.
- ESS. (n.d.-a). European Social Survey. Retrieved September, 2024. Available at <https://www.europeansocialsurvey.org>.
- ESS. (n.d.-b). Source questionnaire. Retrieved September, 2024. Available at <https://www.europeansocialsurvey.org/methodology/ess-methodology/source-questionnaire>.
- Havlik, V. (2019). Technocratic populism and political illiberalism in Central Europe, *Problems of post-communism*, 66(6), 369-384. <https://doi.org/10.1080/10758216.2019.1580590>.

- Inglehart, R., & Klingemann, H. D. (1976). Party identification, ideological preference, and the left-right dimension among Western mass publics. In I. Budge, I. Crewe, & D. Farlie (Eds.), *Party identification and beyond: Representations of voting and party competition* (pp. 243-273). Wiley.
- Knoppen, D., & Saris, W. (2009). Do we have to combine Values in the Schwartz' Human Values Scale? A Comment on the Davidov Studies. *Survey Research Methods*, 3(2), 91-103. <https://doi.org/10.18148/srm/2009.v3i2.2601>.
- Piurko, Y., Schwartz, S. H., & Davidov, E. (2011). Basic Personal Values and the Meaning of Left-Right Political Orientation in 20 Countries. *Political Psychology*, 32(4), 537-561. <https://doi.org/10.1111/j.1467-9221.2011.00828.x>.
- Rapeli, L. (2014). Increased ideological confusion? Willingness to utilize the left-right dimension for party and self-placements in Finland between 1994 and 2011. In N. Hannu & R. Tapio. *The serious ame of politics: Festschrift for Matti Wiberg*. (pp. 121-134). Jyväskylä: The Finnish Political Science Association.
- Schwartz, S. H., Caprara, G. V., & Vecchione, M. (2010). Basic personal values, core political values, and voting: A longitudinal analysis. *Political Psychology*, 31(3), 421-452. <https://doi.org/10.1111/j.1467-9221.2010.00764.x>.
- Thomassen, J. (2001). European social survey core questionnaire development — Chapter 5: Opinions about political issues. London: European Social Survey, City University London. Available at https://www.europeansocialsurvey.org/sites/default/files/2023-06/ESS_core_questionnaire_political_issues.pdf.
- Thorisdottir, H., Jost, J. T., Liviatan, I., & Shrout, P. E. (2007). Psychological Needs and Values Underlying Left-Right Political Orientation: Cross National Evidence from Eastern and Western Europe. *Public Opinion Quarterly*, 71(2), 175-103. <https://doi.org/10.1093/poq/nfm008>.

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PREDICTORS OF THE USE OF ALTERNATIVE MEDICINE IN CROATIA

Abstract

Alternative medicine is partly traditional and folk medicine that bases its diagnostic and treatment methods on philosophical principles, experience, and tradition, unlike conventional medicine, which is grounded in scientific principles. The research aim is to identify predictors contributing to alternative medicine, with a particular focus on rural life compared to urban life in Croatia. Data were collected from the International Social Survey Programme (ISSP): "Health and Health Care module 2021" on a representative sample for Croatia. The results show that 26.6% of respondents visited an alternative/traditional/folk medicine practitioner in the past year. Binary logistic regression was performed with the variable of visiting a practitioner of alternative or folk medicine in the past year as the binary dependent variable and a set of relevant predictors. The model showed that living in rural areas, having a positive attitude towards alternative, traditional, or folk medicine, higher frequency of doctor visits, and experiencing having a medical service denied are statistically significant predictors of visiting a practitioner of alternative, traditional, or folk medicine. Among other factors, living outside urban areas, including islands, increases the likelihood of visiting a practitioner of alternative, traditional, or folk medicine, suggesting possible issues with healthcare accessibility and/or unequal spatial distribution of healthcare.

Key words: *alternative medicine, traditional medicine, rural areas, urban areas, Croatia*

BACKGROUND

Alternative medicine, often referred to as traditional or folk medicine, encompasses a wide array of healthcare practices and treatments grounded in philosophical, experiential, and cultural traditions, rather than in the scientific methodologies typical of conventional Western medicine (Tabish, 2008). Alternative medicine includes herbal remedies, acupuncture, homeopathy, and spiritual healing (Kisling & Stiegmann, 2024). While conventional medicine relies on evidence-based practices and scientific validation, alternative approaches are frequently based on long-standing historical practices, regional folklore, and individual or collective experience.

In Croatia, alternative medicine has gained increasing attention as people seek complementary and holistic ways of managing health. The term "alternative medicine"

is sometimes interchangeably used with "traditional" or "folk" medicine, depending on regional contexts and cultural perspectives. These forms of medicine play a vital role in shaping health care choices, particularly in societies with a rich heritage of folk healing practices.

Understanding the predictors that drive individuals to opt for alternative medicine in Croatia is essential for public health strategies, as it sheds light on the socio-economic, psychological, and cultural factors influencing these health behaviors. Whether driven by dissatisfaction with conventional medicine, personal beliefs, accessibility, or cultural preferences, these predictors can inform health policymakers on integrating alternative and conventional medicine into more inclusive healthcare frameworks. This study aims to identify the key predictors of visiting a practitioner of an alternative medicine with a particular focus on rural life compared to urban in Croatia.

METHODS

Individual-level data are taken from the 2021 International Social Survey Programme (ISSP) "Health and Health Care module" (ISSP Research Group, 2024). Although this study contains information on multiple countries, only data for Croatia have been used. Data were collected from July to September 2021 and the final sample consists of 1101 responses. Design weights, systematic sampling error correction weights have been applied to the sample. All details about the sampling process and weights can be found in the GESIS Variable report (GESIS, 2024). This research aims to determine the predictors for the use of alternative medicine in contemporary Croatia. Binary logistic regression is the analysis used.

For the purposes of this study, certain variables were transformed to enable hypothesis testing.

The dependent (binary) variable "Visiting an alternative medicine practitioner" was created based on the original variable: "During the past 12 months, how often did you visit or were visited by an alternative/traditional/folk health care practitioner?" which was originally measured on a five-point frequency scale ranging from "never" to "very often." The variable was recoded so that "never" was coded as 0, and all other values were coded as 1.

Variable *Place of living* is originally measured in four levels. Still, for this research, it was recoded into binary variables, with "A country village" being coded as "rural", and the rest as "urban".

The *Experience of not receiving medical treatment in the past year* is a new binary variable created based on four variables that measured the lack of access to medical treatment. If respondents (for whatever reason that was measured) did not receive a needed medical treatment in the past year, they were marked as one group, and those who did get medical treatment, or didn't need it were marked as another group.

	N (%)
Sex	
Male	525 (47.7)
Female	578 (52.3)
Total	1101 (100)
Age	
Mean	50.77
Min.	21
Max.	95
SD	17.036
Levels of education	
Lower postgraduate, MA	5 (0.4)
Postgraduate specialist, MA	6 (0.6)
Upper level tertiary (Master)	98 (8.9)
Lower level tertiary, first stage (BA)	67 (6.1)
Short-cycle professional study - completed	52 (4.7)
Five years long vocational studies - completed	11 (1.0)
General secondary school (gymnasium) -completed	80 (7.2)
Four years of vocational school - completed	383 (34.8)
Three-year vocational school - completed	268 (24.4)
Primary school - completed	116 (10.5)
Primary school - not completed	14 (1.3)
Levels of religiosity	
I am not religious and I am opposed to religion.	23 (2.1)
I am not religious, although I have nothing against religion.	130 (12.1)
I am indifferent towards religion.	85 (7.9)
I think a lot about it, but I am not sure whether I believe or not.	125 (11.6)
I am religious, although I do not accept everything my faith teaches.	357 (33.1)
I am a convinced believer and accept everything my faith teaches.	359 (33.3)
Place of living	
Urban	658 (59.8)
Rural	443 (40.2)
Frequency of doctor visits in the past year	
Never	365 (33.5)
Seldom	328 (30.0)
Sometimes	284 (26.1)
Often	94 (8.6)
Very often	20 (1.8)
Can't choose	9 (8.1)
Satisfaction with the last doctor's visit	
Completely satisfied	165 (15.0)
Very satisfied	178 (16.1)
Fairly satisfied	344 (31.2)
Neither satisfied nor dissatisfied	201 (18.3)
Fairly dissatisfied	95 (8.6)
Very dissatisfied	23 (2.1)
Completely dissatisfied	13 (1.1)
Experience of not receiving medical treatment	
No, or wasn't needed	801 (72.7)
Yes	300 (27.3)

Table 1 — Descriptive statistics of key independent variables

Attitude toward alternative medicine was originally measured with two Likert-type items, which were summed into an additive index for this analysis. All responses for ordinal variables were recoded so that higher values indicate greater agreement or higher frequency. Statistical analysis was performed with SPSS Statistics, version 26.

RESULTS

In Table 1, the descriptive statistics of key independent variables are shown. Most respondents completed four years of vocational school (34.8%) and most are strong believers (33.3%).

Of the respondents who visited a doctor in the past year (66.5%), 53% were satisfied with the medical treatment they received.

The experience of not receiving medical treatment in the past year is based on the four variables that measured the lack of access to medical treatment: inability to pay (11.7%), inability to take time off work or other commitments (11.2%), unavailability of services in their local area (17.6%) and excessively long waiting lists (28.5%). The majority of respondents received or didn't need medical treatment (72.7%). The 23% of respondents had a long-standing illness, a chronic condition, or a disability.

In Table 2 the frequency of visits to alternative/traditional/folk medicine practitioners in the past 12 months is shown, as well as transformed (binary variable) showing the prevalence of visiting such practitioners. The results show that 73.4% of respondents did not visit an alternative/traditional/folk medicine practitioner in the past year.

Table 3 the inter-item correlation matrix shows one correlation above 0.5 between satisfaction with the last visit to the doctor and satisfaction with the healthcare system ($r=0.604$, $P<0.01$). Due to the risk of multicollinearity, the variable "Satisfaction with the healthcare system" was removed from the regression.

Table 4 shows the results of binary logistic regression. The model proved to be statistically significant ($\chi^2 = 238.823$, $df = 10$, $P < .01$), demonstrating an acceptable fit

Original variable		Dependent variable	
Frequency	N (%)	Prevalence ^b	N (%)
Never	793 (73.4)	No	794 (73.4)
Seldom	118 (10.9)	Yes	288 (26.6)
Sometimes	130 (12.1)		
Often	31 (2.9)		
Very often	9 (0.8)		
Total	1081 (100)^a		1081 (100)^a

^a 20 respondents did not answer this question and are treated as missing values in the regression

^b Dependent variable for binary logistic regression

Table 2 — The prevalence and frequency of visits to an alternative/traditional/folk medicine practitioner in the past year.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Experience with alternative/traditional/folk medicine	1										
2. Age	0.002	1									
3. Sex	-0.009	.096**	1								
4. Place of living	.150**	0.019	-0.034	1							
5. Level of education	0.002	-.206**	.073*	.133**	1						
6. Religiosity	0.039	.144**	.121**	.110**	-.076*	1					
7. Attitude towards alternative/traditional/folk medicine	.347**	-.067*	0.002	.121**	-0.031	0.025	1				
8. Frequent visits to the doctors	.313**	.242**	.079**	0.057	-.067*	.101**	0.06	1			
9. Experience of not receiving medical treatment	.182**	.122**	.079**	0.022	-0.059	.083**	0.057	.247**	1		
10. Satisfaction with the health care system	-.154**	0.048	0.021	.100**	.079**	0.043	-.096**	0.041	-.178**	1	
11. Satisfaction with the last doctor visits	-.167**	0.011	-0.013	.118**	.095**	0.036	-.091**	-0.019	-.250**	.604**	1
12. A chronic condition, a long-standing illness	-0.044	-.392**	.094**	0.022	.154**	-0.027	0.01	-.291**	.226**	-0.02	0.022

* P < 0.05
** P < 0.01

Table 3 — The inter-item correlation matrix (N = 1081)

	B	SE B	Wald χ^2	df	P	OR (95% CI)
Constant	-4.430	.652	46.186	1	.000	0.012 (–)
Age	-.004	.006	.567	1	.452	0.996 (0.984, 1.007)
Sex ^a	-.291	.174	2.794	1	.095	0.747 (0.531, 1.052)
Place of living (urban/rural) ^b	.557	.174	10.294	1	.001	1.745 (1.242, 2.453)
Level of education	.081	.041	3.913	1	.048	1.084 (1.001, 1.174)
Religiosity	.048	.066	.535	1	.464	1.049 (0.922, 1.194)
Attitude towards alternative/traditional/folk medicine	.468	.051	83.575	1	.000	1.597 (1.445, 1.766)
Frequent visits to the doctors	.676	.090	56.555	1	.000	1.967 (1.649, 2.346)
Experience of not receiving medical treatment ^c	.545	.190	8.257	1	.004	1.725 (1.189, 2.503)
Satisfaction with the last doctor's visit	-.253	.067	14.416	1	.000	0.777 (0.682, 0.885)
A chronic condition, a long-standing illness ^d	-.204	.222	.848	1	.357	0.815 (0.528, 1.259)

^a Reference category: (first) male
^b Reference category: (first) urban
^c Reference category: (first) no
^d Reference category: (last) no

Table 4 — The binary logistic regression (N = 1081)

to the data (Hosmer & Lemeshow test: $P = .214$) with relatively low predictive power, as indicated by the pseudo- R^2 measures (Cox & Snell $R^2 = .230$; Nagelkerke $R^2 = .330$). The inclusion of predictors improved classification accuracy for Croatians visiting alternative medicine practitioners by 6.1%. The model exhibited strong specificity, correctly identifying 91% of those who did not visit an alternative practitioner, but demonstrated low sensitivity, identifying only 44.3% of those who did.

Several statistically significant predictors emerged. Individuals living in rural areas showed a 75% increased likelihood of visiting an alternative medicine practitioner (CI: 1.242 — 2.453). Additionally, a higher level of education was associated with a slight but significant, 8% increase in the likelihood of seeking alternative care (CI: 1.001 — 1.174). A positive attitude toward alternative medicine significantly increased the likelihood of visiting an alternative practitioner by 60% (CI: 1.445 — 1.766). Furthermore, a higher frequency of conventional doctor visits correlated with a 97% increased likelihood of visiting an alternative medicine practitioner (CI: 1.649 — 2.346). Lack of access to medical care was another key predictor, with respondents who had unmet medical needs exhibiting a 73% greater chance of consulting an alternative practitioner (CI: 1.189 - 2.503). Finally, lower satisfaction with the last doctor visit was associated with a 30% greater likelihood of seeking alternative medical services (CI: 1.130 — 1.467).

DISCUSSION

Most respondents in the sample visited a doctor in the past year and were satisfied with the service they received. The results showed that place of residence is associated with the frequency of doctor visits, with those living in rural areas being 75% more likely to visit an alternative medicine practitioner. One possible reason could be the reduced accessibility of healthcare services, as well as the fact that the population in rural areas tends to be older.

The particularly interesting result reveals an unexpected trend: a higher level of education statistically significantly, albeit weakly, increases the likelihood of visiting an alternative medicine practitioner by 8%. This finding challenges the common assumption that higher education is linked solely to conventional healthcare use.

Results show that a positive attitude towards alternative medicine increases the likelihood of visiting an alternative medicine practitioner by 60%. This relationship, although expected, serves as a control in the model and as an indicator of the connection between attitudes and behavior. It suggests that there is no cognitive dissonance, which might otherwise be anticipated given the relatively high polarization of societal attitudes toward alternative medicine.

The correlation of a higher frequency of doctor visits increases the likelihood of visiting an alternative medicine practitioner by as much as 97%, which can explain why the represented in the sample are older and sicker. This is likely further emphasized

by the following finding: respondents who, for any reason, did not receive the medical service they needed had a 73% higher chance of visiting an alternative medicine practitioner. There is a segment of healthcare needs that remain unmet, which may lead individuals to seek services from both medical doctors and alternative medicine practitioners.

Those with lower satisfaction from their last doctor's visit are more likely to visit an alternative medicine practitioner. This, however, increases the weight of the patient's role in choosing their treatment path. If a doctor fails to meet the patient's needs or does not act by the patient's expectations, the patient may seek an "alternative in alternative medicine." According to the Patient Rights Act in Article 10 (*Zakon o Zaštiti prava Pacijenata*, 2004.), every patient can seek a second opinion. However, due to issues of accessibility (as indicated in this study through experiences of unmet medical needs) or possibly other reasons (such as trust in doctors, science, or the healthcare system), an alternative practitioner may have taken on the role of the "second opinion" instead of another medical doctor.

The findings of this study, have several limitations that warrant attention. A key issue is the ambiguity surrounding respondents' understanding of "alternative medicine," as the survey lacked a clear definition. This may have led to varied interpretations, potentially affecting the validity of the results. For example, folk medicine may represent significantly different forms of treatment for different respondents. It can be considered on par with alternative medicine (if not a type of it), serving as a substitute for allopathic, conventional. Alternatively, it may be viewed as a form of complementary medicine, which never replaces conventional treatment but is used alongside it to alleviate certain symptoms, side effects, or similar issues.

In the ISSP questionnaire on Place of Living, the distinction between urban and rural areas uses a definition of rural that categorizes city suburbs in Croatia as rural.

Additionally, it is unclear how and if islands are included in the ISSP sample. Islands can be considered rural based on certain qualitative characteristics, such as a focus on agriculture, however, this classification is problematic. Croatian islands should ideally be analysed separately because of their distinct nature, which could be different in attitudes and behaviors regarding alternative medicine as well.

The exclusion of Croatia's islands from the sampling limits the generalizability of the findings, particularly regarding accessibility challenges. For example, islands like Iž (Zadar County) lack resident doctors, underscoring significant barriers to healthcare access.

Despite these limitations, the study's use of a representative sample enhances the validity of its conclusions for the broader Croatian population. The insights gained about predictors of alternative medicine use are crucial, especially in the context of accessibility challenges. Understanding these factors can help inform healthcare policies aimed at improving service delivery in underserved areas. This research provides

valuable contributions, further studies are needed to clarify definitions and include diverse populations to fully understand the dynamics of alternative medicine use in Croatia.

CONCLUSION

The results show that 26.6% of respondents visited an alternative/traditional/folk medicine practitioner in the past year. The model showed that living in rural areas, having a positive attitude towards alternative and folk medicine, higher frequency of doctor visits, and experiencing a lack of medical services are statistically predictors of visiting an alternative or folk practitioner. This suggests issues with healthcare accessibility and unequal spatial distribution of healthcare, including islands.

References

- GESIS. (2024). *ISSP 2021 — Health and Health Care IV, Variable Report: Documentation release 2024/08/30 related to the international dataset GESIS Study-No. ZA8000 Version 2.0.0*. Variable Reports 2024108. Cologne: GESIS.
- ISSP Research Group (2024). ZA8000 International Social Survey Programme: Health and Health Care II — ISSP 2021ZA8000 International Social Survey Programme: Health and Health Care II — ISSP 2021 (Version 2.0.0) [Dataset]. GESIS Data Archive. <https://doi.org/10.4232/5.ZA8000.2.0.0>.
- Kisling, L. A., & Stieglmann, R. A. (2024). Alternative Medicine. In *StatPearls*. StatPearls Publishing. <http://www.ncbi.nlm.nih.gov/books/NBK538520>.
- Tabish, S. A. (2008). Complementary and Alternative Healthcare: Is it Evidence-based? *International Journal of Health Sciences*, 2(1), V.
- Zakon o zaštiti prava pacijenata*. (2004). Official Gazette, 169/2004.

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THE PICTURE OF YOUNG ISLANDERS IN CROATIAN SCIENTIFIC JOURNALS

Abstract

Hrčak is the central portal for Croatian scientific and scholarly journals with open access. A total of 69 journals publish sociological papers and 24 journals demographic papers on the Hrčak portal. This analysis includes papers (N=55) that examine the Croatian islands published in Croatian scientific journals that publish papers from the fields of Sociology and Demography. This paper aims to determine the basic characteristics (topics, methodology, key findings) of papers published before and after the foundation of the modern Croatian state (1991), and to single out papers that research youth populations on the islands and determine their basic characteristics (topics, methodology, key findings). The results show that sociological research on the Croatian islands is rare and that they appear sporadically in Croatian scientific journals, that young people are neglected as a topic of research, and that youth social participation on the Croatian islands is a nearly unresearched phenomenon.

Key words: *youth, islands, sociology, literature, Croatia*

INTRODUCTION¹

Croatia has 1,246 islands, islets, and reefs with a total surface area of 3,259 km² (Duplečić Leder et al., 2004). The Croatian archipelago is the second largest in the Mediterranean; the total surface area of the Croatian islands accounts for 5.8% of Croatia's total land mass. The Croatian islands are part of the Mediterranean cultural circle; throughout history, they have been of great importance to political and economic processes and maritime affairs in this part of Europe. Since the mid-19th century, their social and economic significance has waned as a result of industrialisation, better rail connections between the coast and the interior, and the advent of steam ships and new shipping lines between Trieste and ports in Greece. According to census data, the largest island population in Croatia was recorded in 1921 (174,994); 100 years later, the 2021 census recorded one third fewer people on the islands (120,227).² For the majority of

¹ The paper is the result of research conducted under the "TYPEs: Types of Youth Participation in Croatian Society" internal project of the Ivo Pilar Institute of Social Sciences, which is being carried out as part of the development and implementation component of programme funding. The project is financed by the European Union — Next/GenerationEU. The views and opinions expressed are those of the author exclusively, and do not necessarily reflect the official position of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.

the 20th century, the Croatian islands have been marked by depopulation. Nejašmić (1991) considers emigration a key cause of depopulation on the islands. Nejašmić (2000) notes that, since 1967, natural changes in the population of the Croatian islands have been constantly negative; this is significantly the result of sub-replacement fertility and increased mortality. Nejašmić and Mišetić (2006, p. 283) note that depopulation on the Croatian islands is an expression of gender structure imbalances, reductions in fertile groups, and the weakened vital potential and strong ageing of the population. Lajić and Mišetić (2013, p. 169) claim that the causes of the current social situation on the Croatian islands include economic crises, loss of life during World War II (1941-1945), certain political decisions, and neglect of the islands by the state. The Croatian islands are thus a space exposed to numerous, complex social problems; key among these is the reduction in population and population ageing, which has demographically endangered local communities on numerous islands. Rogić (1992, pp. 443-444) notes that this perspective applies mainly to small and medium-sized islands, while the future of larger islands such as Hvar, Lošinj, Korčula, Brač, Pag, and Krk is much more optimistic. Podgorelec (2008) claims that each island has specific problems determined by their historical and geographical conditions, as well as the (in)ability of the population to overcome conditions imposed by nature and society.

Young people are the most important demographic and social resource of any community. As part of the NextGenerationEU project TYPEs (*Types of Youth Participation in Croatian Society*), which began in January 2024 and will end in December 2027, we are researching the social participation of young people in two contrasting Croatian contexts — in the Croatian capital of Zagreb and in local communities on the Croatian islands. Special emphasis will be placed on forms of social participation in which young people use not only conventional, institutionalised forms of political and social activism, but those based on emotions, opposition to authority, rebellion, and social innovation (Perasović et al., 2023). The scientific aim of the TYPEs project is to provide new contributions to the current knowledge on youth social participation in Croatia, especially the forms and conditions in which it unfolds on the islands, as well as to determine the similarities and differences between this phenomenon in the metropolitan and peripheral (island) context. In doing so, it is of exceptional importance to collect a thorough, broad data set using a mixed methodology (review of documents and archival material, surveys, individual and group interviews, ethnography); this will be the first ethnographic research on young people on the Croatian islands. We will consider the research findings from the perspective of sociological, psychological, and historical approaches to young people as actors in social, cultural, and political proces-

² In 2021, the largest islands by population were: Krk (19,915), Korčula (14,594), Brač (13,825), Hvar (10,678), Pag (8,330), Rab (8,268), Lošinj (7,087), Ugljan (5,666), Murter (4,628), Vis (3,287), Vir (3,045), etc.

ses who promote and affirm the ideas of social inclusion and solidarity. In order to carry out the research as foreseen by the project, we must review and analyse the existing literature on young islanders and systematise current scientific findings. Modernisation processes in Croatia in the 20th century are permeated with 'continuities of discontinuity' (Kalanj, 2000). Like numerous other post-socialist societies during the transition of the 1990s and 2000s in Central and Eastern Europe, Croatian society had numerous political, economic, and social difficulties, as well as the specific traumatic experience of the war (1991—1995). For this reason, this paper splits the analysis into two periods: before and after Croatia's independence. Despite all the aforementioned difficulties, Croatia successfully acceded to the EU in 2013. Sociological research on young people has been approached in various ways since the 1960s. This is especially true of research on the social participation of young people. The Croatian scientific literature features numerous empirical scientific publications on young people, which have indicated their dissatisfaction with social relations and processes since the beginning of the 21st century, as well as their extreme distrust of institutions and low level of social participation (Ilišin, 2005; Gvozdanović, 2014; Franc & Međugorac, 2015; Franc et al., 2018). A review and analysis of the current scientific literature on young people on the Croatian islands is a necessary step in the initial phase of the project. It should be emphasised that research on young people on the islands has been very rare in recent decades.³

AIM AND METHOD

Scientific theory is a system of knowledge that explains given phenomena and determines laws related to these phenomena. The results of scientific research directed at collecting real-life data must be connected to corresponding theories on the characteristics or causes of the phenomena being researched. During research design, it is exceptionally important to thoroughly review the existing literature on the selected topic. When doing so, attention must be paid to what new findings on the research topic would represent and which methods are the most appropriate and reliable, so that the results can be compared to findings and interpretations in the existing literature (Lamza Posavec, 2021, p. 40). Agostino (1980) notes that it is exceptionally important to review the scientific literature that has empirically examined the topic of the planned research. He also highlights several elements in the analysis of literature that should be considered when choosing and reviewing scholarly and scientific literature (what previous research has affirmed, which issues remain unresolved, to what extent might the

³ One exception is Dergić (2023), which treats the (sub)cultural practices of young people on the islands involved in rock bands and music and arts festivals. In her research of rock bands whose members are from the islands, Dergić (2023) concludes that their songs occasionally touch on what Podgorelec and Klempić Bogadi (2013) indicate as feelings of separation and isolation.

proposed research contribute to knowledge on the topic within the sciences, which research methods have been used and to what degree of success, etc). This paper will present the key findings of the existing literature available in Croatian scientific journals indexed on the *Hrčak* portal, which lists Croatian scientific and scholarly open access journals. A total of 69 sociology journals and 24 demography journals publish papers on Hrčak. This analysis includes empirical papers published in Croatian scientific journals from the fields of Sociology and Demography accessible on *Hrčak* whose primary topic was the islands. The objectives of this paper are to determine the typology (topic, method, and key findings) of papers before and after 1991, and to determine the typology (topic, method, and key findings) of papers on young people on the islands. The research method used in this paper is content analysis, on the basis of which we will affirm the characteristics of the content of sociological and demographic papers on the islands in Croatian scientific journals and the frequency with which they are published. The unit of analysis is a single scientific paper published in a Croatian scientific journal that publishes papers from the fields of sociology or demography.

RESULTS, INTERPRETATIONS AND CONCLUSION

Before 1991, the analysed scientific journals published 11 papers with topics related to the Croatian islands. The first scientific papers began being published in the 1960s. All these papers are from the field of Demography and are based on data collected by desk research. They are most often analyses of data collected by censuses and/or official documents on demographic conditions on particular islands (Murter, Korčula, Mljet, Žirje, Krk, Šolta, Brač) or a particular group of islands (the Dalmatian islands and all Adriatic islands). Of these papers, four were published in *Acta Adriatica*, three each were published in *Hrvatski zemljopisni glasnik* and *Migracijske i narodnosne teme*, and one in *Sociologija sela*. Before 1991, not one sociological paper based on data collected during field research was published. During the entire socialist period, the analysed journals lack empirical insight into social life on the Croatian islands, and thus on the opinions and behaviour of the young people who continuously emigrated from the islands during this period. From 1991 to 2023, 44 papers on the given topic were published in the analysed journals. The first paper to include field data alongside desk research — consisting of a survey collecting data on demographic conditions on the island of Cres — was published in 1992. The first sociological papers were published in 1994 in a thematic issue of the journal *Društvena istraživanja*. Since then, scientific papers have been occasionally published based on sociological analyses of social phenomena and processes on the Croatian islands, such as the position of war refugees on the islands (Čolić & Sujoldžić, 1995) or the relationship of islanders towards environmental protection and economic development (Karajić, 1997). The 1990s saw a marked increase in sociological interest in island-related topics.

However, none of the papers published in the 1990s dealt with young islanders. Since Croatian independence, the journal *Migracijske i etničke teme* has been key in publishing sociological papers on island topics. During this period (since 1991), 16 papers have been published in *Migracijske i etničke teme*, six in *Društvena istraživanja*, three in *Sociologija sela*, and a total of 19 in the remaining journals. Lajić, Podgorelec and Babić (2001) published a paper entitled "Migrational dilemmas of islanders: From circulation to migration or staying put?" in *Migracijske i etničke teme*. This same year, Bezinović and Petak published "Sociality, parenting, and adolescent adaptation on the northern Adriatic islands" in *Sociologija sela*. These were the first empirical sociological papers on young people on the islands published in Croatian scientific periodicals accessible via the Hrčak database. However, during the entire period both before and after 1991, not a single sociological ethnography was published that was carried out on the Croatian islands, and thus also none including research on young people. Dominant among the published papers are those dealing in demographic topics and the process of island depopulation, primarily based on data collected via desk research. Papers on the social reality of young people on the islands began being published after 2001; however, only three of them are empirical papers on young people on the islands were published. Two are on islands of the Zadar archipelago, and one on the Šibenik archipelago. The papers are based on data collected through surveys and interviews; generally, they examine the quality of life and satisfaction with life on the islands from the perspective of young people. As opposed to the numerous scientific publications on the social participation of young people in Zagreb, youth participation on the island has not been subjected to systematic scientific research. Despite this, efforts have been made through a few papers to provide insight into the lives of young people on the islands of the northern and central Adriatic. There has been no scientific research on youth on some of the largest Croatian islands, such as Brač, Hvar, Korčula, and Vis.

The analysis indicates that sociological research on the Croatian islands does not display the necessary continuity considering the numerous problems the general population is exposed to, especially the young population. Such research appears in Croatian scientific journals sporadically, and youth — a vital part of an exceptionally demographically endangered region of Croatia — are almost completely ignored. This is especially true of young people and their social participation. Moreover, the social participation of young islanders is a completely unresearched phenomenon. The islands appear to be a *tabula rasa* in Croatian sociology — an unexplored area waiting for the systematic attention of researchers. Pollock et al. (2018) researched the social participation of young people in modern Europe in the diverse social contexts of 14 countries, also conducting consistent ethnographic research on select groups of youth in specific locations. They found that, without implementing long-term ethnographic research, it is impossible to gain full insight into the social participation of young people

and their motivations for social activism. As far as young people on the islands are concerned, modern methodological approaches are needed to undertake research, especially ethnographic studies. The conducted analysis of selected Croatian scientific periodicals indicates the design and methodological approach of the TYPEs project — which is largely based on ethnography — are justified. Finally, the implementation of the TYPEs project and the publishing of the resulting scientific research based on empirical data will attempt to fill the identified gaps in sociological findings about young people and the key determinants of their social participation on the Croatian islands.

References

- Agostino, D. (1980). Cable Television's Impact on the Audience of Public Television, *Journal of Broadcasting*, 24(3), 347-365.
- Beziniović, P., & Petak, A. (2001). Društenost, roditeljstvo i prilagodba adolescenata na sjevernojadranskim otocima, *Sociologija sela*, 39(1/4), 211-237.
- Čolić, S., & Sujoldžić, A. (1995). Neki aspekti i pretpostavke akulturacije prognanih i izbjeglih obitelji na otoku Hvaru (Some aspects and prerequisites of acculturation of expelled and refugee families on the Island of Hvar). *Migracijske i etničke teme*, 11(1), 37-52.
- Dergić, V. (2023). (Sub)cultural practices of young islanders. In K. Jurčević, Lj. Kaliterna Lipovčan, R. Medić & O. Ramljak (Eds.), *Preserving, evaluating and developing the Mediterranean*, pp. 25-33. Zagreb. HAZU; VERN & Institute of Social Sciences Ivo Pilar.
- Duplancić Leder, T., Ujević, T., & Čala, M. (2004). Coastline lengths and areas of islands in the Croatian part of Adriatic Sea determined from the topographic maps at the scale of 1:25 000, *Geoadria*, 9/1, 5-32.
- Franc, R.; Međugorac, V. (2015). Mladi i (ne)povjerenje u institucije: Moguće odrednice i posljedice (Youth and (dis)trust in institutions: Possible determinants and consequences). In V. Ilišin, A. Gvozdanović, D. Potočnik (Eds.), *Demokratski potencijali mladih u Hrvatskoj*, pp. 47-63. Institut za društvena istraživanja & Centar za demokraciju i pravo Miko Tripalo.
- Franc, R., Perasović, B. & Mustapić, M. (2018). Youth, history and a crisis of democracy? Perspectives from Croatia, In H. Pilkington, R. Franc, & G. Pollock (Eds.), *Understanding youth participation across Europe: From survey to ethnography*, pp. 227-263. Palgrave Macmillan.
- Gvozdanović, A. (2014). Politički utjecaj i vrijednosti kao odrednice političkog povjerenja mladih u Hrvatskoj (Political influence and values as determinants of political trust of youth in Croatia). *Revija za sociologiju*, 44(1), 5-30.
- Ilišin, V. (2005). Političke vrijednosti, stavovi i participacija mladih: kontinuitet i promjene, IN V. Ilišin (Ed.), *Mladi Hrvatske i europska integracija* (Croatian youth and European integration), pp. 65-139. Institut za društvena istraživanja u Zagrebu.
- Kalanj, R. (2000). *Ideje i djelovanje — Ogledi o kulturnim promjenama i razvoju* (Ideas and action: Essays on cultural change and development). Odsjek za sociologiju Filozofskog fakulteta.
- Karajić, N. (1997). Otočni turizam Cresa i Lošinja: neprijatelj prirode ili najkraći put prema ekoturizmu? (Island tourism of Cres and Lošinj: The enemy of nature or the shortest way to ecotourism?) *Socijalna ekologija*, 6(1-2), 81-92.
- Lajić, I., & Mišetić, R. (2013). Demografske promjene na hrvatskim otocima na početku 21. stoljeća (Demographic changes on Croatian islands at the beginning of the 21st century). *Migracije i etničke teme*, 29(2) 169-199. <https://hrcak.srce.hr/112358>.

- Lajić, I. (1995). Utjecaj novijeg iseljavanja na demografski razvitak jadranskih otoka (The impact of recent emigration on the demographic development of the Adriatic islands). *Migracijske teme*, 11(1), 89-116.
- Lamza Posavec, V. (2021). *Metodologija društvenih istraživanja: Temeljni uvidi* (Social research methodology: Fundamental insights). Institut društvenih znanosti Ivo Pilar.
- Nejašmić, I. (1991). Depopulacija istočnojadranskih otoka i izumiranje kao moguća demografska perspektiva (Depopulation of the eastern Adriatic islands and extinction as a possible demographic perspective). *Migracijske teme*, 7(1), 77-99.
- Nejašmić, I. (1992). Promjene u dobno-spolnom sastavu stanovništva istočnojadranskog otočja (1953—1991) (Changes in the age and sex composition of the population of the eastern Adriatic islands /1953—1991/). *Acta Geographica Croatica*, 27(1), 15-33.
- Nejašmić, I.; Mišetić, R. (2006) Depopulacija otoka Visa (Depopulation of the island of Vis). *Geoadria*, 11(2), 283-309.
- Podgorelec, S. (2008). *Ostarjeti na otoku kvaliteta života starijeg stanovništva hrvatskih otoka* (Ageing on the island quality of life of the elderly population of the Croatian islands). Institut za migracije i narodnosti.
- Podgorelec, S. & Klempić Bogadi, S. (2013). *Gradovi potopili škoje — promjene u malim otočnim zajednicama*. IMIN.
- Rogić, I. (1994). Hrvatski otoci: sjećanje na pet razvojnih ograničenja. *Društvena istraživanja*, 3(4-5), 437-449.
- Nejašmić, I. (2000). Prirodno kretanje stanovništva hrvatskog otočja (1991.—1997.). In D. Pejnović (Ed.), *Zbornik radova 2. hrvatskog geografskog kongresa*, pp. 263-272. Hrvatsko geografsko društvo.
- Perasović, B., Mustapić, M., Ibañez Garzaran, Z.L., & Mulari, H., & Hofreiter, R. (2023). Youth in conflict: space and subculture. *Journal of Youth Studies*, 26(3), 368-386.
- Pollock, G., Pilkington, H., & Franc, R. (2018). Introduction: Thinking Globally, Understanding Locally, In H. Pilkington, R. Franc, & G. Pollock (Eds.), *Understanding youth participation across Europe: From survey to ethnography*, pp. 1-15. Palgrave Macmillan.

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DIFFERENCES BETWEEN MAJOR CROATIAN REGIONS IN CLIMATE CHANGE ATTITUDES

Abstract

The scientific consensus on climate change is firmly established, yet public opinion varies often influenced by narratives that contradict scientific findings. In this study we aimed to investigate Croatian citizens' opinions regarding climate change, focusing on climate change concern, feelings of personal responsibility to mitigate climate change, beliefs regarding its causes and attitudes toward environmental protection. Firstly, we compared Croatia and other countries participating in the tenth wave of the European Social Survey (ESS) concerning attitudes on climate change. We then focused on data from Croatia (N = 1592, age ranging from 16 to 89, 55% women), comparing climate change attitudes across four large Croatian regions different with respect to historical and cultural heritage, as well as climate: Mediterranean Croatia, Pannonian Croatia, Northern Croatia, and Zagreb as the capital. Generally, despite being among the most worried nations (in the tenth wave of ESS) regarding climate change and ranking in the top third regarding the relevance of environment and nature, Croatia was on the verge of the lowest third of countries regarding reported feelings of personal responsibility to prevent climate change. Moreover, the results showed that, after controlling for age, sex, education level, and type of residence, nature and environment were considered more important in Mediterranean Croatia compared to Northern Croatia, Zagreb, and marginally Pannonian Croatia. However, participants from Northern Croatia exhibited marginally higher climate change concern than Mediterranean Croatia participants. No differences in the attribution of climate changes to natural processes or human activity were established, while participants from Northern Croatia exhibited the lowest estimates of personal responsibility for climate change.

Key words: *Croatia, climate change, attitude, region, responsibility*

INTRODUCTION

Climate change and environmental protection are crucial contemporary challenges. They are also interconnected as many forms of pollution contribute to climate change, while both phenomena impact Earth's biomes (Dhairykar et al., 2022; Sarkar et al., 2023; Sattar et al., 2021). The scientific consensus on anthropogenic climate change is

firmly established (Lynas et al., 2021; Myers et al., 2021) and multiple predictive models have been developed to estimate its extent. In the case of Croatia, according to the moderate (RCP 4.5) model average temperature could rise by about two degrees Celsius compared to the early 2020s over the next fifty years, while a more extreme model (RCP 8.5) suggests increases of up to three degrees Celsius (Vitali Čepo, 2021). Both models predict reduced precipitation, longer droughts, more than ten extra hot days, and more than half a meter increase in the sea level.

Research indicates that Croatian citizens generally are quite aware of climate change (Cik & Vlašić, 2022; Nefat & Benazić, 2019; Vrselja et al., 2024), and recognize the relevance of environmental protection and sustainability (Bahtić & Višnjić Jevtić, 2020; Maglić et al., 2022; Mandarić & Hunjet, 2023). Nevertheless, only two percent of Croats consider climate change as one of the most relevant contemporary problems (Cik & Vlašić, 2022). However, actions do not closely follow the attitudes regarding the importance of acting. Compared to other countries, Croatian citizens fall below average when it comes to willingness to act and recycling (Cik & Vlašić, 2022). A qualitative study on experts in the field of environmental protection and climate change highlighted that lack of motivation to change is perceived as one of the main barriers to climate change prevention (Ančić et al., 2024).

However, not all regions of Croatia are facing equal threats (for instance, the sea level is not expected to rise enough to flood continental Croatia), nor do they have the same resources and capacities to deal with the environmental challenges (Ančić et al., 2024; Čehić Marić et al., 2023; Vitali Čepo, 2021). For instance, Racz (2020) argues that climate changes seriously threaten tourism, which represents a substantial source of income in Mediterranean Croatia (Žaja, 2023). Additionally, Ančić et al. (2024) problematize the extent of decentralization in reducing climate change, suggesting that the expectations of local communities (with limited resources) to devise and implement effective strategies might be unrealistic. This discrepancy between the desired and actual performance may affect how citizens in different regions understand the threat of climate change. However, the literature on this subject is scarce. One study zoomed in on regional differences in attitudes related to environment and climate change and found that elementary school students from Slavonia and Istria exhibited weaker preferences for additional contents related to environment and energetics compared to students from other Croatian regions (Kovačević, 2024). Findings from another study conducted on a sample of agricultural advisors suggest that advisors from Istria dominantly disagreed with the statement that climate change affects agriculture in their countries, unlike the advisors from Dalmatia (Čehić Marić et al., 2023).

The limitations of the presented studies (non-representative samples, relatively narrow conceptualization of climate change and environmental issues) motivated us to conduct a broader analysis of the representative sample of Croatian citizens. The first goal of this study was to compare Croatian citizens' climate change attitudes to those

in other European countries. Since the Croatian economy is expected to be severely impaired due to climate change (see Vitali Čepo, 2021), we expected Croatian citizens to be highly aware of the relevance of climate change. However, based on the socialist history and the authoritarian rule of a single-party regime (Haramija & Njavro, 2016) and high scores on power distance (in simplest terms, implying that society relies on authorities to make key decisions¹), we did not expect Croatian citizens to feel a strong personal responsibility for tackling climate change compared to other European countries. Secondly, we evaluated differences in climate change attitudes across four distinct regions of Croatia (Mediterranean Croatia, Pannonian Croatia, Northern Croatia, and the city of Zagreb). Based on the dependency on tourism and higher risks related to climate change (Racz, 2020; Vitali Čepo, 2021), we expected citizens of Mediterranean Croatia to exhibit stronger (i.e., more endorsing of climate change prevention) attitudes than citizens of other Croatian regions.

METHODS

Procedure and participants

The analyses were conducted on the data collected within the 10th Wave of the European Social Survey (European Social Survey European Research Infrastructure, 2023) and were downloaded in November 2023. The survey collects data on many subjects relevant to social scientists on representative samples of citizens older than 15 and younger than 90 years of age. The data set collected in the tenth wave comprised of 37611 participants from 22 countries. The interviews were conducted between September 2020 and August 2022 and, for the best part (94%), offline. The samples were well-balanced with respect to gender (from 50% of men and women in the Belgian sample to 38% of men and 62% of women in the Lithuanian sample), with median age ranging from 48 in the sample from Montenegro to 57 in the UK. The Croatian subsample consisted of 1592 participants (55% women). The average participant was 51 years old. Most participants (58%) lived in urban areas, and more than three-quarters (76%) had not enrolled in tertiary education.

Measures

Climate change attribution was measured using the item *ccnthum* ("Do you think that climate change is caused by natural processes, human activity, or both?"). Participants responded on a bipolar 1-5 scale. Its midpoint (3) indicated that the participant believes humans and nature are equally responsible for climate change. Values above the midpoint indicated a perception of greater human responsibility, while values below the midpoint reflected a belief in greater responsibility of natural processes.

¹ <https://www.theculturefactor.com/country-comparison-tool?countries=croatia>

Climate change concern was measured using the item wrclmch ("How worried are you about climate change?"). Participants responded on a 1-5 scale, with higher values indicating greater concern.

The importance of caring for nature and the environment was measured using the item impenv that originally measures universalism as a human value ("Now I will briefly describe some people. Please listen to each description and tell me how much each person is or is not like you. Use this card for your answer. She/he strongly believes that people should care for nature. Looking after the environment is important to her/him."). Participants responded on a 1-6 scale that was reverse coded before analyses for higher values to denote the greater importance of looking after the environment.

Personal responsibility for reducing climate change was measured using the item ccrdprs ("To what extent feel personal responsibility to reduce climate change"). Participants responded on a 0-10 scale, with higher values indicating greater perceived responsibility to reduce climate change.

The main explanatory variable was the *Croatian region* in which a participant resided in. Participants were with categorized into four groups based on their location and organizational units in Croatia². Participants from Bjelovarsko-bilogorska, Virovitičko-podravska, Požeško-slavonska, Brodsko-posavska, Osječko-baranjska, Vukovarsko-srijemska, Karlovačka and Sisačko-Moslavačka županija (county) were categorized as Pannonian citizens. Participants from Zagreb represented a unit for themselves. Participants from Primorsko-goranska, Ličko-senjska, Zadarska, Šibensko-kninska, Split-sko-dalmatinska, Istarska and Dubrovačko-neretvanska županija were categorized as Mediterranean citizens. Participants from the remaining counties (in the north of Croatia) were categorized as Northern Croatian citizens.

We included multiple control variables, specifically gender (ref = male), age (in years), educational level according to ISCED (measured on eight levels with higher levels denoting a higher level of education), and type of residence (measured on a 1-5 scale with higher values indicating a more rural place of residence).

Analytical approach

Analyses were conducted in R (R Core Team, 2024). After calculating descriptive data across countries, regression analyses with categorical predictors (region) were applied to evaluate the second research question. In these analyses, a categorical predictor was dummy-coded, implying that all adjusted means of all other levels were compared with adjusted means of the reference level. For the purposes of our analyses, the Mediterranean region was used as the reference level. Analyses were conducted using analytical weights (anweight) to avoid potential biases caused by sampling errors.

² https://narodne-novine.nn.hr/clanci/sluzbeni/2019_12_125_2507.html

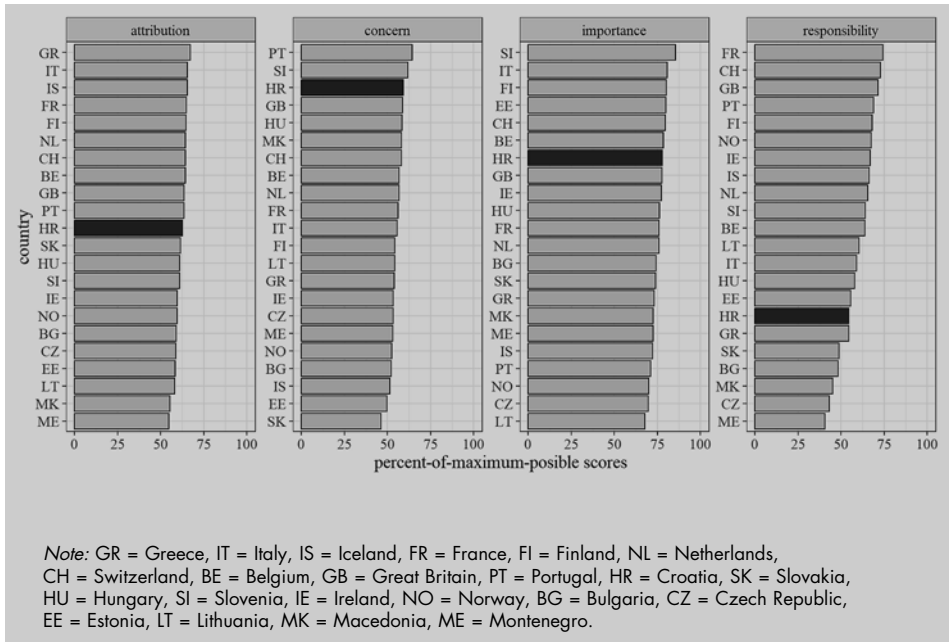


Figure 1 — Climate change attribution, concern, importance, and responsibility in European countries with an emphasis on Croatia

Results

Firstly, we present and briefly discuss country-level comparisons then we focus on regional differences in Croatia.

Results on the four criteria were transformed into the proportion-of-maximum-possible scores prior to visualizations to increase clarity. As illustrated in Figure 1, Croatia ranks near the middle among European countries concerning the attribution of climate change, suggesting that the average Croatian citizen (similar to the average European) was uncertain about the anthropogenic causes of climate change. Croatian citizens, however, considered environmental protection quite important, ranking above the majority of other countries in the sample, and moreover, expressed one of the highest levels of climate change concern in the ESS sample. Despite this, Croatian citizens ranked relatively perceived personal responsibility, with the average citizen feeling ambivalent about their role in reducing climate change effects.

In the following step, we focused on the comparisons of Croatian regions (Table 1). The percent-of-maximum-possible scores were used to visualize compared averages (Figure 2).

We compared regional averages using categorical regression, with Mediterranean Croatia as the reference category. No significant differences between regions were observed with respect to climate change attribution.

	<i>b</i>	β		<i>b</i>	β	
attribution	(Intercept)	3.54	- ***	3.50	-	***
	North vs. Mediterranean	0.02	.01	0.04	.02	
	Zagreb vs. Mediterranean	-0.04	-.02	0.02	.01	
	Pannonian vs. Mediterranean	-0.10	-.06	-0.07	-.04	
	women vs. men			-0.03	-.02	
	age			0.00	.01	
	education			0.01	.02	
	residence size			0.02	.03	
	R^2 (adjusted)		.00		.00	
concern	(Intercept)	3.33	- ***	2.30	-	***
	North vs. Mediterranean	0.11	.04	0.17	.07	*
	Zagreb vs. Mediterranean	0.02	.01	-0.03	-.01	
	Pannonian vs. Mediterranean	0.06	.03	0.12	.05	
	women vs. men			0.26	.12	***
	age			0.01	.18	***
	education			0.06	.09	***
	residence size			-0.03	-.04	
	R^2 (adjusted)		.00		.05	
importance	(Intercept)	5.06	- ***	3.91	-	***
	North vs. Mediterranean	-0.32	-.12 ***	-0.28	-.11	***
	Zagreb vs. Mediterranean	-0.26	-.09 **	-0.20	-.07	*
	Pannonian vs. Mediterranean	-0.19	-.08 **	-0.13	-.05	
	women vs. men			0.25	.12	***
	age			0.01	.16	***
	education			0.06	.08	***
	residence size			0.02	.02	
	R^2 (adjusted)		.01		.05	
responsibility	(Intercept)	5.56	- ***	3.75	-	***
	North vs. Mediterranean	-0.71	-.10 ***	-0.48	-.07	*
	Zagreb vs. Mediterranean	-0.18	-.02	-0.51	-.06	
	Pannonian vs. Mediterranean	0.29	.04	0.47	.07	*
	women vs. men			0.80	.13	***
	age			0.00	.03	
	education			0.21	.11	***
	residence size			-0.17	-.07	*
	R^2 (adjusted)		.01		.04	

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 1 — Comparing Croatian regions regarding climate change attribution, concern, importance, and responsibility

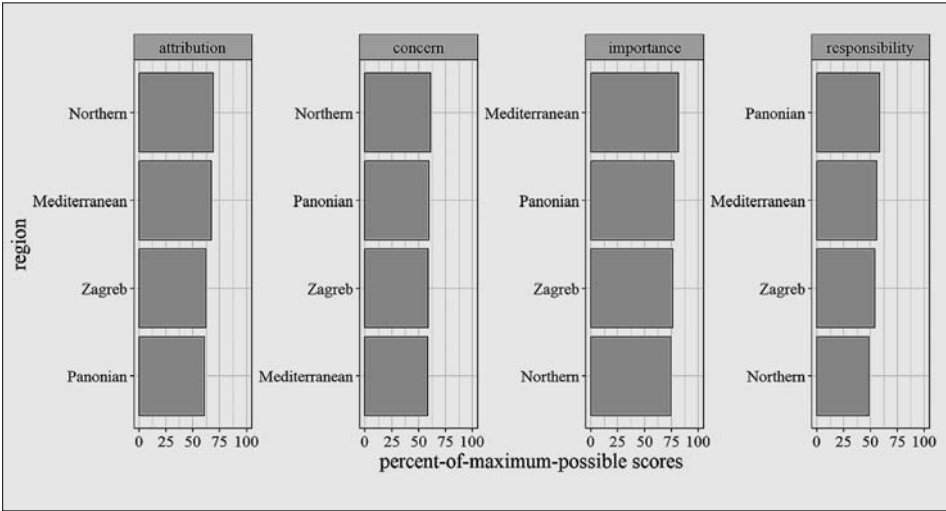


Figure 2 — Climate change attribution, concern, importance, and responsibility in Croatia with an emphasis on regional differences

However, participants from Northern Croatia exhibited slightly higher climate change concerns than citizens from Mediterranean Croatia (albeit only after including control factors). However, the magnitude of the difference was negligible ($\beta = .07$). Generally, women were slightly more concerned than men ($\beta = .12$), older participants were slightly more concerned than young participants ($\beta = .16$), and more educated participants were slightly more concerned than less educated participants ($\beta = .09$).

Conversely, participants from Mediterranean Croatia considered the environment more important than participants from Northern Croatia ($\beta = -.11$) and, marginally, participants from Zagreb ($\beta = -.07$). Similarly, women, older participants, and more educated participants considered the environment more important than did men, younger and less educated participants, respectively.

In terms of perceived personal responsibility for climate change, participants from Northern Croatia scored slightly lower compared to participants from Mediterranean Croatia ($\beta = -.11$), while participants from Pannonian Croatia scored slightly higher than those from Mediterranean Croatia ($\beta = .07$). Women, more educated participants, and participants living in larger cities reported higher levels of personal responsibility compared to men, less educated individuals and participants from smaller towns and rural areas, respectively.

DISCUSSION

The results provide valuable insights into Croatian citizens' climate change attitudes, both at a descriptive country-level comparison across Europe and regional comparisons within Croatia.

Country-Level Insights

The analyses revealed that, Croatian citizens are more concerned about climate change and slightly more likely to prioritize environmental protection compared to other Europeans. This aligns with the economic risks climate change poses for Croatia (Vitali Čepo, 2021). Croatian citizens were equally likely to support the notion of anthropogenic climate change as other Europeans yet less likely to consider themselves personally responsible for climate change reduction. This disconnect between concern and personal accountability, might reflect the socialist past which limited citizens' right to decide about major societal and economic issues (Haramija & Njavro, 2016). In other words, citizens may perceive that the authorities (government) should engage more actively in preventing climate change rather than relying on the efficacy of an individual. This externalization of control could pose a barrier to collective actions related to climate change prevention (Huebner & Lipsey, 1981) and might explain the reduced willingness to act and recycle among Croats (Cik & Vlašić, 2022).

Regional Differences

The second part of the analyses was focused on studying regional differences. The findings were not completely in line with the (weak and economically based) expectations: participants from Mediterranean Croatia generally did not exceed participants from other regions (and even when they did, the differences were not substantial) regarding climate change attitudes. On the other hand, the findings that women and more educated individuals exhibited stronger climate change concern, mitigation responsibility and importance of the environment is aligned with Henn et al. (2022) who reported similar findings on the sample of European youth.

The absence of regional differences may suggest that the implementation of policies aiming at reducing climate change is yielding similar results across major Croatian regions. However, this assumption of causality should be cautiously interpreted and further explored in future research incorporating multi-item measures of key constructs to provide deeper insights. On the other hand, the apparent uniformity might also highlight a broader common weakness — insufficient empowerment of citizens as agents of change. Thus, rather than emphasizing that climate change is happening, a more efficient approach might be to focus on the consequences of anthropogenic climate change in practical and vivid terms and what concrete and feasible actions individuals and communities can do to mitigate them.

Promoting the internalization of environmental responsibility could be a way forward in increasing pro-environmental behaviours. However, a complex worldview change has to occur at multiple levels of society to avoid the common criticism that some of the stakeholders are not included in what is supposed to be a common endeavour (Harris & Schockley, 2019). While humanity is not powerless in the face of clima-

te change, the question of acting fast enough to prevent (more severe) damage remains.

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References

- Ančić, B., Cik, T., Jaklin, K., & Kuhar, M. (2024). Izazovi prilagodbe na posljedice klimatskih promjena — urbano-lokalna perspektiva iz četiri hrvatska grada. *Socijalna ekologija: časopis za ekološku misao i sociologijska istraživanja okoline*, 33(1), 3-30. <https://doi.org/10.17234/SocEkol.33.1.1>.
- Bahtić, K., & Višnjić Jevtić, A. (2020). Young children's conceptions of sustainability in Croatia. *International Journal of Early Childhood*, 52(2), 195-211. <https://doi.org/10.1007/s13158-020-00266-4>.
- Cik, T., & Vlašić, S. (2022). Sažetak anketnog istraživanja Izgubljeno desetljeće: stavovi i mišljenja o zaštiti okoliša, klimatskim promjenama i energetske tranziciji u Republici Hrvatskoj. http://idiprints.knjiznica.idi.hr/1045/1/Izgubljeno%20desetlje%C4%87e_%20sa%C5%BEetak%20anketnog%20istra%C5%BEivanja.pdf.
- Čehić Marić, A., Oplanić, M., Ban, S. G., Njavro, M., & Čop, T. Percepcija predstavnika službi za potporu poljoprivredi o klimatskim promjenama. *Agroeconomia Croatica*, 13, 17-27. <https://hrcak.srce.hr/file/461973>.
- Dhairykar, M., Jawre, S., & Rajput, N. (2022). Impact of plastic pollution on wildlife and its natural habitat. *The Pharm Innovation Journal*, 141-143. <https://www.thepharmajournal.com/special-issue?year=2022&vol=11&issue=6&ArticleId=12929>.
- European Social Survey European Research Infrastructure (ESS ERIC). (2022). *ESS10 Data Documentation*. Sikt — Norwegian Agency for Shared Services in Education and Research. <https://doi.org/10.21338/NSD-ESS10-2020>.
- Haramija, P., & Njavro, Đ. (2016). Tranzicija i njezini rezultati — zašto tranzicija iz komunističkog u demokratski sustav tržišnog gospodarstva nije ostvarila očekivanja. *Obnovljeni život*, 71(4), 515-528.
- Harris, P. G., & Shockley, K. (2019). Do rich people rather than rich countries bear the greatest responsibility for climate change? In M. Hulme (Ed.), *Contemporary Climate Change Debates* (pp. 146-159). Routledge. <https://doi.org/10.4324/9780429446252>.
- Henn, M., Sloam, J., & Nunes, A. (2022). Young cosmopolitans and environmental politics: How postmaterialist values inform and shape youth engagement in environmental politics. *Journal of Youth Studies*, 25(6), 709-729. <https://doi.org/10.1080/13676261.2021.1994131>.
- Huebner, R. B., & Lipsey, M. W. (1981). The relationship of three measures of locus of control to environment activism. *Basic and Applied Social Psychology*, 2(1), 45-58. https://doi.org/10.1207/s15324834basp0201_4.
- Kovačević Lepojević, M., Gutvajin, N., & Trajković, M. (2024). Školska klima i disciplina kao faktori motivacije učenika u domenu čitanja: moderacija pola. *PIRLS 2021 u Srbiji: rezultati međunarodnog istraživanja razvoja čitalačke pismenosti u četvrtom razredu osnovne škole*, 149-164.

- Lynas, M., Houlton, B. Z., & Perry, S. (2021). Greater than 99% consensus on human caused climate change in the peer-reviewed scientific literature. *Environmental Research Letters*, 16(11), 114005. <https://doi.org/10.1088/1748-9326/ac2966>.
- Maglić, M., Pavlović, T., & Franc, R. (2022). Mladi i klimatske promjene: osviještenost i namjere ponašanja. *Sociology & Space/Sociologija i Prostor*, 60(3), 489-509. <https://doi.org/10.5673/sip.60.3.3>.
- Mandarić, D., & Hunjet, A. (2023). Does the education level of consumers influence their recycling and environmental protection attitudes? Evidence from Croatia. *Naše gospodarstvo/Our economy*, 69(4), 51-61. <https://doi.org/10.2478/ngoe-2023-0023>.
- Myers, K. F., Doran, P. T., Cook, J., Kotcher, J. E., & Myers, T. A. (2021). Consensus revisited: Quantifying scientific agreement on climate change and climate expertise among Earth scientists 10 years later. *Environmental Research Letters*, 16(10), <https://doi.org/10.1088/1748-9326/ac2774>.
- Nefat, A., & Benazić, D. (2019). The student perceptions, concern and knowledge with regard to climate changes in Croatia. *Ekonomski pregled*, 70(5), 723-742. <https://doi.org/10.32910/ep.70.5.3>.
- R Core Team (2024). R: *A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria. <https://www.R-project.org>.
- Racz, A. (2020). Međuutjecaj klimatskih promjena i turističke djelatnosti — narativni pregled. *Journal of Applied Health Sciences = Časopis za primijenjene zdravstvene znanosti*, 6(1), 91-115. <https://doi.org/10.24141/1/6/1/10>.
- Sarkar, S., Diab, H., & Thompson, J. (2023). Microplastic pollution: Chemical characterization and impact on wildlife. *International Journal of Environmental Research and Public Health*, 20(3), 1745. <https://doi.org/10.3390/ijerph20031745>.
- Sattar, Q., Maqbool, M. E., Ehsan, R., & Akhtar, S. (2021). Review on climate change and its effect on wildlife and ecosystem. *Open Journal of Environmental Biology*, 6(1), 008-014. <https://doi.org/10.17352/ojeb.000021>.
- Vitali Čepo, D. (2021). *Klimatske promjene u Hrvatskoj*. CO2go-Priče za klimatsku akciju. <https://www.znanost-klima.org/wp-content/uploads/2021/12/Klimatske-promjene-u-Hrvatskoj.pdf>.
- Vrselja, I., Pandžić, M., Rihtarić, M. L., & Ojala, M. (2024). Media exposure to climate change information and pro-environmental behavior: the role of climate change risk judgment. *BMC psychology*, 12(1), 262. <https://doi.org/10.1186/s40359-024-01771-0>.
- Žaja, J. (2023). *Turizam u brojkama 2022*. Ministarstvo turizma i sporta Republike Hrvatske. https://mint.gov.hr/UserDocsImages/2023_dokumenti/230804_turizam_u_brojkama_2022_hrv.pdf.

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MEDITERRANEAN IDENTITY IN THE MOSAIC OF IDENTITY HERITAGE IN CROATIA

Abstract

As a small country situated on the Eastern edge of the West, Croatia has a turbulent history. It was characterised first by losing independence (in 1102), and then gaining it, but after a long period of nine centuries (1991). Changes of political regimes and influences of greater political powers left significant traces: among others, it can be seen in its diverse regional/local identities, and cultural heritage in general. Considering the recent global unification and the opposing homogenisation forces of the communist rule and the Homeland War, the question is whether long-term historical turbulences can be observed in the shaping of younger generations' identity, along with the question how much it contains Mediterranean traces. The answers can be provided by an online survey conducted in 2021 by the Ivo Pilar Institute on a representative, territorially stratified sample of the population aged 18 to 40. Among other, identities were offered in the questionnaire, and respondents had to choose up to three most important ones. The main results show that half of the respondents (55%) indicated only one identity, 14% chose two, and 22% three, 10% did not answer the question. The majority consider themselves Croats (65%), then Europeans (29%), followed by Mediterranean (20%) and Central European (9%). The Mediterranean identity is significantly more prominent on the coast (33%) than inland (12%). On the whole, despite the dominance of the national one, other identities (including Mediterranean) are noticeably present, i.e., they have not completely faded in the post-Homeland War generations.

Key words: *Croatian identity, Mediterranean identity, inland Croatia, coastal Croatia*

INTRODUCTION

Croatia is a bridge between Central Europe and the Mediterranean. For most of its history, it was part of the Habsburg Monarchy and the Austro-Hungarian Empire. In this conglomerate of over 20 nations, Croatia was a long-term military border and its main purpose was to protect the Empire from the Ottoman conquest. The coastal part was under the rule of Venice, and even Napoleon ruled it for a short period. After the First World War, it became part of the first and second Yugoslavia, until gaining independence in 1991. During almost all its history, Croatia had to serve foreign interests and its national identity was suppressed, including the period of the communist rule after the Second World War.

The Communist Party attempted to form the Yugoslav nation — today's trace might be a partial proneness to the newly articulated (for a period of time politically forced) Western Balkans identity. During the socialist period, regional and local identities were much less suppressed: they were mostly “left alone” as politically insignificant (or significant in the case of the weakening of the national one, broader and politically much more relevant). All the sketched history is still clearly visible today in the diversity of inherited local (cultural) identities. For example, between Zagreb and nearest coastal city, Rijeka (approximately 200 km), there are even 16 different local folklore traditions.

After the Homeland War (1991—1995), national identity was re-affirmed — becoming desirable instead of politically and socially undesirable (including re-traditionalisation tendencies; Bellamy, 2003), in spite of an unfavourable broader globalisation context (including European late 1980s tendencies for a higher degree of unification; Božić-Vrbanić, 2008).

When it comes to Mediterranean identity, according to contemporary views, it is not simple nor homogenous. Although the concept refers to shared cultural, historical and geographical experiences of the people who live on its shores, and in spite of being a place of common historical origin of (European) cultures and similar, leisure evoking landscapes, the Mediterranean is a sea with many names (as stated by Platt, 2019). It is a complex and fluid blend of various cultural, linguistic, religious and social influences from the regions that surround the sea (Southern Europe, North Africa, and parts of the Middle East). The picture of the Mediterranean, as sketched by Horden and Purcell (2000), is an assemblage of distinctive cultural and social practices, not shaped, but challenged by mobility and connectivity, and faced with the risks of globalisation. In this context, Mediterranean identity is a mix of both, commonality and cosmopolitanisation.

As a short digression, it may be mentioned that there were views of Mediterranean culture as a homogenous whole. Such views, in extreme forms, even postulated the existence of a Mediterranean race, mostly serving as a political legitimization (in ideological form of Mediterraneanism). For example, according to Sergi's interpretation of Mediterraneanism ideology (as cited in Gillette, 2003), there is a Mediterranean race, which is the greatest, autonomous, not black, nor white. It historically spoke a common, Hamitic language, and its culture, later rooted in the Roman Empire, spread across Europe and is ancestry of contemporary civilisation. This ideology might be partially viewed as a reaction of the Italian Fascism to opposite claims of Nordicism ideology, which postulated Aryan superiority over Mediterranean people. Similarly, Braudel invoked similar doctrine of Mediterranean universalism to justify French colonialism in Algeria (Silverstein, 2004).

Contrary to described (marginal) ideological attempts, which are outdated and forgotten, relevant contemporary views on the Mediterranean and its destiny are political-

ly articulated in the Union for Mediterranean, an intergovernmental organisation of 43 countries (all members of EU and countries Southern Europe, Mediterranean Basin, North Africa and Western Asia). Aim of the union is promoting partnership, stability and integration: it serves as a discussion forum based on the principles of shared ownership, decisions and responsibility between the shores of the Mediterranean (Bichara, 2009).

AIM

Referring to the introductory notes, it can be said that Croatian and Mediterranean identity are similar in somewhat opposing tendencies on the local-global dimension. In the case of Croatia, considering the recent globalisation and the opposing homogenizing forces of the Yugoslav regime (especially among political emigrants; Grbić-Jakopović, 2020) and the Homeland War, the question is whether a diverse identity heritage can be observed in the younger generation. Operatively, this relates to three specific questions: (1) is the identity of younger generations homogeneous or mosaic?; (2) if it is mosaic, how much of the Mediterranean is in the mixture? And finally, (3) are there differences in this regard between inland and coastal parts of Croatia?

METHOD

The research questions were investigated using an online survey conducted in 2021 by the Ivo Pilar Institute on a representative sample ($n = 1051$) of the population aged 18 to 40 (as part of the second stage of the project "Together one heart, one soul, one Croatia", funded by the European Social Fund and the state budget. The survey was approved by the Ethical Committee of Ivo Pilar Institute (Perić Previšić et al., 2022). Among other, historic allies and geopolitically relevant identities were offered in the questionnaire. The respondents had to choose up to three most (subjectively) important ones.

RESULTS & DISCUSSION

Following apriori teritorial stratification and taking into the account aim of this analysis (third research question), the whole sample was divided using the counties' borders in coastal (7 counties: Istria, Primorje-Gorski Kotar, Lika-Senj, Zadar, Šibenik-Knin, Split-Dalmatia and Dubrovnik-Neretva) and inland areas (14 counties: Zagreb, City of Zagreb, Krapina-Zagorje, Varaždin, Međimurje, Bjelovar-Bilogora, Koprivnica-Križevci, Virovitica-Podravina, Karlovac, Sisak-Moslavina, Brod-Posavina, Požega-Slavonia, Osijek-Baranja and Vukovar-Srijem).

The main results (Table 1) show that the majority consider themselves Croats (65%). After Croatian, European identity was the most pronounced (29%), then Mediterranean (20%) and Central European (9%). Mediterranean is significantly more prominent on the coast (33%) than inland (12%); and vice versa, Central European identity is slightly (but statistically significantly) more prominent inland. These choices are

Chosen identities (up to two)	(Sub)sample	N	INclusive (%)	EXclusive (%)
Croatian	Croatia	1051	65.4	35.0
	Seaside	401	64.9	31.8
	Inland	640	67.7	36.9
European	Croatia	1051	28.7	5.5
	Seaside	401	27.4	4.1
	Inland	640	30.6	6.3
Mediterranean	Croatia	1051	19.6	4.6
	Seaside	401	33.4**	7.9**
	Inland	640	12.0**	2.7**
Central European	Croatia	1051	9.4	2.3
	Seaside	401	7.1*	1.4*
	Inland	640	11.3*	2.8*
<i>Note:</i> Inclusive identities - listed + up to 2; exclusive identities - listed only. Chi-square tests: all row differences (between inclusive and exclusive identities) are statistically significant ($p < 0.01$); significant column differences (between seaside and inland): ** $p < 0.01$, * $p < 0.05$.				

Table 1 — Relevant (geo-political) identities in Croatia:
Comparisons between the inland and seaside counties

inclusive: i.e., each of these identities may include one or two more (identities of any kind are mostly multiple anyway (Šakić, 2009).

When it comes to exclusive (single) identities, slightly over half of the respondents (55%) indicated only one, 14% chose two, and 22% three, while 10% did not answer the question. In this group, the (single) Croatian identity is also the most prominent - approximately one third (35%) of respondents consider themselves Croats only, while all other exclusive identities are indicated in less than 10% cases each. Among those, and as in the case of mixed identities, only the Mediterranean identity is significantly more prominent in the seaside counties in comparison with the inland ones (although in small absolute proportion).

The presented results show that in post-war generations the Croatian identity prevails. However, the prevalence is not exclusive: almost twice as many respondents, than those who consider themselves only Croats, include one or two more identities (precisely, 35% versus 65%). These other identities fade almost in historical order: the newest European is more prominent than Central European, the rarest one (maybe ascribed to the Austro-Hungarian period, which means that it might be considered more political than cultural-geographical).

In general, the largest part of the surveyed population considers themselves Croats first, and then Europeans (in the whole sample and inland parts of the country).

Those who live in coastal counties mostly consider themselves Croats also, but then Mediterraneans and not Europeans: European identity is third in order. This indicates that in spite of recent national homogenisation and joining the European Union, self-concepts of a considerable part of those who live by the sea include significant geo-cultural affiliation to the Mediterranean (almost in three times more cases than those who live further from the coast).

When it comes to inland-coast identity relations, two coastal counties might be mentioned: Split-Dalmatia and Istria. Both are somewhat sceptical towards metropolisation (dominance of Zagreb as a capitol of Croatia, situated inland). Although not prominent, reaction of both counties to metropolisation is tendency toward more substantial autonomy, articulated in regional political parties (marginal in Dalmatia and more relevant in Istria). There is also some concurrence between Zagreb as the capitol and biggest Croatian city and Split, second Croatian and biggest coastal city. But like tendencies toward autonomy, those tensions are not especially prominent. In this context it may be mentioned that animosity is, much more than anywhere else, noticeable among football fans, especially during the “eternal” derby or Croatian “El Classico” between Dinamo Zagreb and Hajduk Split.

CONCLUSION

On the whole, despite the dominance of the national one (which is significantly more inclusive than exclusive) other identities, including Mediterranean, are noticeably present, i.e., they have not completely faded in the generation that grew up mostly in independent Croatia and the globalizing world. Further research should more thoroughly address Mediterranean identity in Croatia per se: its relevance, structure and contents, taking into the account comparative characteristics of the Mediterranean identity in general (cultural and worldview diversity, shared maritime heritage, religion, historical legacy, cuisine, and regionalism and local identities, etc.). It would also be useful to check whether Mediterranean identity is homogeneous or heterogenous along the Croatian coast; and if it is heterogenous, what is the kind and relevance of (eventually) identified differences.

References

- Bellamy, A. J. (2003). *The formation of Croatian national identity*. Manchester University Press. <https://doi.org/10.7765/9781526137739>.
- Bichara, K. (2009). *Europa por el Mediterráneo. De Barcelona a Barcelona (1995—2009)* (Europe through the Mediterranean. From Barcelona to Barcelona /1995—2009/). Icaria.
- Božić-Vrbančić, S. (2008). Diskurzivne teorije i pitanje europskog identiteta (Discursive theories and the question of European identity). *Etnološka tribina*, 38, 9-38.
- Gillette, A. (2003). *Racial theories in fascist Italy*. Routledge. <https://doi.org/10.4324/9780203279212>.

- Grbić-Jakopović, J. (2020). *Multipliciranje zavičaja i domovina. Hrvatska dijaspora: kronologija, destinacije i identitet* (Multiplication of Fatherlands and Homelands. Croatian Diaspora: Chronology, Destinations and Identity). FF-press.
- Horden, P. and Purcell, N. (2000). *The corrupting sea: A study of Mediterranean history*. Blackwell Publishing.
- Perić Previšić, K., Šakić, V., Rihtar, S. (2022). Suvremene migracijske motivacije mladih Hrvatske — vrijednosni i identitetski aspekti (Contemporary migration motivations of young people in Croatia — value and identity aspects). *Časopis Pilar*, 32, 119-134.
- Platt, K. (2019). Constructing the idea of “Identity” in the Mediterranean: Patterns and practices. In M. Brehl, A. Eckl, & K. Platt (Eds.), *The Mediterranean Other — The other Mediterranean* (pp 19-58). Brill. doi:10.30965/9783657785315_004.
- Silverstein, P. A. (2004). *Algeria in France: Transpolitics, race, and nation*. Indiana University Press.
- Šakić, V. (2009). Suvremeni pristupi identitetu s posebnim osvrtom na nacionalni identitet (Contemporary approaches to identity with special reference to national identity). In Ž. Holjevac (Ed.), *Identitet Like: korijeni i razvitak* (pp. 17-33). Ivo Pilar Institute of Social Sciences.

NEGOTIATING CONSTRAINTS: HOW LEISURE INFLUENCES GENDERED IDENTITIES IN CROATIA

Abstract

Leisure is an important aspect of everyday life; it offers time to relax, recover, or refresh from other responsibilities, particularly those associated with paid and unpaid work. Research has shown that women generally have less time, resources and opportunities for leisure than men. Likewise, women often have a narrower range of options on where and with whom to spend their leisure time. Drawing on semi-structured interviews, this study describes how leisure time among women in Croatia is negotiated and how norms constrain but also shape women's leisure. Using an inductive approach, three typologies: i) complacent followers; ii) persistent 'nudgers' and iii) mindful challengers are identified in relation to how women negotiate leisure practices. Findings show that although these identified typologies are not mutually exclusive, most women were 'complacently following' and/or 'persistently nudging' while fewer were 'mindfully challenging'. It can be concluded that although women experience constraints that are gender-specific, successful negotiation through planning, prioritizing and compromising is possible. This not only leads to an enhancement of the leisure experience in terms of participation, satisfaction and enjoyment, but can also affect gender equality in a broader sense.

Key words: leisure, gendered identities, norms, constraints, negotiations; Croatia

INTRODUCTION

This exploratory study identifies three typologies in relation to how women negotiate leisure practices. Specifically, focus is on the centrality of gender as an organizing principle of leisure practice (Henderson & Gibson 2013). Gender is understood as relational in that it is produced, reproduced, and sometimes contested/resisted and transformed in everyday interactions with individual others, society, and culture (Freysinger, Shaw, Henderson, & Bialeschki, 2013; Henderson & Shaw, 2006). Recognizing the gendered nature of leisure, this study analyses the ways in which leisure influences the creation, reinforcement, and resistance of gendered identities and how gendered identities influence leisure behaviour and experiences (Freysinger, Shaw, Henderson, & Bialeschki, 2013). In a less deterministic way, this analysis uses a gender constructionist perspective where gender is conceptualized as processes of social construction in which actors dynamically build realities and produce meaning (Burr 2003). This allows for an exploration of gender in the context of relational environments rather than be-

ing conceptualised as a natural or innate set of characteristics within women and men that are universal. Following a brief description of leisure constraints, findings explore three typologies for negotiating constraints that emerged from the research materials.

CONSTRAINTS TO LEISURE

A constraint to leisure is anything that inhibits people's ability to participate in leisure activities, to spend more time doing so, to take advantage of leisure services, or to achieve a desired level of satisfaction (Jackson, 1988). Studies have shown that some of the constraints include cultural values, individual values, ethic of care and the influence of others, lack of entitlement to physical recreation, work/stress, physical and psychological safety, lack of opportunities, and the culture of familism (Henderson & Bialeschki, 1993; Zhang, Xu, & Zhu, 2021). Previous studies have shown that women generally experience more constraints on leisure than men do since the challenges of managing work and family demands are greater for women than men (Harrington, Dawson, & Bolla, 1992; Hilbrecht, Shaw, Johnson, & Andrey, 2008; Ho, 2024; Jackson & Henderson, 1995; Shaw, 1994). Of those constraints thought to be women specific, or significantly more prevalent among women, the ethic of care has been underscored (Bedini & Guinan, 1996; Henderson & Allen, 1991). The ethic of care as well as prevailing ideologies of motherhood and womanhood have been linked to women's lack of leisure because women often provide for the needs of others first, thus neglecting their own leisure needs (Henderson & Allen, 1991; Kay, 2000), especially when children are younger (Stalker, 2011). According to this ethic, women with children and/or aging parents tend to prioritize others over themselves because of traditional gender beliefs and expectations, which have led women to ignore their own leisure needs as they focus on servicing the needs of others instead (Deem, 1986; Henderson, Bialeschki, Shaw, & Freysinger, 1996). Various studies have shown that not only do women often have little access to time on their own, or personal leisure, but that they also may not feel that they have a right to leisure for themselves (Green, Hebron, & Woodward, 1990; Harrington et al., 1992). Aptly, Quinn (2010, p. 767) shows how some women were so embedded within their family obligations that they were unable to move into either a time or a space that enabled a focus on themselves alone. She concludes that women can be excluded from leisure experiences not only by the all-consuming demands imposed by their care-giving duties, and societal expectations as to what their role should be, but also by the way in which leisure is constructed as a social practice. Lastly, it should be noted that factors such as age, partner's job, race, social class, life-cycle stage, family circumstances, geographical location, ethnicity and ability/disability can also crucially affect women's leisure (Campbell, 2011; Deem, 1986; Freysinger, Shaw, Henderson, & Bialeschki, 2013). In other words, the intersection of gender

with social factors influences women's and men's organisation of daily life as well as access to and experience of leisure time.

RESEARCH METHOD

This study aims to obtain contextualised understandings of leisure practices based on participants' own words and experiences that are sensitive to individual meanings while exploring a diversity of meanings. In-depth, face-to-face interviews were chosen to gain 'a perspective on women's experiences in a way that more structured methods of research cannot' (Miller & Brown, 2005, p. 408). Interview themes included: childhood, upbringing, growing up, relationships, paid work, unpaid work, femininity/masculinity, gendered identities, equality/inequalities, development and class in Croatia. Open-ended questions and probing were used to create an "in-depth understanding about how different cases provide insight into an issue" (Creswell, Hanson, Plano Clark, & Morales, 2007, p. 239). The time frame and location of interview was decided by the interviewee(s) and interview recordings ranged between 90 to 165 minutes. These interviews mostly took place in participants' homes, which also provided a source of data for field notes that were also used for the interpretation of qualitative materials. Interviews were digitally recorded, with participant consent and then transcribed verbatim. To ensure anonymity and confidentiality, pseudonyms were used and any identifying information was removed. Finally, follow-up phone conversations were held with several participants to seek clarification or elaboration of materials from their in-depth interview. The sample used in this analysis included 18 research participants (14 women and 4 men) from 15 households with children. Three of these interviews were conducted with both parents present. The number of children did not exceed three in any of these families and two couples had adopted children. This sample included 13 married or co-habiting couples and two single parents with an age range between 28 and 52 years of age. Eight of these interviews took place in urban settings while the remainder were in rural areas. Two thirds of this sample were employed while the rest were unemployed.

Given the exploratory nature of this study, an inductive approach and thematic analysis based on the principles of grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1990) was used. This allowed themes to emerge from the data rather than imposing a 'top-down' approach in which themes were previously determined and sought from the data. This is in line with grounded theory which privileges the collection and inductive interpretation of empirical data to generate meaning and theoretical insight (Charmaz, 2006). Thematic analysis involved a repeated process of continual comparison between research materials and literature, as well as a careful re-reading to discover common themes. Finding patterns, emergent themes, interrelating themes, and the

meanings, including the selection of supporting quotes from the original data (Braun & Clarke, 2006; Creswell, 2009) were some of the analytic steps used in this study.

TYPOLOGIES

Three typologies for negotiating constraints emerged as grounded theory from the research materials: i) complacent followers; ii) persistent nudgers and iii) mindful challengers. These typologies are not mutually exclusive and are not meant to oversimplify or mechanically reduce the constraints negotiation process (Henderson & Bialeschki, 1993). Conversely, they offer some sense of how women negotiated constraints such as values, ethic of care, social expectations, domestic obligations, financial issues, lack of entitlement and lack of opportunities.

COMPLACENT FOLLOWERS

Women who fitted into this typology had no structured, formal leisure activities in their routine lifestyles. Commonly, they were preoccupied by a strong ethic of care and a strong desire to be responsible for their dependent children. Completely embedded in family obligations, these women did not voice any sense of entitlement/demand for leisure provision. Their identities are strongly interwoven with their domestic and child-care roles; even when an opportunity arose for free time they were unable to fully utilise these opportunities. In this typology, it is also important to highlight how men use either direct or indirect behaviours to exert control over women's use of time and space, especially in the home where most of their leisure activities take place. As a main feature, many of these women had difficulty in separating 'leisure' from 'work' (Green et al., 1990) and felt that their roles as women were socially constructed in ways that forced them to prioritise their social responsibilities. Habitually, this was an obligation, rather than a choice and appropriately shows how traditional, stereotypical activities act to reinforce and reproduce oppressive gender relations. Besides predominant responsibility for home and childcare; women who belong to this typology often have limited financial resources and lack financial autonomy. Overall, as complacent followers they have less control over their lives including time for personal leisure pursuits.

PERSISTENT NUDGERS

Although women who fitted into this typology no longer had structured, formal leisure activities as in the past, they voiced aspirations to achieve this in the near future. In the current phase of their lifecycles, they are still largely responsible for their young children. A striking difference was noted among this group in their attempts to share domestic labour and responsibilities as well as childcare with their partners. As their partners' participation in domestic work and childcare is not self-initiated, they often had to remind their partners daily of their duties. Moreover, they also unreservedly vo-

iced criticism at the way their partners carried out these tasks if they were not done properly. For this reason, this group of women are called persistent nudgers because they relentlessly attempt to achieve some level of gender equality at home with the goal of achieving more quality time for themselves. In other words, women who belong to this typology use either direct or indirect behaviours to exert control over men's use of time and space. Although their current identities are strongly interwoven with their roles at home, when an opportunity arises for free time, they willingly utilise these opportunities.

MINDFUL CHALLENGERS

In this typology, women's leisure reflects their choice, control, and self-determination and can be seen as offering possibilities for resistance. Crucially, these women negotiate constraints by engaging in thorough planning and preparation involving prioritizing and comprising. Moreover, they hold a positive attitude towards leisure and feel very enthusiastic about realizing their entitlement to leisure. Notably, these women were reflexive about their leisure choices because many of their choices were loaded with meaning. They often participated in leisure in which women felt they had the freedom to do what they wanted to do. Through these activities, they often challenged traditional notions. Undeniably, their leisure seemed to help women regain or create a sense of themselves. This typology shows how certain types of leisure or leisure activities might act to resist or challenge structured gender relations. The divisions of domestic labour and childcare seem to be fairer and these women often challenge traditional, stereotypical activities that act to reinforce and reproduce oppressive gender relations. Notably, they do not experience a lack of finances and often have good educational backgrounds. Interestingly, the effects of socialisation and upbringing have an impact on the way they live their lives and what they expect from their children. Clearly, they are successful in breaking down economic and temporal barriers as well as the ethic of care and other women specific barriers. These acts of resistance affect not only their leisure participation and leisure satisfaction and enjoyment, but also affect gender equality in a broader sense.

CONCLUDING REMARKS

This study shows that the three identified typologies (complacent followers; persistent nudgers and mindful challengers) are not mutually exclusive and that most women were 'complacently following' and/or 'persistently nudging' while fewer were 'mindfully challenging'. These are important findings because research literature indicates that leisure is important to many facets of human life in which people seek to gain valued meanings in several different ways. With profound implications for well-being and quality of life, leisure offers the opportunity "to experience and project the self in ways not always possible in other social contexts" (Samdahl, 1988: 38). Importantly, Holland

(2009, p. 44) proposes that leisure is also about the preparation and the determination to attend, which results in a feeling of well-being and achievement in and of itself. In other words, 'finding a way' is itself part of the pleasure which most women in this study do not generally experience. In particular, 'complacent followers' were preoccupied with a strong ethic of care and a deep desire to be responsible for their dependent children and often did not even feel entitled to leisure time. This duty and responsibility mean that they cannot enjoy the same opportunities, rights and obligations in all spheres of life as their partners, especially when their domestic work remains hidden and unrecognised. In contrast, their male partners who also adhere to social norms and expectations can compartmentalize their lives, which gives them more choice and autonomy. In comparison, the boundaries between life domains — career, family, and community life — tend to be blurred for women. At the other end of this continuum, 'mindful challengers' do demonstrate agency as well as resistance and attempt to 'undo gender' (Deutsch, 2007). In line with Deutsch's recommendation, this analysis focuses on "when and how social interactions become less gendered" and "interaction as the site of change" (2007, p. 106). Women who belong to the third typology (mindful challengers) provide a fine example of how this works in real life. Ingeniously, they mobilise their leisure as resistances where a successful negotiation of constraints leads to an enhancement of the leisure experience for them. Finally, as this is an exploratory study with a relatively small sample, these findings are necessarily limited in that they cannot be generalized and are not representative of the wider population. However, regardless of this limitation, this study gives some nuanced insights and increases our understanding of leisure as important and valued areas of social life.

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References

- Bedini, L. A., & Guinan, D. M. (1996). If I could just be selfish...: Caregivers' perceptions of their entitlement to leisure. *Leisure Sciences*, 18, 227-240.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. <https://doi.org/10.1191/1478088706qp0630a>.
- Burr, V. (2003). *Social constructionism*. Routledge.
- Campbell, A. (2011). Location, location, location: women's leisure in rural Australia. *Leisure Studies*, 32(3), 249-263. <https://doi.org/10.1080/02614367.2011.627373>.
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Sage.

- Creswell, J. W., Hanson, W. E., Plano Clark, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *Counseling Psychologist*, 35, 236-264. <https://doi.org/10.1177/0011000006287390>.
- Deem, R. (1986). *All work and no play? The sociology of women and leisure*. Open University Press.
- Deutsch, F. (2007). Undoing gender. *Gender & Society*, 21(1), 106-127. <https://doi.org/10.1177/0891243206293577>.
- Freysinger, V., Shaw, S., Henderson K., & Bialeschki, D. (Eds.). (2013). *Women, gender and leisure*. Venture.
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Aldine.
- Green, E., Hebron, S., & Woodward, D. (1990). *Women's leisure, what leisure?* Macmillan.
- Harrington, M., Dawson, D., & Bolla, P. (1992). Objective and subjective constraints on women's enjoyment of leisure. *Loisir et Société / Society and Leisure*, 15(1), 203-221. <https://doi.org/10.1080/07053436.1992.10715414>.
- Henderson, K. A., & Allen, K. R. (1991). The ethic of care: Leisure possibilities and constraints for women. *Society and Leisure*, 14(1), 97-113. <https://doi.org/10.1080/07053436.1991.10715374>.
- Henderson, K. A., & Bialeschki, M. D. (1993). Negotiating constraints to women's physical recreation. *Loisir et Société / Society and Leisure*, 16(2), 389-411. <https://doi.org/10.1080/07053436.1993.10715459>.
- Henderson, K. A., Bialeschki, M. D., Shaw, S. M., & Freysinger, V. J. (1996). *Both gains and gaps: Feminist perspectives on women's leisure*. State College, PA: Venture.
- Henderson, K., & Gibson, H. (2013). An integrative review of women, gender, and leisure: Increasing complexities. *Journal of Leisure Research*, 45(2), 115-135. <https://doi.org/10.18666/jlr-2013-v45-i2-3008>.
- Henderson, K., & Shaw, S. (2006). Leisure and gender: Challenges and opportunities for feminist research. In C. Rojek, S. Shaw, & A. J. Veal (Eds.), *A handbook of leisure studies* (pp. 216-230). Palgrave Macmillan.
- Hilbrecht, M., Shaw, S.M., Johnson, L.C., & Andrey, J. (2008). "I'm home for the kids": Contradictory implications for work life balance of teleworking mothers. *Gender, Work and Organization*, 15, 454-476. <https://doi.org/10.1111/j.1468-0432.2008.00413.x>.
- Ho, C.H. (2024). One family, two leisure worlds: Analysis of gender order and its relationship to the "leisure gap" between mothers and fathers. *Leisure Sciences*, 1-21. <https://doi.org/10.1080/01490400.2024.2410243>.
- Jackson, E.L. (1988). Leisure constraints: A survey of past research. *Leisure Sciences*, 10(3), 203- 215. <https://doi.org/10.1080/01490408809512190>.
- Jackson, E. L., & Henderson, K.A. (1995). Gender-based analysis of leisure constraints. *Leisure Sciences* 17(1), 31-51. <https://doi.org/10.1080/01490409509513241>.
- Kay, T. (2000). Leisure, gender and family: The influence of social policy. *Leisure Studies* 19(4), 247-65. <https://doi.org/10.1080/02614360050118823>.
- Miller, Y.D., & Brown, W.J. (2005). Determinants of active leisure for women with young children — An 'ethic of care' prevails. *Leisure Sciences* 27(5), 405-20. <https://doi.org/10.1080/01490400500227308>.

- Quinn, B. (2010). Care-givers, leisure and meanings of home: a case study of low income women in Dublin, *Gender, Place and Culture*, 17(6), 759-774. <https://doi.org/10.1080/0966369X.2010.517025>.
- Samdahl, D. M. (1988). A symbolic-interactionist model of leisure: theory and empirical support. *Leisure Sciences*, 10, 27-39. <https://doi.org/10.1080/01490408809512174>.
- Shaw, S. M. (1994). Gender, leisure, and constraint: Towards a framework for the analysis of women's leisure. *Journal of Leisure Research*, 26, 8-22.
- Stalker, G. J. (2011). A widening parental leisure gap: The family as a site for late modern differentiation and convergence in leisure time within Canada, the United Kingdom and the United States. *Canadian Journal of Sociology*, 36, 25-58. <https://doi.org/10.29173/cjs6661>.
- Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Sage Publications.
- Zhang, C., Xu, Q., & Zhu, L. (2021). Exploratory study on family leisure constraints of the two child family in China, *E3S Web Conf.*, 275, 03062 <https://doi.org/10.1051/e3sconf/202127503062>.

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YOUTH AND GREEN ACTIVISM ON THE CROATIAN ISLANDS¹

Abstract

This paper explains the meaning of green activism and how young people are involved in it. Green activism is defined as a concept that covers usual „green“ environmental and nature protection organisations, but also organisation that are active in many fields of sustainable development. The paper focuses especially on civil society organisations that connect green activism with young people on the Croatian islands. It presented general conditions of green activism in Croatia as an introduction to the research and mapping part of the paper. Research was conducted on the total number of green activism organisations and youth organisations on the island; the most important actors were mapped to identify which are the most appropriate for future ethnographic research.

Key words: youth, green activism, islands, sustainable development, civil society organisations

INTRODUCTION

Green activism refers to the creation of formal or informal civil initiatives primarily aimed at environmental protection. Those initiatives with a broader, deeper view on the state of affairs often advocate for and promote sustainable living and development and support for the general welfare. In this sense, green activism is oriented towards future and long-term goals, often with a view to young people and future generations. As the global climate situation is worsening with numerous risk factors and consequences, and world ecosystems continue to degrade, threatening both quality of life and general well-being, the young people who are inheriting this kind of world are increasingly becoming involved in green activism, the last protests being the "climate strikes".

Green activism on the Croatian islands operates under special conditions. The islands are a world of their own, an ecosystem with clear borders. They thus bring a special connection to a specific area, space, environment, culture, and forms of behavior.

¹ The paper is the result of research conducted under the "TYPeS: Types of Youth Participation in Croatian Society" internal project of the Ivo Pilar Institute of Social Sciences, which is being carried out as part of the development and implementation component of programme funding. The project is financed by the European Union — Next/GenerationEU. The views and opinions expressed are those of the author exclusively, and do not necessarily reflect the official position of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them.

ur. On the other hand, they are connected to their broader surroundings, and this also shapes the local world view and youth activism.

In recent years, this activism has emerged as a reaction to the destruction of local resources, the appropriation of public goods and public space, limits on movement, and destruction of the environment; it is also a reaction to the excessive reliance on seasonal tourism and all its negative consequences. An additional tool used in youth activism on the islands to raise support of and involvement in sustainable development are numerous workshops, projects, and campaigns promoting green, resilient solutions in food, energy, waste, transport, and other areas important to sustainable development.

This paper is part of the TYPeS project —Types of Youth Participation in Croatian Society, which is researching forms of youth participation in Croatian society. The paper will examine green youth activism on the Croatian islands as a special form of civic awareness and involvement. First, we will define the main concepts in green and environmental activism for sustainable development as a general approach. After this, we identify the total number of civil society organisations active in the area and map the main actors in green youth activism on the islands. The following phase of the TYPeS project will include an ethnographic study on the specific example of a selected actor in green youth activism on the islands.

GREEN ACTIVISM AND YOUNG PEOPLE

In earlier research on ecological movements and civil society organisations, we concluded that "ecological rights are entering the third generation of human rights; we are witnessing an intertwining of topics and activities among actors from various sectors of civil society" (Šimleša & Branilović, 2007: 225).

Green activism involves numerous organisations, some of which are focused on environmental protection and biodiversity, some of which protest against and prevent further environmental degradation, and some of which work through education and advocacy towards changes in public policy in the area. Some with significant capacities and resources are involved in all of these areas or multiple different types of activities and topics. They can be divided into those who act globally and network on the global level, and those that are more integrated into the local environment and act within the framework of their immediate community. The range and diversity of their activities are influenced by their cultural, social, political, and economic context (Daniel, Jasser & Olarte-Sánchez, 2024).

In their analysis of green activist organisations, Heyes and King (2018) note that sociological research in the analysis of social movements emphasise the importance of identity and of emotional and cultural tendencies towards significant individuals in their motivations. Other authors such as Rootes also emphasise the importance of a shared

identity as the spark that drives the collective action of the members of a given ecological movement (Parks, della Porta & Portos, 2023).

The first phase of an ecological movement is characterised by "green" topics such as environmental protection, conservation, biodiversity, etc. Many organisations are still involved in this narrower perception of ecological activism today. However, green activism today is indivisible from the struggle for human rights, social justice, the political participation of all representatives of a given society or local community, women's rights, intergenerational solidarity, and other dimensions of sustainable development. These dimensions have significantly expanded with the introduction of the UN's 17 Sustainable Development Goals of 2015, which cover topics in education, equality, sustainable and circular economy, land and water conservation, reducing poverty and hunger, production and consumption, peace and security, and other important areas of sustainable development. All the aforementioned reasons resulted in a shift in the perception of "green" topics towards sustainable development. We thus use the term 'green activism' in a broader sense that, in addition to organisations involved in environmental topics, also includes those involved in sustainable development as a significantly broader concept.

The aforementioned large number of issues that sustainable development engages with are nothing new; some of them have been a part of our civilisation for some time. However, their interconnectedness is truly the 'new normal', and numerous authors emphasise that we may describe our world as one of "polycrisis" (Albert, 2024) in which it is actually impossible to solve one problem independently of the others. This state has the greatest impact on young people, especially if these problems are compounded by others that affect them directly, such as increasing job insecurity, the influence of economic crisis on everyday life, the distribution of wealth and the increasing gap between rich and poor, poorer access to housing security, and a general feeling of insecurity and fear of the future. It is perhaps no coincidence that the names of green youth activist organisations have rapidly progressed from Fridays for the Future — best known for project initiator Greta Thurnberg — to names that sound significantly more worrying and ominous such as Extinction Rebellion (UK) or the Last Generation (Germany); these have also introduced more radical methods to their struggle, engendering numerous debates on the efficacy of this approach.

Green youth activism thus stands before the constant challenge of balance between the need to cooperate with public policy representatives by calling upon them to change direction towards climate action and antagonising these same representatives of the elite by criticising them not only as responsible for the current state but as actually disinterested in affecting any kind of change. This challenges young activists to balance between (eco)governmentality and a counter-conduct approach (Banjac, 2024). Clearly, this relationship is two-sided, and young people are often called upon as accepted and relevant actors to represent future generations and those most interes-

ted in what kind of world they will inherit, and to participate in processes and important events in green public policy. On the other hand, they are often stigmatised and disparaged because of their youth, lack of experience, and ignorance of "how things actually stand". We may thus say that green youth activism faces challenges of "liminal participation" (Pitti, Mengilli & Walther, 2023).

Ashok (2023) notes that the greater involvement of young people in green activism depends on the removal of a few barriers:

1. Lack of environmental awareness and education — the action required requires inclusion into school curricula;
2. Limited access to resources and funding — requires the introduction of an independent financial program for their action;
3. Lack of representation and inclusion — requires they be included in decision-making processes on environmental topics;
4. Absence of support and mentorship — ensure the support of experienced professionals;
5. Political and policy barriers — create platforms to include young people in processes and debate on the public policy level.

The above makes it apparent that, in addition to creating space for participation in political processes and bodies, a great responsibility stands on the education sector; authors such as Ampuero et al. thus "argue that empathy and critical thinking skills are crucial in fostering young people's engagement in solving local environmental problems" (Ashok, 2023, p. 263).

GREEN ACTIVISM OF YOUNG PEOPLE ON THE CROATIAN ISLANDS

Despite numerous problems such as the lack of a developed activist tradition in Croatia, the social prioritising of economic topics over environmental protection or climate change, and a dependence on local and foreign sources of financing for civil society organisations, there has been a continuous increase in the number of ecological organisations in Croatia. Lay and Puđak (2014) provide a detailed overview, noting that there were 60 environmental protection associations in Croatia in 1990, around 200 in 1999, and 937 in 2014; according to the valid classification at the time, half of these were considered environmental protection associations, while the other half were considered other ecological associations, which meant action in areas such as energy, sustainable development, quality of life, education, and other traditionally 'non-green' topics.

For the purposes of this paper, we conducted a desk analysis of the current state of green activist organisations on the islands — both those with a traditional ecologi-

cal focus and those that deal in sustainable development. We were particularly interested to identify connections between youth organisations and green activism.

Unfortunately, there is no database or organisation that displays this connection clearly or easily, especially if we focus exclusively on the islands. We thus researched currently available databases, which cover one of these two areas, and checked for the presence of civil society organisations from the islands.

The Croatian Youth Network (hr. *Mreža mladih Hrvatske*), founded in 2002, is the largest network of organisations that deal in youth programmes and youth public policy. It has 77 members throughout Croatia, but only one from the islands. The Agency for Mobility and EU Programmes (AMPEU), among other topics, deals in programmes and financing for organisations that do youth work, ensuring support for youth exchanges, volunteering, and education. Its database has 54 organisations that have proven themselves in youth programmes, one of which is from the islands. Green Forum (hr. *Zeleni forum*) is the largest network of ecological and sustainable development organisations in Croatia, founded in 1998. Today, it has 37 members, three of which are from the islands. According to the Croatian Register of Associations, managed by the Ministry of Justice, Administration, and Digital Transformation, as of October 2024, there were 46,309 active associations in Croatia. Associations can be searched by activity, but 'youth work' is not one of the 18 activities searchable. 'Environment and Nature Protection' is one of the activities, with 4,832 active associations listed, as is 'Sustainable Development' with 2,696 active associations. Of this number, it was necessary to identify how many were active on the islands in order to map all actors in green activism, and then extract from our database those of interest for future ethnographic study. Some of the associations were present in databases encompassing 'Environmental and Nature Protection' and 'Sustainable Development'; we thus undertook a parallel analysis of both categories and compared the two databases to prevent any duplicates. As noted earlier, under green activism, we include both traditional ecological topics and a broader approach to numerous areas in sustainable development; we thus needed associations from both databases, but without duplicates. After the database analysis and the comparison, the total numbers of active green activist associations on the Croatian islands is 406.

We conducted a further analysis to verify which associations can be characterised as working in green activism and which of these have 'Youth — general population' selected as a target group; of the 406 green activist associations on the Croatian islands, 216 also list young people as their target group. A more detailed overview of the activities and main goals of these associations show they are very often local organisations, hunting clubs, local cultural heritage initiatives, or organisations that focus more on e.g. youth sporting activities. Earlier, we noted that we perceive green activism in the broader sense of sustainable development; however, for future ethnographic research, it was necessary to identify civil society organisations that work with young people on

an everyday basis and have youth programmes that also fall within our definition of green activism. We thus wanted to identify civil society organisations that work in green activism, but also continuously work with youth through projects, training and education, the promotion of volunteering, and youth public policy advocacy.

In the end, the number of such organisations on the Croatian islands can be reduced to 20-30. The analysis of the everyday activities of these organisations identified five that truly fit our criteria:

Argonauta — based on the island of Murter, active in environmental protection, youth mobility, volunteering projects, and the design of education programmes for children and young people. (<https://argonauta.hr>)

IDEM i JA — Centre for Healthy Childhood — based on the island of Lošinj, it combines social topics such as community work, active citizenship, cultural and creative workshops for young people, advisory services, and youth empowerment with green activism. (<https://www.zdravo.hr>)

Tatavaka — based on the island of Zlarin, founded as a youth initiative combining sustainable living, volunteering, circular economy, waste reduction, and environmental protection. (<https://tatavaka.hr>)

Novi otok — based on the island of Korčula, it promotes sustainable living on the island alongside projects for young people, intergenerational solidarity, and practical knowledge and skills for green activism. (<https://noviotok.hr>)

Pokret otoka - based on the island of Šolta, a central organisation that aims to join in green activism on the islands, projects to transform the islands towards sustainable development and responsible society, with a significant focus on energy transition. (<https://otoci.eu>)

CONCLUSION

This paper has explained what green activism is, what challenges it faces, and how young people participate in it today. The main task of the paper was to research the number of civil society organisations that deal in green activism and youth on the Croatian islands. A desk analysis and mapping provided a sample of 216 associations involved in green activism with young people as their target group. Subsequent analysis of everyday activities identified a few organisations as the most relevant examples of green youth activism on the islands. These are rooted in their local communities and work towards connecting sustainability and youth work at the local level, while also moving beyond the scope of their activities; we may thus describe them as "institutionalised ecological organisations" (Šimleša & Branilović, 2007, p. 227) characterised by professional work and employed staff, a clear and stable organisational structure, and networking and cooperation with other organisations on the national and international level. The work of these organisations shows their ability to combine professionalisation and everyday activism (Roth, 2016). In future ethnographic research, we will also test

the contributions of green youth activist organisations on the islands to the resilience of the local community, which Gubbins sees as "the existence of the reliability, capacities, resources, knowledge, and skills to recognise and stabilise key factors influencing their cohesion and development" (Ćurčić, Babić & Šimleša, 2018, p. 22).

References

- Albert, M.J. (2024). Navigating the polycrisis: Mapping the futures of capitalism and the earth. The MIT Press.
- Ashok, K. (2023). Promoting youth involvement in environmental sustainability for a sustainable future.
- Banjac, M. (2024). Youth environmental activism: Subversion or confined to the existing order?. *Teorija in praksa*. 363-386. <https://doi.org/10.51936/tip.61.2.363>.
- Ćurčić, I., Milić Babić, M., & Šimleša, D. (2018). Zeleni socijalni rad. *Socijalne teme*, 1(5), 11-26. Preuzeto s <https://hrcak.srce.hr/217181>.
- Kumar, Ashok. (2023). Promoting youth involvement in environmental sustainability for a sustainable future. *Edumania-An International Multidisciplinary Journal*, 1, 261-278. <https://doi.org/10.59231/edumania/9012>.
- Daniel, A., Jasser, M. & Olarte-Sánchez, L.E. (2024). Enacting the future: Environmental activism worldwide. *Journal für Entwicklungspolitik (JEP) Austrian Journal of Development Studies*, 1/2-2024, 5-33. <http://dx.doi.org/10.20446/JEP-2414-3197-40-1-5>.
- Heyes, A., & King, B. (2020). Understanding the organization of green activism: Sociological and economic perspectives. *Organization & Environment*, 33(1), 7-30. <https://doi.org/10.1177/1086026618788859>.
- Lay, V., & Pudak, J. (2014). Civilno društvo i udruge na području zaštite okoliša u Hrvatskoj 1989. - 2014.. *Ekonomika i ekohistorija*, 10(1), 26-40. Preuzeto s <https://hrcak.srce.hr/135212>.
- Parks, L., Della Porta, D. & Portos, M. (2023). Environmental and climate activism and advocacy in the EU, <https://doi.org/10.4337/9781789906981.00018>.
- Pitti, I., Mengilli, Y., & Walther, A. (2023). Liminal participation: Young people's practices in the public sphere between exclusion, claims of belonging, and democratic innovation. *Youth & Society*, 55(1), 143-162. <https://doi.org/10.1177/0044118X211040848>.
- Roth, S. (2016). Professionalisation and precariousness: perspectives on the sustainability of activism in everyday life. *A Journal for and About Social Movements*, 8(2), 29-58.
- Šimleša, D., & Branilović, J. (2007). Položaj i utjecaj ekoloških udruga u Hrvatskoj, u *Razvoj Sposoban za budućnost; pronosi promišljanju održivog razvitka Hrvatske*. Institut društvenih znanosti Ivo Pilar, 2007, 223-259.

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ASSOCIATION BETWEEN “BLUE” SPACE ENVIRONMENTS AND WELL-BEING OUTCOMES — EXAMPLE OF PRISON OFFICERS

Abstract

Over the last two decades, recognition of the potential health and well-being benefits from exposure to “green” spaces (e.g., parks and woodlands) expanded to the potential benefits from exposure to aquatic environments or “blue” spaces. However, research exploring the benefits of “blue” spaces is still relatively scarce compared to green spaces, especially related to its potential influence on job satisfaction and stress. Moreover, it is interesting to explore this relationship in specific settings, such as prison. The present study, therefore, investigates “blue” space — well-being associations in a convenience sample of prison officers (N=177) employed in inland and coastal prisons in Croatia. Specifically, the effect of prison location (coast vs. inland) on life satisfaction, job stress, satisfaction with job, health, achievements, and relationships while controlling for the effect of gender, educational level, work department, seniority, prisoners’ contact, and victimization was tested. Data were collected via face-to-face paper-pencil questionnaire. Results indicated a significant contribution of prison location on job satisfaction. Prison officers working in inland prisons were statistically significantly more satisfied with their job than prison officers working in coastal prisons. Built on the previous research that have addressed the beneficial impact of macro variables on different life aspects, the importance of job location for job satisfaction, stress and general well-being is discussed.

Key words: “blue” space, prison officers, job satisfactions, professional stress, well-being dimensions

INTRODUCTION

Subjective well-being (SWB) refers “to all of the various types of evaluations, both positive and negative, that people make of their lives. It includes reflective cognitive evaluations, such as life satisfaction and work satisfaction, interest and engagement, and affective reactions to life events, such as joy and sadness” (Diener, 2006, pp. 399-400). According to The European Quality of Life Survey (EQLS¹: Eurofound, 2017), between 2011 and 2016 the average level of life satisfaction in European countries was around 7 on 10-point scale (1 — dissatisfied, 10 — satisfied). Research based on a nationally representative sample in Croatia showed that Croatian citizens are moderately happy and satisfied with their lives as a whole and with various life domains such as health, achievement, family, relationship with friends and family, work, etc. (Pilar’s barometer, 2016).

Job satisfaction refers to the positive affective responses to a particular job and working conditions, and it is based on comparison between actual outcomes with desired, anticipated or expected outcomes (Judge et al, 2001). Job satisfaction is usually determined by many factors, such as salary, benefits and reward system, career development, working conditions, job security, colleagues, and communication (Tomažević et al., 2019). Professional stress has sources in the individual's work environment, and it is rooted in mismatch between the demands of the environment and the workplace versus the ability and expectations of the employee to meet those demands (Rout & Rout, 2002). Some research has identified high levels of chronic stress among correctional officers (e.g., Kuehl & Elliot, 2017), while others identified moderate stress levels (Amstrong & Griffin, 2004). In some research there were no difference in assessed stress level between security and treatment officers, but older, males and officers being longer in service reported higher stress levels and less health issues (Amstrong & Griffin, 2004). In other studies, however, occupational stress was more intensive among females and those with longer work experience, while the higher frequency of burnout symptoms was present among security officers than treatment officers (Kosović, 2009). However, majority of research did not find (strong) association between self-assessed professional stress and socio-demographic characteristics among correctional officers (Harizanova & Stoyanova, 2020).

Along with association between individual factors and well-being dimensions, there has been growing interest in exploring how broader geographical units (e.g. city, country) influence a person's well-being (e.g., Diener et al., 2010). Studies generally confirmed that local and national culture, society and economics contribute to an individual's evaluation of happiness and life satisfaction (Rentfrow, 2018). Ivanović et al.

¹ EQLS is a unique pan-European survey conducted every four years that examines the objective circumstances of the lives of European citizens.

(2022) found that respondents living in Croatian urban areas score significantly higher on the subjective well-being index than their rural counterparts. While exposure to natural environments, even in urban settings, has been shown to improve health and well-being (van den Bosch & Sang, 2017) the impacts of the natural environment on health have centred predominantly around the concept of "green" space (e.g., greenways, parks, woods) and not so much on "blue" spaces (Smith et al., 2021). Another research, conducted on Croatian national representative sample, concluded that residents of coastal areas have a higher well-being than residents from continental areas (United Nations Development Programme — UNDP, 2006; Kaliterna Lipovčan et al., 2017). According to the Smith et al. (2021) review, there is a small but statistically significant effect of aquatic environments or "blue" spaces (e.g., coasts, rivers, lakes, canals, ponds, and fountains) on lower obesity and mortality, and higher general health, self-reported mental health, and well-being. Also, it was found that proximity to "blue" space may encourage participation in physical activity and active lifestyle (Pasanen et al., 2019), and may promote positive social interactions (Ashbullby et al., 2013), even when this "blue" space exposure is proximal (being in/on/near water) or distal/virtual (see/hear/sense water). Also, "blue" spaces may provide different human experiences than those offered by "green" spaces and may impact health outcomes in different ways (Haeffner et al., 2017). However, research exploring the benefits of "blue" spaces is still relatively scarce, especially related to its potential influence on job satisfaction and job stress. Thus, association between geographical job location (i.e., coast-inland) and well-being, job satisfaction and stress were in more details investigated within this study.

STUDY AIMS AND HYPOTHESIS

This study aims to investigate "blue" space — well-being associations in a convenience sample of prison officers employed in inland and coastal prisons in Croatia. Based on previous research indicating beneficial effects of aquatic environments on well-being and inconclusive data on relationships between different socio-demographics and well-being, job satisfaction and stress, it was hypothesised that there will be a beneficial effect of the "blue" space exposure on the level of satisfaction in different life domains as well as stress assessment while controlling for the effects of gender (e.g., Batz & Tay, 2018), educational level (e.g. Tan et al., 2020), department, benefited seniority (e.g. Buecker, et al., 2023), as well as level of victimization, and daily contact with prisoners.

METHOD

Participants

Data were collected on a convenience sample of 177 prison officers employed at the treatment department (36%) and security department (64%) in six prisons located at the coast (Pula, Rijeka, Zadar, Split, Šibenik, Dubrovnik) and six prisons located in inland

Croatia (Karlovac, Sisak, Osijek, Gospić, Bjelovar, Varaždin)². Majority of the respondents were male (64%), with high school diploma (62%), and almost half (47%) were at least once victims of prisoners' threats.

Measurements and procedure

Well-being. Personal Wellbeing Index (PWI, Cummins et al., 2003) assessing satisfaction with three separate life domains: personal health, achievement in life, and relationships on an 11-point rating scale (0 — not at all satisfied; 10 — extremely satisfied).

Life-satisfaction and *job stress* were measured by single items using the same 11-point rating scale, and job satisfaction by a 5-point rating scale (1 — completely disagree; 5 — completely agree).

Socio-demographic measures included respondents' gender (categories: 0 — male, 1- female), educational level (categories: 0 — high school diploma; 1 — university degree), benefited seniority (categories: 0 — < 10 years; 1 — 10-20 years; 2 — > 20 years). *Other variables* included the department of which the officer employed is in daily contact with prisoners (categories: 0 — < 2 hours/day; 1 — 2-7 hours/day; 2 — > 7 hours/day) and victimization (operationalized as number of threats by prisoners, categories: 0 — none; 1 — 1 threat; 2 — > 1 threats).

Paper-pencil questionnaires were administered among prison officers in prisons, and their participation in the survey was voluntary and provided data confidential.

RESULTS

Generally, prison officers are satisfied with their job, and they assess job stress to be somewhat above scale mid-point. Moreover, they are pretty satisfied with their life, relationships with others, accomplishments, as well as with their health (Figure 1).

By Multivariate Analysis of Covariance (MANCOVA) we assessed effect of prison location on life satisfaction, job stress, satisfaction with job, health, achievements, relationships while controlling for the effect of gender, education level, work department, benefited seniority, prisoners' contact and victimization³ (Table 1).

There was significant effect of prison location on job satisfaction (Table 1), and prison officers working in inland prisons were statistically more satisfied with their job than prison officers working in prisons in coastal region ($F(1,160)=12.558$, $p=.001$; *partial* $\eta^2=.073$).

² Data were collected within the larger project (*Psychosocial climate in prisons — prisoners' and prison officers' perspective — PSIHKLIZ*), and data collected from prison officers working in other departments, and working in penitentiaries, reformatories, centres, and Zagreb and Požega prison were excluded from the analysis due to specificities of their jobs, and size, gender and/or age of prisoners' population serving sentence in those institutions.

³ All categorical variables were dummy coded, as explained in Measurements section

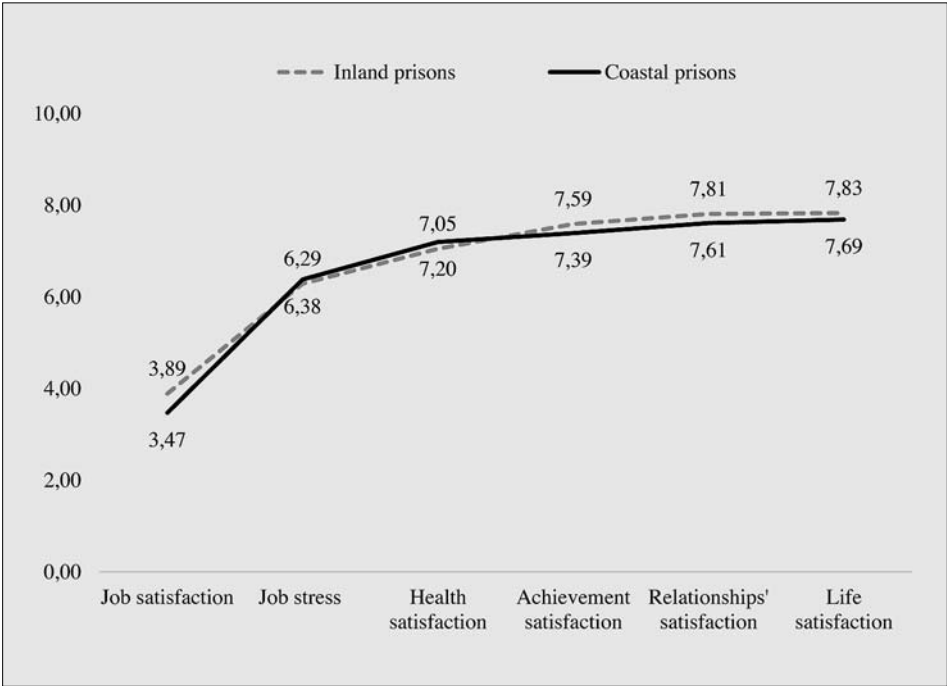


Figure 1 — Average values on job satisfaction (1-5 scale), job stress and well-being dimensions (0-10 scales) among prison officers working in inland and coastal prisons

Variables	Pillai's Trace	F df=6.155	p	partial η2
Job location	.100	2.861	.011	.100
Gender	.026	.692	.657	.026
Education	.046	1.232	.293	.046
Department	.019	.509	.801	.019
Seniority0	.014	.372	.896	.014
Seniority1	.011	.298	.937	.011
Seniority2	.016	.424	.862	.016
Prisoners' contact0	.000			
Prisoners' contact1	.000			
Prisoners' contact2	.000			
Victimization0	.024	.635	.702	.024
Victimization1	.025	.665	.678	.025
Victimization2	.019	.509	.801	.019

Table 1 - MANCOVA results

DISCUSSION

Level of well-being among prison officers is relatively high; however, among correctional officers, satisfaction with specific life domains (job, relationships, accomplishments, health) is somewhat lower than among general Croatian population (Pilar's barometer, 2016). The beneficial effect of an aquatic environment on satisfaction in different life domains and job stress was not confirmed among correctional officers. It was found that officers working in inland prisons were statistically more satisfied with their job than prison officers working in prisons in coastal regions, and the effect of job location on other well-being indicators was nonsignificant.

Similarly, the absence of job location effect on job satisfaction and professional stress was observed in preliminary data from a new ongoing project *Psychosocial Climate and Individual Characteristics of Prisoners and Prison Officers in Penal Institutions in Croatia: A Multi-Method Approach* (PRISCLIM) (<https://www.pilar.hr/2024/05/projekt-prisclim-psihosocijalna-klima-i-individualne-karakteristike-zatvorenika-i-sluzbenika-u-kaznenim-tijelima-republike-hrvatske-multimetodski-pristup>). It should be noted that difference in job satisfaction between prison officers working in prisons in coastal regions and inlands, although significant, was very small. Considering other important determinants of job satisfaction, e.g., job roles, reward system, interpersonal relationships, and working conditions (Tomažević et al., 2019), and professional stress, e.g., work overload, role conflict, demanding social relationships, health and security risks, and inadequate salary (Novak et al., 2008), which were not assessed in this study, it is not surprising that job location solely did not exceed its potential influence on the level of professional and general well-being of the correctional officers.

This study results, especially related to the equal life satisfaction among those working in inland and in coastal prisons, are in line with previous studies. For example, although previous studies found that citizens of *Adriatic Croatia* were happier, were more satisfied with their relationships, reported feelings of security and being accepted by the community in which they live than citizens of *Continental Croatia*, both groups of citizens were equally satisfied with their lives (Kaliterna Lipovčan et al., 2017). Similarly, the data from the large longitudinal study of well-being in Croatia confirmed that Croatians are equally happy and satisfied with their lives, regardless of where they live (Lučić et al., 2019). Moreover, although secondary data analysis of English Census data revealed that, after controlling for employment levels, crime rates, and "green" space, the self-reported health rate was higher for those communities located nearer the coast (Wheeler et al., 2012). White et al.'s (2013) longitudinal panel survey did not confirm coastal effect on life satisfaction. However, this longitudinal study supported findings related to significantly better general health and lower levels of mental distress when living nearer the coast while controlling for both individual (e.g. employment status) and area (e.g. green space) level factors (White et al., 2013).

Moreover, previous findings indicated that regional effect on well-being is neither universal, nor stable, and that manifests differently depending on specific well-being dimensions in Croatia (e.g., Kaliterna, Lipovčan & Brajša, 2017; Lučić et al., 2019). Furthermore, this association is probably influenced by other individual well-being determinants, such as personality, social network structure, health and living standard (Joshi, 2010) and idiosyncratic characteristics of certain regions (e.g., county development, depopulation (Malešević Perović, 2010; Ivanović et. al., 2022) that were not captured by this study.

STUDY LIMITATIONS AND FURTHER DIRECTIONS

This study was conducted on a small, convenient sample of prison officers cross-sectionally which prevents us from any definitive conclusions about the (lack of) beneficial effect of aquatic environment on well-being. Also, since the primary study aim was not thorough exploration of blue space — well-being association, important data on respondents' blue space exposure are missing (e.g., frequency of visiting coastal environments, easiness of accessibility to a particular outdoor blue space, perceived distance from the sea, visibility of blue space from their office window, actual use and the type of uses of outdoor blue spaces, residential history, etc.). Thus, further studies are necessary to provide us with more systematic investigation of potential benefits of aquatic environment on specific well-being dimensions and estimates of its' real potential for general and professional stress attenuation.

CONCLUSION

The expected beneficial "blue" space effect on job satisfaction, professional stress and other well-being dimensions was not confirmed in this study; however, this study provides interesting insights regarding professional and personal well-being of prison officers in Croatia.

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References

- Armstrong, G. S., & Griffin, M. L. (2004). Does the job matter? Comparing correlates of stress among treatment and correctional staff in prisons. *Journal of Criminal Justice*, 32(6), 577-592. <http://dx.doi.org/10.1016/j.jcrimjus.2004.08.007>.
- Ashbullby, K. J., Pahl, S., Webley, P., & White, M. P. (2013). The beach as a setting for families health promotion: A qualitative study with parents and children living in coastal regions in Southwest England. *Health & Place*, 23, 138-147. <http://dx.doi.org/10.1016/j.healthplace.2013.06.005>.

- Batz, C. & Tay, L. (2018). Gender differences in subjective well-being. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of Well-Being* (pp. 1-15). DEF-Publishers.
- Buecker, S., Luhmann, M., Haehner, P., Bühler, J. L., Dapp, L. C., Luciano, E. C., & Orth, U. (2023). The development of subjective well-being across the life span: A meta-analytic review of longitudinal studies. *Psychological Bulletin*, 149(7-8), 418. <http://dx.doi.org/10.1037/bul0000401>
- Cummins, R. A., Eckersley, R., Pallant, J., Van Vugt, J., & Misajon, R. (2003). Developing a national index of subjective wellbeing: The Australian unity wellbeing index. *Social Indicators Research*, 64, 159-190.
- Diener, E. (2006) Guidelines for national indicators of subjective well-being and ill-being. *Journal of Happiness Studies*, 7(4), 397-404. <http://dx.doi.org/10.1007/s10902-006-9000-y>.
- Diener, E., Kahneman, D., & Helliwell, J. (2010). *International differences in well-being*. Oxford University Press. <http://dx.doi.org/10.1093/acprof:oso/9780199732739.001.0001>.
- Eurofound (2017). *European quality of life survey 2016: Quality of life, quality of public services, and quality of society*. Publications Office of the European Union, Luxembourg.
- Haefner, M., Jackson-Smith, D., Buchert, M., & Risley, J. (2017). Accessing blue spaces: Social and geographic factors structuring familiarity with, use of, and appreciation of urban waterways. *Landscape and Urban Planning*, 167, 136-146. <http://dx.doi.org/10.1016/j.landurbplan.2017.06.008>.
- Harizanova, S., & Stoyanova, R. (2020). Burnout among nurses and correctional officers. *Work*, 65(1), 71-77. <http://dx.doi.org/10.3233/WOR-193059>.
- Ivanović, V., Šimac, B., Trako Poljak, T. (2022). Subjective well-being in Croatia, Montenegro, Serbia and Slovenia — Rural-urban differences and cross-national comparison. *Sociological Problems*, 54(1), 220-241.
- Joshi, U. (2010). Subjective well-being by gender. *Journal of Economics and Behavioral Studies*, 1(1), 20-26. <http://dx.doi.org/10.22610/jeb.v1i1.211>.
- Judge, T. A., Zhang, S. C., & Glerum, D. R. (2020). Job satisfaction. In I. Sessa, & N. A. Bowling (Eds.), *Essentials of job attitudes and other workplace psychological constructs* (pp. 207-241), Routledge. <https://doi.org/10.4324/9780429325755>.
- Kaliterna-Lipovčan, L., & Brajša-Žganec, A. (2017). Kvaliteta življenja, sreča i životno zadovoljstvo u Hrvatskoj i zemljama EU, te usporedbe sjeverozapadne i ostalih dijelova Hrvatske (Quality of life, happiness and life satisfaction in Croatia and EU countries, and comparisons of northwestern and other parts of Croatia). *Radovi Zavoda za znanstveni rad Varaždin*, (28), 139-153.
- Kaliterna Lipovčan, Lj., Babarović, T. & Brajša-Žganec, A. (2017). Subjective well-being in Croatia: differences between the Adriatic coast and the continent. In *Imagining the Mediterranean: challenges and perspectives*. Institute of Social Sciences Ivo Pilar, VERN' Group, HAZU, EMAN.
- Kosović, M. (2009). *Istraživanje stresa i sagorijevanja osoblja zatvora i kaznionica RH* (Diplomski rad) (Research on stress and burnout of prison and penitentiary staff in the Republic of Croatia). Edukacijsko-rehabilitacijski Fakultet Sveučilišta u Zagrebu.
- Kuehl, K. S., & Elliot, D. L. (2017). Stress and well-being of correctional officers. *Medicine and Science in Sports and Exercise*, 49, Article 1092. <https://doi.org/10.1249/01.mss.0000520008.25229.3e>.
- Lučić, L., Brkljačić, T., Kaliterna Lipovčan, Lj., Sučić, I., & Brajša-Žganec, A. (2019). Regional differences in well-being in Croatia. In K. Jurčević, Lj. Kaliterna Lipovčan, & O. Ramljak

- (Eds.), *Reflections on Mediterranean. Selected papers presented at Mediterranean Islands Conference MIC — VIS, 2020, Mediterranean Issues* (Book 3, pp. 221-230). Institute of Social Sciences Ivo Pilar, VERN' University, the Croatian Academy of Sciences and Arts (HAZU) and the Euro Mediterranean Academic Network (EMAN).
- Malešević Perović, L. (2010). Life satisfaction in Croatia. *Croatian Economic Survey*, 12, 45-81.
- Novak, T., Laušić, H., & Jandrić Nišević, A. (2008). Zadovoljstvo poslom, profesionalni stres i sagorijevanje osoblja u penalnim institucijama — pregled literature (Job satisfaction, occupational stress and staff burnout in penal institutions — a review of the literature). *Kriminologija i socijalna integracija*, 16(1), 109-126.
- Pasanen, T. P., White, M. P., Wheeler, B. W., Garrett, J. K., & Elliott, L. R. (2019). Neighbourhood blue space, health and wellbeing: The mediating role of different types of physical activity. *Environment International*, 131, 105016. <http://dx.doi.org/10.1016/j.envint.2019.105016>.
- Pilarov barometar hrvatskoga društva (2016). Institut društvenih znanosti Ivo Pilar. Retrieved November 19, 2024 from HYPERLINK "<http://barometar.pilar.hr>"<http://barometar.pilar.hr>
- PRISCLIM project. Retrieved November 19, 2024, from <https://www.pilar.hr/2024/05/projekt-prisclim-psihosocijalna-klima-i-individualne-karakteristike-zatvorenika-i-sluzbenika-u-kaznenim-tijelima-republike-hrvatske-multimetodski-pristup>.
- Rentfrow, P. J. (2018). Geographical variation in subjective well-being. In E. Diener, S. Oishi & L. Tay (Eds.), *Handbook of Well-Being*. Salt Lake City, UT: DEF Publishers.
- Rout, U. R., & Rout, J. K. (2002). Occupational stress. In U. R. Rout, & J. K. Rout (Eds.), *Stress management for primary health care professionals* (pp. 25-39). Kluwer Academic Publishers.
- Smith, N., Georgiou, M., King, A. C., Tiegies, Z., Webb, S., & Chastin, S. (2021). Urban blue spaces and human health: A systematic review and meta-analysis of quantitative studies. *Cities*, 119, 103413. <http://dx.doi.org/10.1016/j.cities.2021.103413>.
- Tan, J. J., Kraus, M. W., Carpenter, N. C., & Adler, N. E. (2020). The association between objective and subjective socioeconomic status and subjective well-being: A meta-analytic review. *Psychological Bulletin*, 146(11), 970. <http://dx.doi.org/10.1037/bul0000258>.
- Tomažević, N., Seljak, J., & Aristovnik, A. (2019). Occupational values, work climate and demographic characteristics as determinants of job satisfaction in policing. *Police Practice and Research*, 20(4), 376-393. <http://dx.doi.org/10.1080/15614263.2018.1500282>.
- UNDP (2006). *Quality of life and the risk of social exclusion in the Republic of Croatia: Quantitative research on general population*. UNDP Office of the Resident Representative of Croatia.
- Van den Bosch, M., & Sang, Å. O. (2017). Urban natural environments as nature-based solutions for improved public health — A systematic review of reviews. *Environmental Research*, 158, 373-384. <http://dx.doi.org/10.1016/j.envres.2017.05.040>.
- Wheeler, B. W., White, M., Stahl-Timmins, W., & Depledge, M. H. (2012). Does living by the coast improve health and wellbeing? *Health & Place*, 18(5), 1198-1201. <http://dx.doi.org/10.1016/j.healthplace.2012.06.015>.
- White, M. P., Alcock, I., Wheeler, B. W., & Depledge, M. H. (2013). Coastal proximity, health and well-being: Results from a longitudinal panel survey. *Health & Place*, 23, 97-103. <http://dx.doi.org/10.1016/j.healthplace.2013.05.006>.

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LIFE IN THE (UN)PROTECTED HISTORIC CITY CORE: AN EXPERT PERSPECTIVE

Abstract

This paper explores the qualitative perspective of experts on living within the historic urban core, comparing Dubrovnik, a UNESCO-protected site, with the city of Rab on the island of Rab, which lacks such protection. The data used for this study was gathered during two phases: for Dubrovnik, interviews were conducted for the purpose of developing comprehensive changes and amendments to the spatial urban development plan and general urban plan of the city of Dubrovnik 2022/2023; for Rab, data was gathered as part of the project "Valorisation of Heritage, Cultural Landscape and Spatial Transformations of Adriatic Croatia I and II", aimed at understanding the relationship between local communities and their heritage. Both studies were conducted using semi-structured interviews and focus groups with participants from relevant fields including Sociology, Archaeology, Art History, Architecture, Urbanism, and Economics. All participants were selected through direct recruitment, with the final number of participants being 12 in Dubrovnik (N=12) and 10 on Rab (N=10). This paper aims to elucidate both the similarities and differences in the perceptions of tangible and intangible cultural heritage specific to these locales. The analysis provides insight into the challenges faced by local populations residing amidst culturally, archaeologically, and symbolically significant remnants of history. By contextualizing the findings within the framework of urban sociology, this paper provides a deeper understanding of the socio-cultural dynamics shaping the lived experience within an (un)protected urban core.

Key words: *historic city core, Dubrovnik, Rab, cultural heritage*

INTRODUCTION

Living in a historic urban core shapes the social dynamics of its inhabitants. City cores are built upon layers of historical heritage that characterize the city and its residents. Therefore, the theme of "life among historic city cores" is often the subject of scholarly discussion and exploration in various fields, whether it be economics, sustainable living, quality of life, art history, and so on. Mediterranean cities contain layers of histo-

ry from previous generations that shaped the forms of the cities in which they live. At the same time, the architectural heritage, with narrow streets, small open squares, and shared land, contributed to forming a specific social structure and way of life in these societies.

Quite often today, Mediterranean cities adapt to the so-called "inverted" Burgess model (Čaldarović, 2012), transforming the urban spaces of the south, with the main characteristic being the constant gentrification of the city core (Leontidou, 2009). This gentrification further contributes to the fact that more affluent citizens live in historic city cores (or own residential units), while the less affluent tend to reside in the suburbs, which is a major difference when compared to the Western model of living. Cities like Dubrovnik and Rab (located on the island of Rab) are no exception to this trend, with the former being a UNESCO-protected site, while the old city of Rab remains less protected than Dubrovnik. Both historic centers are of major cultural and historical value, both for their local communities and nationally. Nevertheless, experts in fields related to the research and preservation of such spatial and societal units continue to study them with the aim to informing and improving local government policies. This is especially important given the rich tangible and intangible cultural heritage that has been, and continues to be, shaped within a specific social environment.

This paper presents the similarities and differences between two historic urban areas from an expert perspective: the historic city core of Dubrovnik and the historic city core of Rab. Both have strong heritage and significant historical backgrounds, as well as local populations still residing within old urban cores that have a strong sense of identity, which is interconnected with the heritage that surrounds them, ultimately defining them and giving them a sense of belonging. All of this was qualitatively analyzed through the perspective of experts in fields relevant to the research conducted prior to the publication of this paper.

The following chapters will delve into the methodology and overall analysis, focusing on the similarities and differences between expert perspectives on the socio-cultural dynamics that shape the lives of the residents of Dubrovnik and Rab within their historic city cores. First, we will explore the similarities and differences in how cultural heritage is perceived. Next, we will examine the challenges faced by local populations living within protected heritage sites. Finally, we will contextualize the findings from a sociological perspective.

METHODOLOGY

The data used for this study was gathered during two phases: for Dubrovnik, interviews were conducted for the purpose of developing comprehensive changes and amendments to the spatial urban development plan and general urban plan of the city of Dubrovnik 2022/2023; for Rab, data was gathered as part of the project "Valorisa-

Local Identity	Heritage	Tourism	Quality of Life
Self-perception through heritage	Tangible	Apartmentisation	Infrastructure
Common values	Intangible	Jobs	Social proximity
Local history	Connection to heritage	Depopulation	Sustainability
Sense of place	Preservation	Gentrification	Ecological factors
	Revitalisation of tradition	Problems related to tourism	Proximity of daily necessities
			Community engagement

Table 1 — Themes and superordinate categories used during coding

tion of Heritage, Cultural Landscape and Spatial Transformations of Adriatic Croatia I and II", aimed at understanding the relationship between local communities and their heritage. Both studies were conducted using semi-structured interviews and focus groups with participants from relevant fields including Sociology, Archaeology, Art History, Architecture, Urbanism, and Economics. All participants were selected through direct recruitment, with the final number of participants being 12 in Dubrovnik (N = 12) and 10 on Rab (N = 10). Coding and analysis were done in MaxQDA v. 24.4.1. The criteria for selecting transcripts that would form the basis of this paper were primarily their relevance and specificity regarding local communities, tourism, and heritage.

Thematic data analysis was chosen for the preparation of this paper because this approach provides a coherent understanding of the perspectives of different participants on the same topic. It allows for a comparison of the similarities and differences in their responses and facilitates a clear, organized conclusion — a final summation of the obtained results (Nowell, Norris, White & Moules, 2014). In conclusion, the thematic analysis helped in the identification of common themes, codes and perspectives of the interview participants.

Descriptive coding was used during the coding process. Since descriptive coding helps organize, simplify, and structure qualitative data, it proved to be the most suitable method for the associated transcripts, given the volume of data (Saldana, 2015; Miles, Huberman, & Saldana, 2014). Due to the reliability and objectivity of the analysis of qualitative data, double control was carried out in the interview coding. In the initial stage of coding, basic codes were generated. In the subsequent phase of code analysis, these codes were grouped into broader hierarchical categories. Finally, these categories were organized into overarching themes, which included: 1) Local Identity, 2) Heritage, 3) Tourism, and 4) Quality of Life. The coding system was modeled after Miles, Huberman and Saldana (2014). The coding process was such that first the tran-

scripts were read in detail. Codes were then assigned to data that had a certain frequency of repetition or were important for the overall analysis. After that, these codes were divided according to their semantic significance into superordinate categories, and these categories were then divided into even more specific and general themes.

ANALYSIS

In terms of similarities in expert views on Dubrovnik and the island of Rab, they agree on the fact that tourism is very important in a few different ways. Both Dubrovnik and Rab generate their income based off tourism. It generates new job opportunities which in turn keep the local population living there. Tangible heritage plays a very important role here, because in addition to it serving just as an example of very well-preserved layers of the past, visitors can experience it authentically because of the presence of the local population. Also, experts have noted that because of mass tourism, new policies for protection and preservation of tangible heritage change on a yearly basis to prevent the destruction of cultural goods. In both cases, the local population is the bearer of the authenticity and lived experience of the urban place, because their life takes place directly in the old city cores. In terms of intangible heritage, it is viewed that inhabitants from both locations are strongly connected to preserving that type of cultural heritage because it reflects their lifestyle which is interconnected with their perception of self-identity.

The differences in these studies arise from the fact that Dubrovnik is under UNESCO protection meaning it has a firmer policy regarding its protection of the city core, and it is a center for the surrounding metropolitan area, while the island of Rab faces the challenges of being an island in the first place. Culturally and archeologically important places are under the protectorate of the local government and the Ministry of Culture, which works actively to protect Rab's heritage. Some elements like fests (*Rapska festa*) of intangible heritage have also been reported of being a direct positive consequence of the local population accepting tourism as an important economic branch on the island. As experts noted, the local community voluntarily revived the traditional elements of their heritage for the purpose of touristic attractions. As a result of that, a part of the island's tradition was revived and the population connected based on common heritage and identity.

Nevertheless, in both cases tourism links together different aspects of everyday life since it has impacted the population in those areas. The challenges that both inhabitants face living within protected historic city cores, as said by the experts in interviews, arose with the uprising of mass tourism. With mass tourism in city centers comes 'apartmentisation', which inevitably causes depopulation in the affected area. The population affected with the lack of residential spaces, consequently, adapts the surrounding content to those changes that take place in that space. In other words, the decline of inhabitants means the decline of content necessary for everyday life. One option

to face such a challenge is to consequently move to the suburbs. In the case of Rab, the settlement called “Šarengrad” was built on the outskirts of Palit, which even had the initial urban planning to resemble a traditional square for the islanders found in old city cores. Another option is that inhabitants move seasonally to the suburbs in order to rent out their properties during summer season to earn more. In both cases tourism is what affects these processes. Dubrovnik faces the same variation of events regarding its city core being affected by tourism just as described in the case of Rab, but during the data analysis it was noted that experts pointed out the specificity of gentrification in regard to Dubrovnik's old city core. Gentrification happens quite often everywhere, as well as in some parts of Rab, but it is noted that even though the population of Dubrovnik is against gentrification and is about maintaining the urban city core in its original form, there is a prestige among the locals to live as close as they get to the city's historic center. Experts argue that it is because people in those parts of the Adriatic tend to have a deeper connection to tangible heritage and space they are surrounded with, meaning that the proximity of living to the city core makes up a part of their local identity. In one way or another, to live or to just simply rent for touristic purposes, having a property near the city core or in it gives the owner a higher value of self. In both cases, it was observed that inhabitants tend to have a strong connection to the old city core, with seasonal migration for touristic purposes or just simply living inside the core all year round because they feel a sense of self and belonging to the local community if they reside in the city core's proximity.

In one way, this aligns well with the earlier mentioned “inverted Bourgeois” model that is often connected with Mediterranean type of settlements. When applied to Rab and Dubrovnik, this means that the city centers serve as residential areas while also functioning as hubs for local businesses catering to tourism. In both cases, experts have noted that inhabitants migrate seasonally to the suburbs or the outskirts of cities to rent out their homes during summer seasons. Unlike the classic Burgess model, the inverse model places higher-value areas near the center, reflecting different urban dynamics. As well as that, in both Rab and Dubrovnik central areas of cities are more desirable in terms of owning property and maintaining a day-to-day social experience.

In summary, similarities outweigh the differences in five key areas: both Dubrovnik and Rab have tourism-driven economies; tangible and intangible heritage play a significant role in shaping local identity and self-perception; both cities have been impacted by tourism; they have adapted strategies to enhance quality of life; and both share strong personal connections to their city cores.

CONCLUSION

To conclude this paper, it is best to begin with a summary of the similarities between the presented spaces. Both Dubrovnik and Rab (the city and the island) heavily rely on tourism for economic growth, which has created new job opportunities and helped

preserve local culture. However, it has also introduced significant challenges, such as depopulation and gentrification.

While Dubrovnik benefits from UNESCO protection, Rab faces the unique challenge of insular life, with its cultural heritage actively protected by local authorities. Inhabitants in both places share a deep connection to the historic urban cores, which are key to their identity, but also adapt to tourism-driven changes through seasonal migration or property rental. The “inverted Burgess” model, which aligns with Mediterranean settlement patterns, is evident in both locations as the city cores serve both residential and business purposes during peak tourist seasons. Ultimately, while tourism bolsters economic and cultural vitality, it also complicates urban life by triggering shifts in living patterns and urban dynamics.

References

- Čaldarović, O. (2012). *Čikaška škola urbane sociologije: utemeljenje profesionalne sociologije* (Chicago school of Urban Sociology: The foundation of Professional Sociology). Jesenski i Turk.
- Čaldarović, O., & Šarinić, J. (2017). *Suvremeni grad: javni prostori i kultura življenja* (The contemporary city: Public spaces and the culture of living). Primjer Zagreba. Naklada Jesenski i Turk.
- Klempić Bogadi, S., Vukić, J., & Čaldarović, O. (2018). Život u povijesnoj jezgri Dubrovnika: sociološko-demografska studija (Life in the historical center of Dubrovnik: A sociological-demographic study). Zavod za obnovu Dubrovnika.
- Leontidou, L. (2009). Beyond the borders of Mediterranean Cities: The Mediterranean City in transition. *Quarterly of International Sociology*, 18(3-4), 131-140.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: a methods sourcebook* (3rd ed.). SAGE Publications, Inc.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, 16(1). <https://doi.org/10.1177/1609406917733847>.
- Saldana, J. M. (2015). *The coding manual for qualitative researchers* (3rd ed.). SAGE Publications.
- Vukić, J. (2024). *Sociološka studija u svrhu izrade Sveobuhvatnih izmjena i dopuna prostornog plana uređenja i generalnog urbanističkog plana Grada Dubrovnika (2022./2023.)* (Sociological study for the purpose of drafting comprehensive amendments to the spatial development plan and the general urban plan of the City of Dubrovnik (2022/2023)). Filozofski fakultet Sveučilišta u Zagrebu; Grad Dubrovnik. <https://doi.org/10.17234/9789533971630>.

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"I LOVE YOU BABY... BUT I LOVE THE CARNIVAL EVEN MORE": YOUNG PEOPLE AND THE CARNIVAL IN THE CITY OF PAG¹

A b s t r a c t

The purpose of this study is to investigate how the young residents of Pag perceive the summer and winter carnivals in their city. The research aims to determine the social significance and importance of these carnivals to the young population of Pag. Given the existing research on festivals, we examine the specified carnivals through the lens of the social functions they hold for youth. The goal is to determine whether carnivals serve primarily as a means of community cohesion or belong to the cultural economy, where liminality, ritual, and celebration play a lesser role. Qualitative methods of participant observation and semi-structured in-depth interviews with young residents of Pag (N = 6) were employed during the research. After data collection, thematic analysis was conducted using the NVivo qualitative analysis application. The results frame the summer carnival in Pag as a festival associated in the literature with the cultural economy, while the characteristics of 'liminality' are somewhat standardised to represent an idealised image of 'authenticity'. Ethnographic research is carried out as part of a project that is still ongoing, and in this paper we present preliminary results based on the division into formal and informal groups of young people on the island and their involvement in carnival activities. We also show how the gathering around the carnival affects the wider trend of social organization of young people on the island and their proactive action in the community. These carnivals thus serve as a means of economic advancement, cultural independence, while also providing a form of leisure that retains the importance of community. In addition to their inversive nature, in

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which everyday roles are replaced by festive ones, both carnivals create a space in which young people can showcase their abilities and establish their social position in the community.

Key words: *Islands, Pag, carnival in Pag, youth, festivals*

INTRODUCTION

The island of Pag is the fifth largest Croatian island. Its elongated shape stretches from Lun in the north to the Pag Bridge in the south; its coast is considered the most indented of all the Croatian islands. The Pag Bridge is an important characteristic of the island; completed in 1968, it connected the island to the mainland, thus greatly impacting the life of islanders by allowing an easier land passage towards the city of Zadar and the remainder of the country. The current population of Pag is 8,339, 720 less than in the 2011 census; we may thus immediately assume that Pag has also been hit by the broader trend of population decline on the Croatian islands (Census, 2011, 2021). The city of Pag and its surrounding area are home to 3,175 residents, just under half of the island's total population. In conversation with locals — as is apparent upon arriving in Pag — it becomes clear that four elements are vital in creating the image of the city and its identity. These are the salt ponds, which is important in the context of the tradition of salt winning on the island, which has historically served as a driver of development in the city and an important employer for a large number of residents. The traditional production of Pag lace is a cultural, traditional component of the city and its residents. Many residents throughout history have been tied to the breeding of sheep, giving rise to the story of Pag cheese and its renown beyond the island's borders. Finally, the city of Pag has a long tradition of carnival, which is the topic of our research.

This paper deals with young people in the city of Pag and their participation in traditional carnival events — primarily through the lens of various dimensions of proactive participation in creating carnival content. The research shows the preliminary results of ethnographic research on the Pag carnival that describe the existence of various groups of young people in the city of Pag. The goal of this part of the analysis of the ethnographically gathered empirical data is to improve understanding of certain views of the carnival tradition, how it is defined and redefined, with an emphasis on the heterogeneity of actors through the formal and informal structure of everyday life on the island. The focus was thus on the existence of formal and informal youth groups to determine how these groups participate in the organisation and execution of carnival activities, what participation in the carnival means to the actors, and how they see the groups they are a part of.

PAG'S CARNIVAL(S)

There are in fact two carnivals in Pag—one in winter and one in summer. The winter carnival is the original carnival tradition, through a detailed search of the relevant lite-

ture, it is not possible to establish the exact year, but most of the journalistic texts chronicling the history of Pag and through conversations with the locals there are indications that the carnival dates to the 18th century. The time of year at which the carnival is held depends on the position of Easter and the period before it in the calendar; this most often falls in late February and early March. The more recent summer carnival was first organised in 1959. The date of this carnival event changed multiple times before finally settling in the last weekend of July. Besides the date, each carnival has other unique characteristics in terms of the specific experience of the events in the eyes of the local population. What both carnivals share — at least in theoretical terms — are the rituals the carnival contains; the performative dimensions are, however, dependent on numerous other factors (the participation of 'foreigners', organisational aspects, formal and informal organisational structure). One tradition is the dancing of the Pag kolo, a traditional circle dance held in public spaces in the city. These dances (locally known as tanci) are tied to the festivities that accompany the carnival, which may be concerts or simply parties held somewhere in the city. What is directly tied to the carnival ritual is 'Marko's funeral' and the burning of 'Marko's coffin', a tradition related to other carnival traditions in Croatia with the addition of a local idiosyncrasy (Marko). The local population's interpretation of 'Marko' heads in a few different directions; one ties Marko to the patron saint of Venice and Venetian rule on Pag, while another describes the use of the common name Marko without any deeper meaning. The entire event is actually based on the 'burial' of everything bad that has happened in the city in the past year; our respondents claim that the focus is on the ironical treatment of local, hyperbolised customs. In addition to these activities, the winter carnival also often includes plays put on by the local population (also satirical in nature in line with the symbolism of the carnival) and art exhibitions.

THEORETICAL FRAMEWORK

Festival as a social event dates to prehistory, and as such is a vital part of the society in which it takes place (Mair, 2019). Throughout their history, festival events take on multiple dimensions for society as a whole and for the individuals who partake in their activities. As festivals are social events that have been present in civilisation for an exceptionally long time, it is somewhat surprising that systematic research on festivals (and/or derivation of festival activities) as a special sub-discipline of a few branches of the social sciences began only in the 1980s (Formica, 1998). The lack of a subdiscipline does not mean festivals were not studied within the social sciences; the basic dichotomy in the analysis of festivals throughout history is thus based upon the distinction between religious and secular festivals (Eliade, 1961). We have mentioned 'derivations' of festival events — this refers to specific forms of festivals, one of which we hold to be the carnival; what festivals share in theoretical terms is that they are composed of "intangible culture, presenting the arts, traditions, and cultural symbolism" (Cudny,

2016, p. 11). Cudny also holds that festivals can be emanations of local, regional, or global culture, and as such their organisation may reach from local actors to creators of pop culture or high culture (e.g. festivals of classical music, ballet etc). Explaining why and how to research public events, Don Handelman (1990) notes that public events almost always feature a component of reflection on the collective understanding or principle of social structure. Simply put — public events are seen as a phenomenon whose examination offers insight into the deeper layers of a given community's social relationships and way of life. In our case, the goal of our research into forms of youth participation in carnival activities is also to understand how young people's involvement contributes to the local community, as well as providing insight into specific relationships between young people and the broader community in which they live and act. Along these lines, we must consult the work of Alessandro Falassi (1987) describing various types of festivals according to how they are organised — simply put, who organises a festival and who its intended audience is. Falassi describes festivals held by the people for the people, by the establishment for itself, by the people for the establishment, by the establishment for the people, and by the people against the establishment.

METHODS

Researching various forms of festival, Clifford Gertz (2008) concludes that event studies is the basic and most common "unit of analysis" in researching these phenomena. In line with this, our research uses the ethnographic approach to the phenomenon, within which we use two methodological tools — participant observation and semi-structured interviews. As the carnivals are seasonal events, taking place twice a year for a few days at a time, our research was thus strongly tied to the holding of the carnival as the central place for participant observation. The introduction noted that this paper presents preliminary results, as the ethnographic research is still ongoing — so far, we have participated in one summer carnival during the formal ethnographic research. Our research position is strengthened by the fact that one of the researchers has attended the summer carnival in Pag for the past seven years, and has achieved entry into an informal group of young people who live in Pag and participate in various activities in the city (carnival, as well as organising various concerts, renovating a few spaces for cultural events during the year, etc). A total of 6 semi-structured interviews were conducted with young people who participate in carnival activities in different ways. The interviewees were selected in such a way that we conducted interviews with young people who participate in informal and formal groups on the island. The interview protocol was designed around two dominant axes - the participation of young people in different groups and the role of these groups in carnival activities. The third part of the protocol referred to the synthesis of activities within groups as a reflection on carnival rituals and *vice versa*.

RESULTS AND DISCUSSION

The following chapter will present part of the results of ethnographic research on the Pag carnival, with a focus on the aforementioned involvement of young people through various formal and informal groups in the city of Pag. The structure of this part of the text is determined by the various research questions with which we began this ethnographic research, which comprised separate thematic blocks in the interviews conducted.

Informal youth groups and the Pag carnival

We have highlighted the distinction between the winter and summer carnival in Pag; our respondents consider the winter carnival the "original" carnival, while the summer carnival came about later in 1959. The emergence of the summer carnival is tied to the beginning of the involvement of young residents of the city as a specific group in the context of carnival activities. This group of youth at the time, involved in an informal organisation called *Markova kumpanija* (En. 'Marko's Company') organised the summer carnival, slowly making it into a tradition by redefining the existing tradition of the carnival and adding new ritual elements that were interesting to their generation. For example, the organisation of 'Marko's funeral' and the funeral procession provided a satirical caricature of Pag's funeral tradition, which includes — in the words of our young respondents — hyperbolized "lamentation". During the carnival, young people from Pag dressed in black walk behind 'Marko's coffin', crying out Marko's name in lamentation.

"Their goal was to mock tradition, but they actually wanted to strengthen it by adding another carnival and showcasing all our customs to a broader audience, tourists, and people from the surrounding areas of Pag". (Kos, 28)

The quote shows how our respondent emphasises 'mocking' tradition but also the importance of perpetuating the carnival as a tradition that 'Marko's company' wanted not only to protect, but to show to a "broader audience". The following quote adds to the story of 'Marko's company' as an "avant-garde" element in Pag's daily life at the time.

"It was the group of people who organized the first summer carnival. I'd say they were ahead of their time because they realised we needed something during the summer to bring the island to life a bit". (Gošća, 29)

It is thus clear that the beginning of the summer carnival is tied to what our respondents mention in the context of the winter carnival, and that is "bringing the island to life", "implementing content that deviates from everyday routine", finally creating something in a place "where nothing happens and everything is dead".

In the mid-2000s, a group of young people in Pag became involved in the 'Bataja' association. This initial grouping came about primarily through a group of young people socialising daily, organising various events in the city, and constantly searching

for event space. The events organised were primarily concerts (punk and metal) and events tied to the period during which the Pag carnival is held. Concerts of a particular genre of music are noteworthy in this context as the majority of group members during this period constructed their identities around music and the subcultural determinants of the aforementioned musical genres. When asked why they moved away from Marko's company as a framework for action, the majority of respondents concluded that the 'company' had become too formal over time, and that young people were looking for their own framework within which to contribute to perpetuating or redefining carnival activities.

"Bataja was the strongest story on the island in the last 30 years; they held their own winter dances, held punk concerts on the island, and they were always trying to move the carnival away from the city and authorities because they began to exploit the position that the carnival would just happen". (Kos, 28)

Informal conversations with the individuals who founded 'Bataja' show that they see themselves as a contrast to the "mainstream youth on the island". Their actions went beyond carnival-related activities, but their ideas were most visible during the carnival, and so they organised parallel events during the carnival that were viewed as "what they wanted the carnival to be". They also participated in the organisation of multiple dances, moving them away from what they saw as mainstream culture and closer to an underground approach. The work of 'Bataja' eventually came to an end due to several parallel processes. One was purely biological — the members grew up, joined the labour market, entered a phase in which they had to earn a living, and became less and less involved in the association. As concerns earning a living, the phenomenon of young people emigrating from the island must be mentioned — a process that is certainly affecting not only the island's demographic structure but its cultural production as well. The association thus did not fully succeed in its intent to maintain a permanent space for youth gatherings, socialising, and the creation of various (sub)cultural content.

With the end of Bataja's active work, a new group of young people known as 'KOS' ('Carnival Defence Force', Hr. Karnevalske obrambene snage) appeared, which still operates in Pag. The group consists of young residents of Pag, and their activities are related to the carnival such that they are the organisers of some carnival rituals, such as Marko's funeral and the burning of Marko's coffin. The work of this group is not as broad as that of Bataja, but their involvement represents structured "opposition" to the city's formal organisation of the carnival; this is not a literal conflict, but a symbolic dimension of youth moving away from the mainstream — in their words, "a conflict with tradition for the purpose of preserving tradition".

Formal organisation of the carnival and young people in Pag

There are no formal youth associations in the city of Pag. There is, however, some content in which young people participate, and these can be viewed as formal groups organised by formal actors. One of these is 'Gradska glazba' (En. 'City Music'), which participates in various events in the city, including the carnival.

"As someone who plays in the city band, I can say that the carnival is quite well organised, there are no issues, and the local authorities always step in to help organise it. Some things could be done better, but the carnival does not suffer because of that". (Glazbenik, 29)

This quote shows that our respondents are not dissatisfied with the formal organisation of the carnival; later in the conversation, it became clear that the respondent was not overly satisfied with how the city government was running the city in general, but saw the carnival itself as something that should not be a source of problems, as he considered in the central event of the year on the island. It is also evident from our informal conversations with some young residents of Pag that there is an awareness of how the city government is the only organisation whose actions ensure infrastructure for carnival activities. Infrastructure in these terms refers to organisational, physical, and financial infrastructure.

CONCLUSION

The aforementioned results allow us to conclude that the Pag carnival displays a hybrid model of Felassi's typology. The carnival in this case is formally organised by the city government. However, young people's specific involvement influences the performance of carnival activities in a few ways. On the one hand, young people closer to the formal structures are the bearers of activities the city organises and offers to visitors; on the other hand, informal youth groups see the carnival as a space in which to implement their own ideas and cultural production. Relying on Felassi, we claim that the Pag carnival is organised by the establishment for the people, but then some of these people additionally redefine and adapt particular aspects of the carnival. The goal of this kind of action is not to completely change the carnival, rituals, and activities, but the opposite; the idea is to bring the carnival closer to its original function, which is — to use Cudny's words — the emanation of local cultural idiosyncrasies and practices. A dichotomy based on — conditionally speaking — mainstream and non-mainstream youth in this case maintains a tension that contributes to the diversification of approaches to maintaining tradition, with an emphasis on the need for further research into this kind of social situation within the daily life of young people in the city of Pag.

References

- Cudny, W. (2016). *Festivalisation of urban spaces: Factors, processes and effects*. Springer.
- Handelman, D. (1990). *Models and mirrors: Towards an anthropology of public events*. Berghahn Books.
- Državni zavod za statistiku. (2011). *Popis stanovništva, kućanstava i stanova 2011*.
- Državni zavod za statistiku. (2021). *Popis stanovništva, kućanstava i stanova 2021*.
- Eliade, M. (1961). *The sacred and the profane*. Harper Torchbooks.
- Falassi, A. (1987). Festival: Definition and morphology. In V. Turner & E. M. Bruner (Eds.), *The anthropology of experience* (pp. 21-28). University of Illinois Press.
- Formica, S. (1998). The development of festival and special events studies. *Festival Management and Event Tourism*, 5(3), 13-19.
- Getz, D. (2008). Event tourism: Definition, evolution, and research. *Tourism Management*, 29(3), 403-428. <https://doi.org/10.1016/j.tourman.2007.07.017>

SUSTAINABLE DEVELOPMENT



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AN ISLAND AS A LITTLE 'GREEN HUB': ACTORS IN SUSTAINABLE DEVELOPMENT ON THE ISLAND OF ZLARIN

Abstract

The bounded geography and distinctly visible interdependence of the development factors of islands position them as natural sites for sustainable development projects and visions. Small islands offer unique resources and challenges for sustainability. Insularity produces not only separation, but also connections: it fosters links between people, practices, and ideas. We observe the island as a hub: a centre for meetings and activities of local and non-island actors around sustainability, ecology, and community activism. Local initiatives and associations are widely acknowledged as crucial to sustainable development on islands and their translocal connections, built through networks extending beyond island communities, can play a critical role in accessing resources and advancing sustainability. Social capital is usually essential for collaboration and the creation of developmental hubs. The aim of this paper is to reconstruct and examine the development and connections of key actors involved in sustainable development on the small island of Zlarin, with particular emphasis on their capacity building and the formation of networks. Our work employs an ethnographic approach and interviews to explore the visions and practices of various actors involved in the island's sustainable development. This research demonstrates that the development of sustainability processes and actors on Zlarin can be seen as the creation of a little 'green hub' that connects people and practices with common goals for sustainable development and the betterment of the island community. The island's tradition of prior generations' efforts, along with the creation of bonding, bracing and bridging connections of social capital, has enabled the successful overcoming of resource limitations through translocal networks and collaborations with experts and non-residents.

Key words: islands, sustainable development, community activism, green hub, Zlarin

INTRODUCTION

Islands are developmentally 'sensitive' places facing complex demographic, environmental, and socio-economic challenges (Baldacchino, 2015; Connell, 2018). Sustainable development, very much a global agenda for the development of small islands, meets up against the unique characteristics of insularity and island resources, which simulta-

neously present as both obstacles and resources (Connell, 2018). Still, there are only a few examples of studies that address the broader framework of sustainable development and sustainability actors on Croatian islands (Tonković & Zlatar, 2014; Starc & Stubbs, 2014; Ursić et al., 2024).

The goal of this paper is to reconstruct and describe the establishment of actors in sustainable development on the island of Zlarin, with a special focus on their capacity building and networking. This is the first research on sustainable development in Croatia based on local and translocal actors in sustainability on a small Adriatic island.

RESEARCH CONTEXT: A BRIEF OVERVIEW OF THE ISLAND OF ZLARIN

Zlarin is a small island (8.19 km²) in the Šibenik archipelago, just four nautical miles from the ferry port in Šibenik. Well-populated for its size in the early 20th century, today Zlarin has a small population (293 inhabitants according to the 2021 census, although the real number is even lower) with an exceptionally old demographic structure, neglected agriculture, a lack of production capacity, and scarce income from tourism (Kalogjera, 1997; Zlarin Urban Development Plan, 2009; Zlarin Tourist Board, 2024; Katuriđ, 2024). Due to its size, the lack of strong tourist and economic development, and the lack of car traffic, Zlarin has retained the ‘traditional’ characteristics of a small Adriatic island with pristine nature and Mediterranean architecture, as well as a ‘calmer’ way of life with a close-knit community.

Zlarin, like practically all small inhabited Adriatic islands, has a dynamically fluctuating population: a significant number of its residents are present only part of the year, or during various parts of their lives (Pitt, 1980). Especially in the summer months the island is enlivened by the arrival of numerous emigrants, their descendants, and tourists, raising the island’s population up to 2,500 (Zlarin Urban Development Plan, 2009). Zlarin has a community with a “strong feeling of connection”, while it has simultaneously opened significantly to non-islanders (Klempić Bogadi & Podgorelec, 2011).

THEORETICAL FRAMEWORK: INSULARITY AND SUSTAINABLE DEVELOPMENT — TOWARDS TRANSLOCALITY AND THE *GREEN HUB*

Islands are considered privileged places for visions of sustainable development that can become a ‘laboratory’ for sustainable ideas and practices (Polido et al., 2014; Connell, 2018; Schnepel, 2018). Insularity creates specific developmental resources and “challenges”. These resources may include qualities such as the natural environment, appealing material and non-material heritage, and the social capital of island communities. The gap between developmental potential and island realities can contribute to the creation

of local initiatives, as well as shaping the broader appeal of islands as imaginaries for development ideas (Schnepel, 2018).¹

Initiatives and reflections on the sustainable development on small islands must be tailored to the specificities of each individual case (Kerr, 2005; Polido et al., 2014). Nevertheless, shared elements of sustainability on islands are the efforts to protect and revitalise the environment and cultural heritage as well as to increase the quality of life of island communities (Roseland, 2010; Kueffer & Kinney, 2017).

Local initiatives and associations have been broadly recognised as especially important to sustainable development on islands: their work, programmes, and projects have become the subject of international visions and support (Polido et al., 2014). However, sustainable development and solutions even to 'small' problems can be complex, requiring many kinds of expertise and cooperation between various actors (Dale & Newman, 2008, p. 8-9). Building networks enabling access to resources outside the community are thus considered a necessary element in sustainability initiatives, especially on small islands (Dale & Newman, 2008, p. 5).

Although insularity creates a strong sense of identification, due to the seasonality, fluctuations in population, and secondary residence, island communities cannot be considered independent and well-defined units. On the contrary — they should be observed as a complex set of social relationships, "including local relations 'within' the place and those many connections which stretch way beyond it" (Massey, 1999, p. 22).

Insularity thus creates translocality in various ways — relationships of connectedness that stretch outside the communities themselves, making local issues accessible in broader contexts and connecting the local and the global (Brickell & Datta, 2011; Greiner & Sakdapolrak, 2013).² Translocal networks created by island populations are thus key in building social capital, which allows access to other resources (Dale & Newman, 2008, p. 8). The various attractive features of islands and the appeal of creating island (developmental) imaginaries mean islands can become *hubs*-centres of activities, places to meet and cooperate, that encourage and enable the "circulation of people, things, and ideas" (Schnepel & Alpers, 2018, p. xix).

Social capital plays a special role in the networking processes necessary to create a hub and to advance sustainable development on islands (Dale & Newman, 2008). While bonding types of social capital strengthen norms and belonging in the community, bracing and bridging types of capital enable access to other kinds of capital, bui-

¹ The term *imaginarium* implies "the sense of constituting a coherent bundle of socially held and shared imaginations about someone or something" (Schnepel, 2018, 28f21).

² The concept of translocality is a multi-functional theoretical tool that does not demand precision, but rather emphasises the exchange of practices, identities, and ideas through "socio-spatial interconnectedness" and "identity formation that transcends boundaries" (Greiner and Sakdapolrak, 2013, 373).

lding collaboration capacities and vertical cooperation between various sectors and levels of management and planning (Dale & Newman, 2008; Rydin & Holman, 2004).

METHODOLOGY

This paper presents an ethnography of environmental activism and development actors on the island of Zlarin. It rests on participant observation of island ecological activism and development activities. This is accompanied by 10 semi structured interviews and desk research on online information, documents, and photographs about developmental actors and their histories.

Field research was conducted by two authors in intervals between March and November 2024. It took place in three stages: the first included participation in volunteer activities organised by the Tatavaka association, which represented entry into the community and participant observation. During this phase, we used field notes and reports, designed the interview protocol, and held the first interviews with employees of the NGO Tatavaka (residents of Zagreb). Researchers also participated in a few lectures and workshops held at the Croatian Coral Centre Zlarin, observing the workings of the Centre, its connections to Tatavaka and to experts in various fields, its focus on island development, and visitor demographics.

During the second part of field research the researchers volunteered and participated through a seven-day stay on Zlarin before and during the Zlarin Street Music Festival (15-21 July 2024), an event that brought many young people to the island. We conducted semi-structured interviews with participants and volunteers at the festival, focusing on their connections to Zlarin or its residents and the Tatavaka association, as well as their reasons for volunteer work or social engagement.

During the final phase of field research (October-November), we focused on certain individuals we consider the current drivers of activities on Zlarin, whether through the Tatavaka association, the Tourist Board, the local council, or the volunteer fire brigade. The need also arose to interview older individuals who were involved in earlier social and developmental activities and initiatives of the community on Zlarin and have a broad knowledge on the island's recent history.

The analysis employed the researcher's data sessions and the application of the categorization strategy (Maxwell & Miller, 2008) in interpreting and coding transcripts in the QDA Miner 4 program. Special attention was given to identifying connections between actors, processes, and phenomena in the data obtained from interviews and other methods (notes, desk research), based on which interpretive notes were written.

RESULTS

Development activities organised by the residents of Zlarin have a long tradition. This research can follow the contours of that tradition since the 1970s, with the formation of the The Society for the Improvement of Zlarin and large-scale volunteer efforts. Non-

linear and heterogeneous yet always present, the volunteer principle of activities has been transmitted through the generations: it extends through various groups and organisations of the island population, such as the Koralj Culture and Arts Group, the volunteer fire brigade, and the Zlarin Yacht Club.

The tradition of work for the local community also includes the organisation of social events and fiestas — *fešte* — on Zlarin. Creation of the NGO Tatavaka, an association that established itself as one of the centres of development initiatives on the island, was the product of the desire of young people to continue the tradition of Zlarin's *Srdelada* fiesta and to generally improve the quality of life on the island. Bonding social capital — a feeling of belonging and connection amongst young people who grew up on the island with common goals and visions — enabled the foundation and the subsequent activities of the association:

Roko: *And we are "those guys" [younger people who volunteer to the benefit of the community]. It's always the young people that contribute to the island. (...) For the same reason. Because of a sense of community, love.*

Ugor: *The ambition is simply to do something good for Zlarin. (...) Not focusing on personal interests but looking at a 'higher goal' and the well-being of the community.*

The combined involvement of Zlarin's local council, the volunteer fire brigade, the Tourist Board, and the Koralj Culture and Arts Association in infrastructure, heritage, and arts projects since 2000s created some of the preconditions for sustainable development on the island and the creation of a 'green hub'. The creation of the Croatian Coral Centre Zlarin (opened in 2023) was especially important in strengthening the development potential of the island. Beyond its value in heritage preservation, interpretation, and tourism, the centre is exceptionally important for Zlarin as a home for various programmes of the local community and a (co-)organiser of events aimed at the sustainable development of Zlarin. Building on developed capacities, the Local Council and Tourist Board began forming a vision of Zlarin as a "sustainable island" in collaboration with French initiators from the SMILO association.

The translocal connections of Zlarin and the recognition of its island resources and potential are also reflected in the inclusion of key non-island actors in Zlarin's sustainable development network. "Za Zlarin bez plastike" (en. *Plastic free Zlarin*), an initiative to ban single-use plastics on the island founded in 2018 by ecological activist Ana Robb (a France-based descendent of emigrants from Zlarin), created a node for the networking of various development actors. This project was supported by practically all the important actors on the island (local administrative bodies and organisations, small business owners, and island population).

Another large developmental step for Zlarin was the fact that the Tatavaka association became 'home' to the "Plastic free Zlarin" initiative, and that the local development actors connected with a few young Zagreb-based experts in ecology and sustain-

nability. The translocal connections with these progressive actors in sustainability (and their networks) strengthened the professional capacities of the association, enabling broader, stronger forms of action in ecological activism and sustainable development. From the perspective of social capital, the previously prevailing bonding capital of the association's members were thus bolstered with bracing and bridging elements: links enabling cross-sectoral and vertical linkages, as well as broader types of (strategic) action (Rydin & Holman, 2004).

The projects and activities Tatavaka undertook facilitated networking and strengthened cooperation between people, associations, and institutions and their expert cultural capital. Growth in the capacities and skills of members of the association made it (alongside the Tourist Board and the Coral Centre) a driver and platform for various projects local stakeholders wanted to undertake:

Roko: I saw the [Tatavaka] association as something through which a lot of good could be done. (...) I discovered the world of projects and all that... everything is possible. (...) I think the association is a great connector between all activities and organisations on the island. The association is simply the driver and it connects them all.

The work of the Croatian Coral Center Zlarin, the Tourist Board, and the members of Tatavaka attracts people whose interests are in line with the development ideals and 'green vision' of the island. It also increases the presence and activities of residents who do not live on Zlarin year-round. The roles of these individuals are fluid — active individuals often participate simultaneously through a few institutional forms/NGOs.

Jungla: I first came [to Zlarin] in 2021, I think, for a dry-stone wall workshop, we built a dry-stone wall beneath the climbing area. And then the doors to Zlarin opened. (...) Later I joined Tea in [Tatavaka's] DROPS project. (...) I get together with people from Zlarin a few times a year at workshops and other events.

The small island of Zlarin has in many ways begun to function as a 'green hub' — a place people come to get involved in projects and volunteer activities, learn and educate about sustainability, socialise and be a part of alternative art scene on Zlarin Street Music Festival, and contribute to building the imaginaries of a 'small green island':

Jelena: As for the people who come to Zlarin more often, because of Plastic free Zlarin or our projects, I think they are mostly researchers or people who work in the green sector.

Ugor: But the people who went to Zagreb, Split, wherever, expanded their horizons, got educated, then they want to use everything beautiful about Zlarin to create something from it.

This further stimulates synergies among people and associations, the building of social capital, and the networking of cultural capital.

CONCLUDING REMARKS

The research has shown that the development of sustainability processes and stakeholders on the island of Zlarin can be viewed as the formation of what we have termed a little 'green hub' — a centre of activities and ideas which connects people and practices with common goals and methods in sustainable development (see also Schnepel & Alpers, 2018). The tradition of prior generations' efforts for the island's development has proven to be an important developmental element for Zlarin. Identification with the island and shared values concerning heritage and the well-being of the island community have participated in creating bonding social capital on the island. This capital is reflected in the work of local development actors and is to an extent transferred to the non-islanders with whom they come into contact and collaborate.

At the time of writing this paper, Zlarin hosts a generation that has utilized public engagement and translocal opportunities, particularly through European funding and project applications, in the pursuit of a sustainable community and sustainable island development. The limitations of human, social, and cultural capital on the island have largely been successfully overcome through participation in creating and nurturing translocal relationships, connections with emigrants and seasonal residents, and developing bracing and bridging social capital with experts in sustainability and project and institutional management (Rydin & Holman, 2004).

Finally, the example the island of Zlarin should be studied further from multiple perspectives, including the role of age, generations, heritage and various types of capital in community activism and sustainable development. Further research should also examine the social impact of development ideas, projects and programmes on Zlarin as well as the future potential and challenges for sustainable development.

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References

- Baldacchino, G. (2015). Small island states and territories: Vulnerable, resilient, but also doggedly perseverant and cleverly opportunistic. In G. Baldacchino (Ed.), *Entrepreneurship in Small Island States and Territories* (pp. 1-28). Routledge.
- Brickell, K., & Datta, A. (Eds.). (2011). *Translocal Geographies: Spaces, Places, Connections*. Routledge. <https://doi.org/10.4324/9780203805942>.
- Connell, J. (2018). Islands: Balancing development and sustainability? *Environmental Conservation*, 45(2), 111-124. <https://doi.org/10.1017/S0376892918000036>.

- Dale, A., & Newman, L. (2008). Social capital: A necessary and sufficient condition for sustainable community development? *Community Development Journal*, 43(4), 411-424. <https://doi.org/10.1093/cdj/bsn020>.
- Greiner, C., & Sakdapolrak, P. (2013). Translocality: Concepts, applications, and emerging research perspectives. *Geography Compass*, 7(6), 373-384. <https://doi.org/10.1111/gec3.12055>.
- Kalogjera, B. (1997). *Otok Zlarin: Mali naseljeni otok* (Island of Zlarin: A small inhabited island). Institute of Geography, University of Zadar.
- Katuriċ, A. (2024). Croatian Coral Centre Zlarin: Building the future on the knowledge of the past. In *Transnational Island Museologies*. (Forthcoming).
- Klempić Bogadi, S., & Podgorelec, S. (2011). Socio-geographic changes in small island communities — The example of the island of Zlarin. *Migracijske i etniċke teme*, 27(2), 219-244.
- Kueffer, C., & Kinney, K. (2017). What is the importance of islands to environmental conservation? *Environmental Conservation*, 44(4), 311-322. <https://doi.org/10.1017/S0376892917000479>.
- Maxwell, J. A., & Miller, B. A. (2008). Categorizing and connecting strategies in qualitative data analysis. In S. N. Hesse-Biber & P. Leavy (Eds.), *Handbook of emergent methods* (pp. 461-477). The Guilford Press.
- Pitt, D. C. (1980). Sociology, islands and boundaries. In D. C. Pitt (Ed.), *The Future of Small Islands* (pp. 1-18). Routledge.
- Polido, A., João, E., & Ramos, T. B. (2014). Sustainability approaches and strategic environmental assessment in small islands: An integrative review. *Ocean & Coastal Management*, 96, 138-148. <https://doi.org/10.1016/j.ocecoaman.2014.05.010>.
- Roseland, M. (2012). Sustainable community development: Integrating environmental, economic, and social objectives. In M. Roseland, *Toward Sustainable Communities: Solutions for Citizens and Their Governments* (4th ed., pp. 3-24). New Society Publishers.
- Rydin, Y., & Holman, N. (2004). Re-evaluating the contribution of social capital in achieving sustainable development. *Local Environment*, 9(2), 117-133. <https://doi.org/10.1080/1354983042000199561>.
- Schnepel, B. (2018). Introduction. In B. Schnepel & E. A. Alpers (Eds.), *Connectivity in motion: Island hubs in the Indian ocean world* (pp. 1-23). Palgrave Macmillan.
- Schnepel, B., & Alpers, A. (2018). Prologue. In B. Schnepel & E. A. Alpers (Eds.), *Connectivity in motion: Island hubs in the Indian ocean world* (pp. 1-23). Palgrave Macmillan.
- Starc, N., & Stubbs, P. (2014). No island is an island: Participatory development planning on the Croatian islands. In W. Leal Filho (Ed.), *Transformative approaches to sustainable development at universities* (pp. 619-631). Springer.
- Tonković, Ž., & Zlatar, J. (2014). Sustainable development in island communities: The case study of Postira. *Sociologija i prostor*, 52(2), 163-184.
- Ursić, S., Zlatar Gamberozić, J., & Mišetić, A. (2024). Toward “good” islands: Rethinking the means and goals for island development from a female perspective. *Island Studies Journal*, 10(1), 21-37.
- Zlarin Tourist Board. (n.d.). *Zlarin Tourist Board website: Path of the past*. Retrieved from <https://www.tz-zlarin.hr/en/product/path-of-the-past>.
- Zlarin Urban Development Plan. (2009). *UPU Zlarin: Obrazloženje*. City of Šibenik. Retrieved from <https://www.sibenik.hr/upload/planovi/2020/07/2020-07-08/44/UPU%20ZLARIN%20Obrazlozenje.pdf>.

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IDENTITY, QUALITY OF LIFE AND CULTURAL HERITAGE: A CASE STUDY OF THE ISLAND OF RAB

Abstract

Croatian islands as part of the Mediterranean offer a valuable perspective on the interconnectedness of cultural and natural landscapes, highlighting their potential for sustainable and responsible spatial and social development of island communities. The case-study approach was used because islands are specific (isolated) territories, both spatially and socially. Using the example of the island of Rab, one of Croatia's most densely populated islands with a rich history and diverse cultural heritage, this paper highlights the island's local identity and quality of life. It presents the findings of a 2023 survey conducted among 120 residents of Rab, focusing on their perceptions of quality of life, local identity, and cultural heritage. The results show that residents highly value the island's natural beauty and material cultural heritage as important elements of local identity. However, at the same time, there is a noticeable lack of care for the natural and cultural landscape and heritage in everyday life. As a result of sudden and uncontrolled construction of apartments and tourist facilities, which drastically alter the land's appearance and use, the once rich island is losing its cultural, social, and economic diversity to a monoculture of mass tourism. This shift contributes to the devastation of precisely those identity features that the residents regard as the most important. Based on the conducted research, as well as the results of previous studies, it can be concluded that there is both potential and an urgent need to view the islands of Rab as a spatial and historical continuum based on its cultural and natural landscape. Furthermore, a dynamic alliance of various stakeholders (political, economic, professional, and civil) should be established to manage the space and landscape responsibly and to preserve and enhance the local identity and the strong connection of the residents and local community with the island's rich cultural and heritage.

Key words: Croatian islands, Rab, quality of life, identity, heritage landscape

INTRODUCTION

Islands are unique spaces due to their relative social and spatial isolation and are often perceived as idyllic tourist destinations offering authentic natural settings and unique cultural experiences in a distinctive environment far removed from the urbanized areas where most island visitors typically originate (Carlsen & Butler, 2011). Spatial con-

straints and isolation which were once limiting factors for the development of islands have now become advantages in tourism as secluded and authentic locations are increasingly sought after.

Adriatic Croatia is classified among the global regions with an exceptionally high share of immovable heritage under UNESCO protection (World Heritage List), which serves as a strong tourist attraction (Panzera, de Graaff & de Groot, 2021). However, as has already been clearly demonstrated, this heritage has both positive (economic) and negative effects (negative ecological, environmental, identity-related, and other social impacts). Tourism, as the most significant economic activity on the island, has greatly contributed to improving the material conditions of many households, thereby enhancing their quality of life. However, its increasing drastically changes the landscape and unplanned development simultaneously exert pressure on space, the island's environment, infrastructure, and its residents.

Given the specific island situation, where the seasonality of tourism brings significant changes to the daily lives of residents and alters the meaning of the local community in accordance with this seasonality, as the island “fills up” with temporary users of space from various categories — foreign and domestic tourists and visitors, foreign and domestic property owners who reside on the island temporarily or occasionally, as well as temporary workers required to sustain the tourism industry — we must take into account the fact that the permanent residents of the island constitute part of the local community that can act toward preserving cultural heritage and adequately valuing the cultural and natural landscape. The dynamics of the social aspect justify the use of the term “local community” as defined by Blokland (2017), who emphasizes that in today's era of mobility, a local community can be understood as a shared “practice”, where the source of connection is not rooted in birthplace or permanent residence, but rather in bonds and togetherness through shared actions (practice) within a specific space. This aspect is recognised as very important, however in this survey, the focus is placed on permanent residents as a starting point for future research and as a basis to verify some of the previous findings.

The aim of the investigation was to analyze residents' attitudes regarding local identity, quality of life, and cultural heritage on the island of Rab. The island of Rab, located in Primorje-Gorski Kotar County is administratively divided into two local units: the City of Rab and the Municipality of Lopar. According to the census conducted in 2021, the island had a population of 8,265 residents. To achieve the aim, research was conducted in June and July 2023 using the survey method (N = 120) via Google forms. In the study, 72 women and 48 men participated. 26.7% of respondents were aged 18-34, 32.5% were 35-54, 40.8% were 55+. The convenience sampling was used, respondents were informed about the purpose and method of conducting the research, and it was anonymous.

	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	N	M	SD
The cultural heritage of the island of Rab is personally important to me.	1.7	10.8	12.5	26.7	48.3	120	4.09	1.092
The cultural heritage of the island of Rab makes me proud.	5.0	5.8	19.2	27.5	42.5	120	3.97	1.144
The cultural heritage of the island of Rab is important for the local community.	-	2.5	20.8	22.5	54.2	120	4.28	0.881
Cultural heritage is an important part of the identity of the island of Rab and its inhabitants.	-	0.8	18.5	21.9	58.8	119	4.39	0.814
The inhabitants nurture intangible heritage.	5.8	18.3	25.8	27.5	22.5	120	3.43	1.193
The inhabitants nurture tangible heritage that is in their possession.	14.2	20.8	33.3	16.7	15.0	120	2.98	1.247

Table 1 — Respondents' views on the cultural heritage of the island of Rab

CULTURAL HERITAGE AND LOCAL IDENTITY

Similarly to our previous study conducted in September 2021 (Vukić & Klempić Bogadi, 2023; Vukić, 2024) the survey included a question about cultural heritage and identity. They were presented with six statements and asked to respond on a scale from 1 to 5, where 1 represented “strongly disagree” and 5 represented “strongly agree”.

The research results showed, in line with previous studies, that respondents highly agree with statements about the importance of cultural heritage for local identity. 80.7% agreed that cultural heritage is an important part of the identity of the island of Rab and its inhabitants. A large majority of respondents stated that the cultural heritage of the island of Rab makes them proud (70%) and is personally important to them (75%). However, only half of the study participants agreed with the statement that residents nurture intangible heritage (traditional clothing, Fjera, Rab dance, etc.) in the everyday life of the island (50%), and even fewer respondents stated that the inhabitants nurture tangible heritage in their possession (historical buildings, archaeological remains, etc.) (31.7%).

We asked the respondents to what extent five features of the island of Rab are part of its distinctiveness and local identity. The majority of respondents (79.2%) believe that it is the natural beauty (clean sea, beaches, forests...) of the island.

Slightly more than half of the respondents (53.3%) see tourism and the tourist offer as part of the recognizability and identity of Rab. Tourism has been the most important economic activity on all Croatian islands, including Rab, for decades. However, tourism is often a source of tension between residents involved in tourism and those who are not. Tourism “affects the established rhythm and way of life, demands certa-

	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	N	M	SD
Natural beauty	1.7	4.2	15.0	20.8	58.3	120	4.30	0.984
Material cultural heritage	0.8	7.6	16.0	30.3	45.4	119	4.12	0.993
Tourism and tourist offer	5.8	10.8	30.0	30.8	22.5	120	3.53	1.130
Traditional customs	2.5	11.7	19.2	32.5	34.2	120	3.84	1.100
Mediterranean way of life	2.5	12.5	21.7	31.7	31.7	120	3.78	1.104

Table 2 — Respondents' views on the features of local identity

in adjustments from the permanent population, and requires a level of engagement to which not everyone is equally prepared" (Podgorelec & Klempić Bogadi, 2013, p. 102).

Almost 2/3 of respondents (63.3%) recognize Mediterranean way of life as an important feature of the local identity. The island region of Croatia historically and culturally belongs to the Mediterranean circle, characterized by the Mediterranean lifestyle. Although there is no single definition, the Mediterranean way of life includes a Mediterranean diet, a calmer and slower pace of life, a high level of social interaction, the importance of local traditions etc.

QUALITY OF LIFE

One of the questions in the questionnaire pertained to the quality of life on the island of Rab. Participants were presented with six statements and asked to respond on a scale from 1 to 5, where 1 indicated "strongly disagree" and 5 indicated "strongly agree".

Research conducted on the Šibenik islands revealed that respondents view isolation as the most significant disadvantage of island life (Podgorelec & Klempić Bogadi, 2013). This sense of isolation is primarily attributed to inadequate transport connections with the mainland, which negatively impact various aspects of island living (Podgorelec & Klempić Bogadi, 2013). However, on the island of Rab more than half of the respondents (54.7%) disagreed with the statement "I feel isolated living on the island". Slightly more than a quarter (27.7%) held a neutral stance, while only 17.6% agreed with the statement. This can be explained by the fact that, in the context of the Croatian islands, Rab is relatively large both in terms of area and population. As a result, it offers a wide range of amenities and is less dependent on the mainland compared to smaller islands.

The greatest advantages of island life are peace, natural beauty, a clean environment, a healthy lifestyle, safety, and close community tie (Royle, 1992; Babić, Lajić & Podgorelec, 2004; Podgorelec & Klempić Bogadi, 2013). A well-preserved natural environment is an important resource for tourism development as well as an important factor in the quality of life for the local population. Although the construction of vario-

	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	N	M	SD
Life on the island has significant advantages compared to the quality of life on the mainland.	9.2	18.3	30.8	27.5	14.2	120	3.19	1.169
I feel isolated living on the island.	30.0	25.0	27.5	13.3	4.2	120	2.37	1.166
Living on the island allows me daily contact with nature.	-	2.5	15.0	29.2	53.3	120	4.33	0.823
Close relationships with neighbors and other residents are important to me for satisfaction and quality of life.	4.2	5.0	30.0	32.5	28.3	120	3.76	1.053
The cultural heritage of the island of Rab contributes to the quality of life of the local community.	3.4	13.4	24.4	25.2	33.6	119	3.72	1.164
Events related to local customs and traditions strengthen the connection of the local community.	2.5	10.0	20.8	28.3	38.3	120	3.90	1.103

Table 3 — Respondents' views on the quality of life on the island of Rab

us residential buildings in an unplanned manner has significantly expanded the developed areas. Rab can still be considered a “green” island. The island is home to the forests of Kalifront, Dundo, and Fruga, while the Komrčar forest park stretches right next to the urban core of the town of Rab. It is therefore not surprising that as many as 82.5% of respondents agree with the statement “Living on the island allows me daily contact with nature”.

Rab's tourist appeal is largely based on its rich history and cultural heritage. The area is home to as many as 18 registered tangible and intangible cultural assets, which not only attract tourists but also play an important role in shaping local identity. Additionally, 58.8% of respondents believe that the island's cultural heritage contributes to the quality of life of the local community. Given the island's long history and rich tradition, various events are held on the island every year. Two-thirds (66.6%) believe that these events strengthen the bond within the local community.

A unique characteristic of island communities is the strong sense of closeness and community, along with the shared social activities among people of different ages (Klempić Bogadi & Podgorelec, 2024). Almost two-thirds of respondents (60.5%) agree or strongly agree with the statement “Close relationships with neighbours and other residents are important to my satisfaction and quality of life”. Previous research as well has shown that Croatian islanders highly value island community (Bara, 2013; Podgorelec & Klempić Bogadi, 2013; Marinović Golubić, 2017). Respondents frequently rate satisfaction with their community as the most significant aspect of overall life satisfac-

tion on the islands. This sentiment is shared across all demographics, including young and old, men and women, as well as native islanders and newcomers (Podgorelec, 2008; Levangie, Novaczek, Enman, MacKay & Clough, 2009).

The respondents were asked to compare life on the island with life on the mainland. 41.7% of respondents believe that "life on the island has significant advantages compare to the quality of life on the mainland". Nearly one-third (30.8%) are neutral, while 27.5% disagree with this statement. In a study conducted on the Šibenik islands of Zlarin, Kaprije, and Žirje, slightly less than half of the respondents (46.8%) believed that people on the island live better than those on the mainland. 18% felt there was no difference. and 35.5% believed they live worse (Podgorelec, Gregurović & Klempić Bogadi, 2015).

CONCLUSION

The results show that residents highly value the island's natural beauty and material cultural heritage as important elements of local identity. However, at the same time, there is a noticeable lack of care for the natural and cultural landscape and heritage in everyday life. As a result of sudden and uncontrolled construction of apartments and tourist facilities, which drastically alter the land's appearance and use, the once rich island is losing its cultural, social, and economic diversity to a monoculture of mass tourism. This shift contributes to the devastation of precisely those identity features that the residents regard as the most important.

Based on the conducted research, as well as the results of previous studies, it can be concluded that there is both potential, and an urgent need to view the islands of Rab as a spatial and historical continuum based on its cultural and natural landscape. There is a potential in shifting the notion of "local community" in Blokland's notion of "community as practice" to preserve and enhance local identity and the strong connection of residents and local community with island's rich cultural and heritage. Focusing on finding a balance between the preservation and protection of cultural heritage, tourism and economic development and quality of life through establishing a dynamic alliance of various stakeholders (political, economic, professional, and civil).

To conclude, the quality of life on the islands is mainly identified in contrast to the mainland. However, the research highlights the potential for approaching economic, environmental, social and cultural perspectives as linked together (based the importance of heritage for residents of the island, and their appraisal of cultural and natural landscape). Such an approach can help mitigate the negative impacts of mass tourism, urbanization, and ecological imprints of unsustainable economic models. It also paves the way for developing new, integrative models for the valorization and preservation of heritage, alongside innovative frameworks for local management and island development based on acknowledgement of importance and preservation of the cultu-

ral landscape which is connection with both Mediterranean and European cultural environment.

References

- Babić, D., Lajić, I., & Podgorelec, S. (2004). *Otoci dviju generacija* (Islands of two generations). Institut za migracije i narodnosti.
- Bara, M. (2013). Povratne umirovljeničke migracije na hrvatskim otocima (Return Retirement Migration on Croatian Islands). *Migracijske i etničke teme*, 29(2), 201-224. <https://doi.org/10.11567/met.29.2.4>.
- Blokland, T. (2017). *Community as urban practice*. Polity.
- Carlsen, J., & Butler, R. (2011). Introducing sustainable perspectives of island tourism. In: J. Carlsen & R. Butler (Eds.). *Island tourism: Sustainable perspectives* (pp. 1-7). CABI. <https://doi.org/10.1079/9781845936792.000>.
- Klempić Bogadi, S. & Podgorelec, S. (2024). Kvaliteta života kao čimbenik demografske održivosti otočnih zajednica (Quality of life as a factor of demographic sustainability of island communities). In M. Jurković & J. Vukić (Eds.). *Otočnost u suvremenom društvenom kontekstu — pogled u budućnost: zbornik radova* (pp. 51-66). Hrvatska akademija znanosti i umjetnosti, Sveučilište u Zagrebu, Filozofski fakultet. <https://doi.org/10.17234/9789533791968.05>.
- Levangie, D., Novaczek, I., Enman, S., MacKay, R., & Clough, K. (2009). *Quality of island life survey: Tyne Valley & surrounding areas*. University of Prince Edward Island.
- Marinović Golubić, M. (2017). Doseljavanje na otok — suvremene migracije na otok Korčulu (Immigration to the island — modern migrations to the island of Korcula). *Migracijske i etničke teme*, 33(2), 115-141. <https://doi.org/10.11567/met.33.2.1>.
- Panzer, E., de Graaff, T., & de Groot, H.L.F. (2021). European cultural heritage and tourism flows: The magnetic role of superstar World Heritage Sites. *Papers in Regional Science*, 100(1), 101-122. <https://doi.org/10.1111/pirs.12562>.
- Podgorelec, S. (2008). *Ostarjeti na otoku: kvaliteta života starijega stanovništva hrvatskih otoka* (Growing older on the Island: Quality of life of the elderly population of Croatian islands). Institut za migracije i narodnosti.
- Podgorelec, S., & Klempić Bogadi, S. (2013). Gradovi potopili škoje — promjene u malim otočnim zajednicama (Cities have sunk shkos — changes in small island communities). Institut za migracije i narodnosti.
- Podgorelec, S., Gregurović, M. & Klempić Bogadi, S. (2015). Satisfaction with the quality of life on Croatian small islands: Zlarin, Kaprije and Žirje, *Islands Studies Journal*, 10(1), 91-110. <https://doi.org/10.24043/isj.322>.
- Randall, J. E., Kitchen, P., Muhajarine, N., Newbold, B., Williams, A., & Wilson, K. (2014). Immigrants, islandness and perceptions of quality-of-life on Prince Edward Island, Canada. *Island Studies Journal*, 9(2), 343-362. <https://doi.org/10.24043/isj.310>.
- Royle, S. A. (1992). Attitudes and aspirations on St. Helena in the face of continued economic dependency. *The Geographical Journal*, 158(1), 31-39.
- UNESCO. *World Heritage List*. https://whc.unesco.org/en/list/?search=&id_states=hr&id_search_region=1&components=1&order=country (3. 12. 2024.).
- UNESCO (2013). *New life for historic cities. The historic urban landscape approach explained*. <https://whc.unesco.org/uploads/news/documents/news-1026-1.pdf> (3. 12. 2024.).

- UNESCO (2019) *Resolution*. <https://unesdoc.unesco.org/ark:/48223/pf0000215084.page=55> (3. 12. 2024.).
- Vukić, J., & Klempić Bogadi, S. (2023). Cultural heritage and socio-spatial transformations: the example of Rab. In K. Jurčević, Lj. Kaliterna Lipovčan, R. Medić & O. Ramljak (Eds.) *Preserving. Evaluating and developing the Mediterranean* (pp. 161-168). Institute of Social Sciences Ivo Pilar VERN¹ University Scientific Council for Anthropological Research. Croatian Academy of Sciences and Arts (HAZU).
- Vukić, J. (2024). Otočne zajednice i njihova budućnost — od znanosti do održivosti (Island communities and their future — from science to sustainability). In M. Jurković & J. Vukić (Eds.). *Otočnost u suvremenom društvenom kontekstu — pogled u budućnost: zbornik radova* (pp. 119-136). Hrvatska akademija znanosti i umjetnosti, Sveučilište u Zagrebu, Filozofski fakultet. <https://doi.org/10.17234/9789533791968.09>.

SATELLITE REMOTE SENSING FOR OBSERVING MEDITERRANEAN SEA SURFACE SALINITY DUE TO THE CLIMATE CHANGES

Abstract

Sea salinity depends on temperature, evaporation, and rainfall. The Mediterranean Sea has a salinity value of 38 g/kg. The Mediterranean has a high salinity because it is almost closed from the Atlantic Ocean, and its evaporation is three times higher than the precipitation and the arrival of fresh water from the rivers combined. Sea salinity affects sea currents, sea density and temperature, and thus the climate. Furthermore, the salinity of the sea also affects the nutrients in the sea, which then affects fisheries. The salinity of the sea also affects the absorption of CO₂ (carbon dioxide) produced by humans. Due to changes in sea salinity and temperature increases, migrations of species occur. Changes in the salinity of the sea in some species can lead to changes in their behavior, reduce their reproduction as well as their survival capabilities, which can also have an impact on fisheries. Fish and crabs, for example, grow better at lower salinity levels. Next, because of global warming, there may be an increase of the sea level, which could especially affect the islands and infrastructure on the seacoasts. Remote sensing satellites, the most famous of which are SMOS from the European Space Agency (ESA) and SMAP from the National Aeronautics and Space Administration (NASA), have microwave sensors with which they can measure the salinity of the sea on the surface. The satellites, together with the ARGO maritime system, which has around 3,600 measuring stations in the world's oceans, measure the sea salinity all over the world.

Key words: sea surface salinity, global warming, Mediterranean Sea, satellite remote sensing

INTRODUCTION

Salinity is amount of salt dissolved in water. It's measured in g/kg. Sea salinity depends on temperature, evaporation, and rainfall. Seawater has salinity of around 35 g/kg, although lower values are possible near coasts where rivers enter the ocean (Smyth, Laughinghouse, Reynolds, Camp, Havens 2024). The Baltic Sea has salinity of about 8 g/kg, while the Dead Sea has a salinity of more than 200 g/kg. The Mediterranean Sea has a salinity value of 38 g/kg. The Mediterranean has a high salinity because it is almost closed from the Atlantic Ocean, and its evaporation is three times higher than the precipitation and the arrival of fresh water from the rivers combined. Salinity affects sea currents, sea density, temperature and thus the climate (Olson, Jansen, Abbot, Halevy,

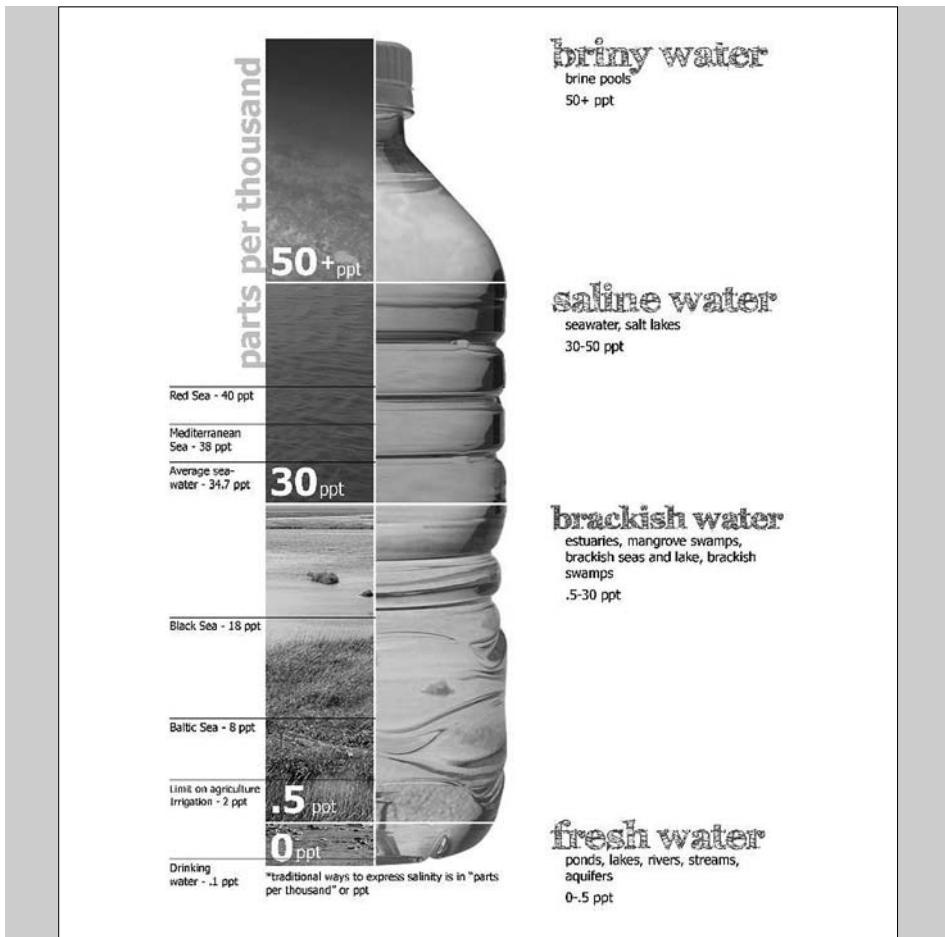


Figure 1 — Water salinity. Source: <https://en.wikipedia.org/wiki/Salinity>

Goldblatt, (2022). Figure 1 (made by Peter Summerlin, Louisiana State University) shows different type of waters vs salinity in parts per thousand.

Salinity is recognized as an essential climate variable within the Global Climate Observing System (GCOS). Global sea-surface salinity measurements are based on observations from the three satellite missions (The European Space Agency, 2019) that measure sea-surface salinity from space — SMOS, SMAP and Aquarius (ESA — European Space Agency, NASA — National Aeronautics and Space Administration (NASA)).

The salinity of the sea affects the absorption of CO₂ (carbon dioxide) produced by humans. Atmospheric carbon dioxide is the most important human-made greenhouse gas responsible for global warming. Carbon dioxide emissions are absorbed by the oceans causing warming of the seas and acidification of the waters, thus the ocean acts as a carbon sink. Oceans assist in removing carbon dioxide from the atmosphere: phy-

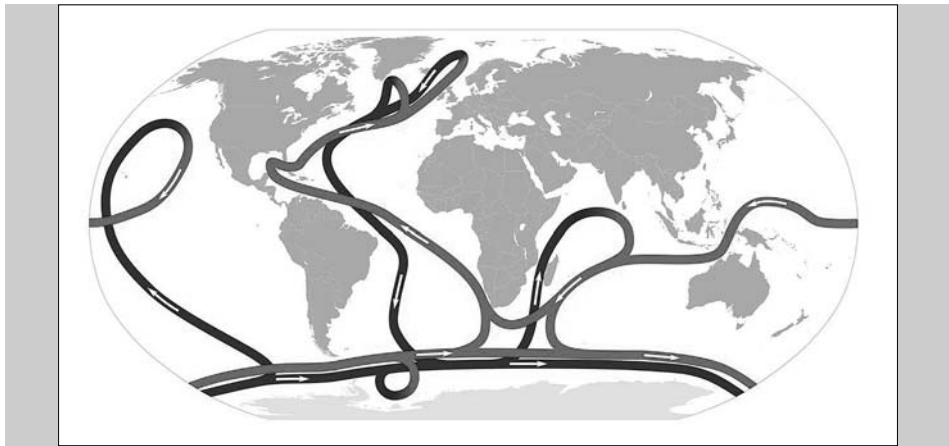


Figure 2 — Global Thermohaline Circulation.

Source: <https://encounteredu.com/multimedia/images/why-is-thermohaline-circulation-so-important>

toplankton accumulate carbon dioxide through photosynthesis and their chlorophyll colors the ocean's waters. Satellites (The European Space Agency, 2019) use color to measure chlorophyll, which enables the calculation of how much carbon dioxide is absorbed or emitted. About 25% of all CO₂ emissions are absorbed by the ocean. Due to changes in sea salinity and temperature increases, migrations of species might occur. Changes in the salinity of the sea in some species can lead to changes in their behavior, reduce their reproduction as well as their survival capabilities, which can also have an impact on fisheries. Fish and crabs, for example, grow better at lower salinity levels.

Due to the global warming, there may be an increase of sea level, which could especially affect the islands and infrastructure on the seacoasts. Remote sensing satellites (Kim, Han, Jang, & Sung, 2023), have microwave sensors with which they can measure the salinity of the sea on the surface.

SEA SALINITY

Ocean currents are driven by differences in the water density, which is controlled by temperature (thermo) and salinity (haline). This process is known as thermohaline circulation. Thermohaline circulation begins in the Earth's polar regions. When ocean water in these areas gets very cold, sea ice forms. The surrounding seawater gets saltier, increases in density and sinks. The ice is not salty (after one year) and can be drunk after it melts. The Figure 2 shows thermohaline circulation, responsible for the large-scale exchange of water masses in the ocean (Encounter Edu., 2024). The red arrows show warm surface waters, which then cool and sink in the Arctic, creating a dragging effect that drives this whole ocean conveyor. The entire circulation pattern takes about 2000 years.

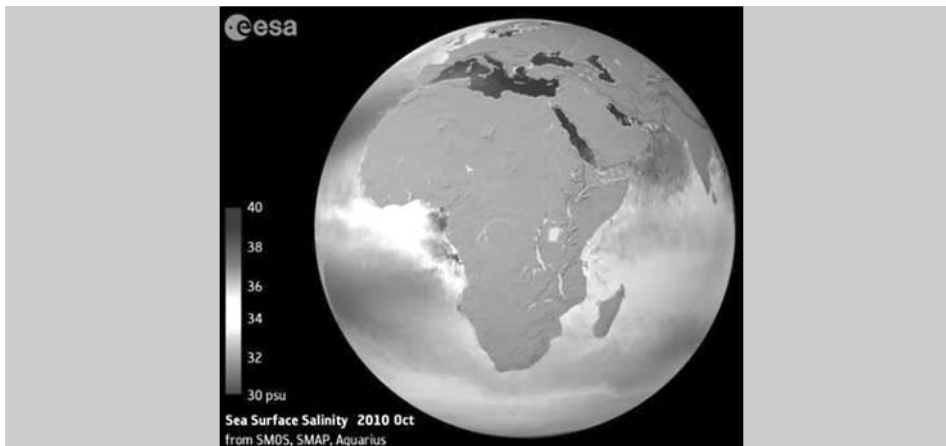


Figure 3 — Sea Surface Salinity by SMOS satellite.

Source: https://www.esa.int/Applications/Observing_the_Earth/FutureEO/SMOS

The density of sea water depends on salinity and temperature. Temperature has more impact on sea density than salinity. Colder waters are denser than warmer waters and will sink below warmer waters. The more salt in the water, the denser it gets. Cold saline water goes to the bottom of the ocean. Saline water goes below fresh water. Fresh water stays on the surface. Increasing ocean salinity results in warming, while decreasing ocean salinity has the opposite effect. Sea surface salinity (SSS) is crucial to estimate global water balance and evaporation rates, and to understand currents. Low-salinity water is indicative sources of fresh water, such as rivers and streams. Airborne microwave radiometers (including the ones on the satellites) are capable of measuring sea surface salinity.

REMOTE SENSING

Soil Moisture and Ocean Salinity (SMOS) is ESA's scientific satellite used for gathering information about Earth's water cycle and climate (The European Space Agency, 2020). Variability in ocean salinity is due to the exchange of water between the oceans, atmosphere and land. SMOS satellite was launched on November 2nd, 2009. It has the instrument MIRAS onboard. The MIRAS (Microwave Imaging Radiometer using Aperture Synthesis) instrument is a microwave 2-D interferometric radiometer (1.4 GHz). MIRAS records microwave emissions from Earth's surface to map levels of sea surface salinity, sea ice thickness and other geophysical variables. Sea surface salinity measured by SMOS satellite is shown in Figure 3.

Soil Moisture Active Passive (SMAP) is a NASA environmental monitoring satellite that measures soil moisture across the planet.

Aquarius was a NASA instrument aboard the Argentine SAC-D spacecraft. Its mission was to measure global sea surface salinity to better predict future climate condi-

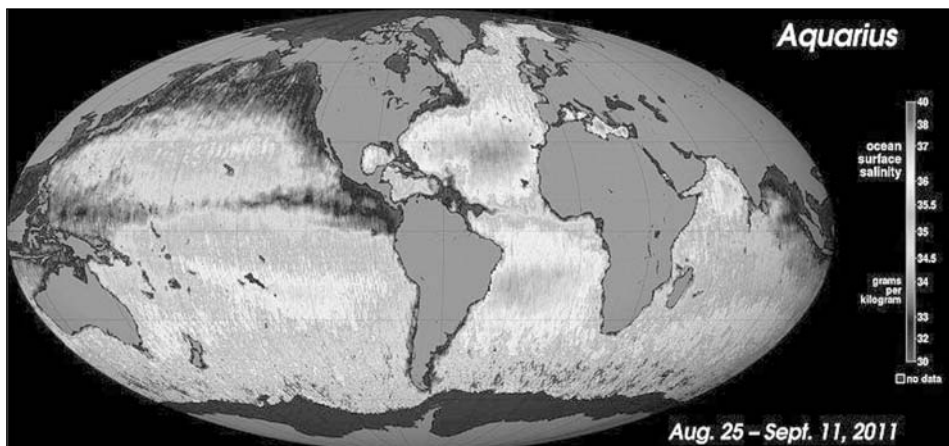


Figure 4 — Sea Surface Salinity by Aquarius satellite.

Source: <https://www.jpl.nasa.gov/images/pia14786-nasas-salt-of-the-earth-aquarius-reveals-first-map/>

tions. The mission started on June 2011 and lasted only three years due to the power failure. Figure 4 shows sea surface salinity measured by Aquarius (NASA Jet Propulsion Laboratory (JPL), 2011).

Argo is a program that collects information from ocean using drifting floats. The floats are placed all over the globe to measure temperature and salinity. The name Argo was chosen because of the program's partnership with the Jason earth observing satellites (In Greek mythology Jason sailed on his ship Argo).

Floats have antennas to communicate with satellites and to send data (Argo, 2024). Argo fleet use GPS to get their position, and Iridium satellites to transfer the data collected and to download new mission instructions if available.

Conductivity, Temperature, Depth sensor (CTD) — measures temperature, pressure (closely related to depth) and calculate salinity using conductivity. Argo floats use lithium batteries to power pumps, sensors, and communication. Internal reservoir, external bladder and hydraulic pump is used to regulate the depth of the float.

ENVIRONMENTAL INFLUENCE

Increased sea salinity can have several harmful effects on marine life such as reduced growth and disrupted migration patterns (Bœuf, & Payan, 2001). Seabirds can drink salt water, and they release the extra salt via the salt glands in their nasal cavities. Whales can't drink much saltwater; instead, the water they need comes from whatever is stored in their prey. They do have kidneys that can process extra salt, however. Sea otters can drink salt water because their kidneys are adapted to process the salt.

Salinities at the margins or outside the tolerance range of species will prevent their occurrence, change their behavior, or limit reproduction, reducing their fitness for survival in the environment. For fish, growth is continuous, so fish become larger the lon-

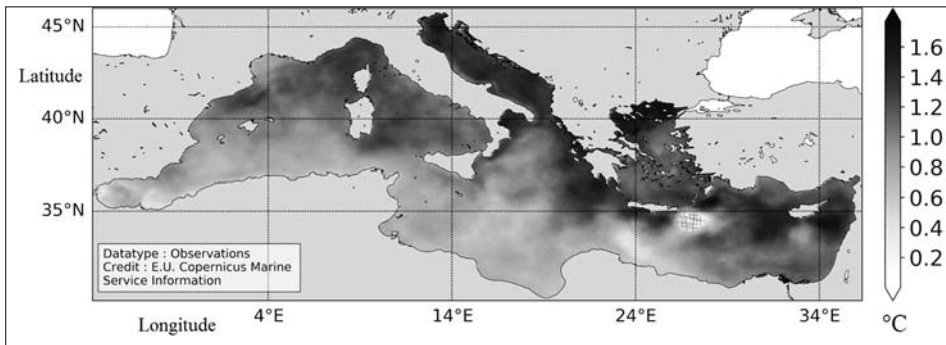


Figure 5 — Mediterranean Sea Surface Temperature Changes.

Source: <https://marine.copernicus.eu/access-data/ocean-monitoring-indicators/mediterranean-sea-surface-temperature-cumulative-trend-map>

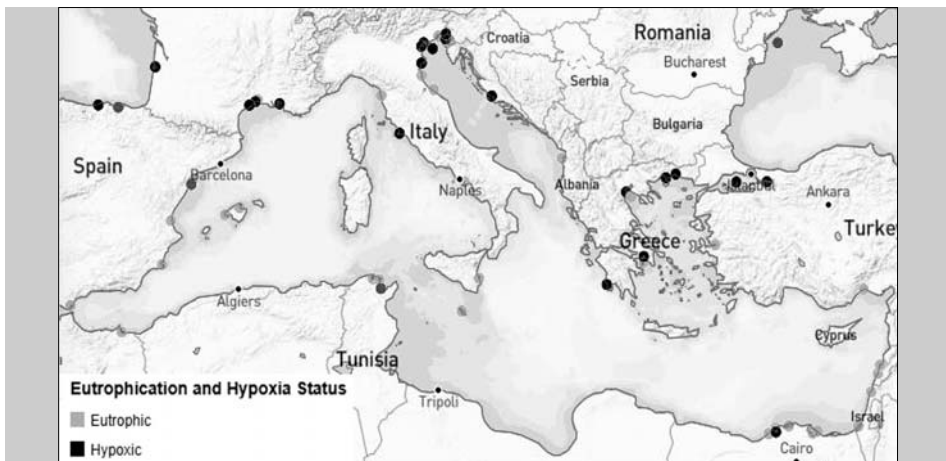


Figure 6 — Hypoxia in Mediterranean Sea. Source: <https://www.grida.no/resources/5907>

ger they live. If the sea temperature rises due to the climate changes, the fish will migrate to colder waters (usually going north or going into deeper waters). Figure 5 shows the Mediterranean Sea Surface Temperature cumulative trend (1993—2022), (Copernicus Marine Service, 2024).

Dissolved oxygen and salinity are key factors for marine life. Dissolved oxygen refers to how much oxygen is absorbed into a body of water. As salinity increases, dissolved oxygen exponentially decreases. Oxygen has a solubility range (6-15 mg/L) in water. With higher temperature of the sea, there will be less oxygen which is dangerous for the marine life. Hypoxic (low oxygen) conditions can be caused by eutrophication.

Eutrophication is a process in which nutrients accumulate in a body of water, resulting in an increased growth of microorganisms that may deplete the water of oxygen. Figure 6 shows risk of hypoxia in Mediterranean Sea.

CONCLUSIONS

Sea salinity is a key parameter to monitor in climate change. The Mediterranean Sea has high salinity (38g/kg) which will increase even more with the rise of the temperature. Sea salinity also affects the absorption of carbon dioxide (CO₂) created by humans. Sea currents are affected by the changes in the sea salinity.

Satellites (remote sensing) are used to monitor sea surface salinity. SMOS and SMAP missions are the most important satellite missions for remote sensing. Drifting floats are also used to measure sea salinity. Sea salinity affects the marine life, such as growth, migration, and behavior. Low oxygen (hypoxia) is possible in areas with temperature increase or human influence such as eutrophication (sewage, industrial wastewater, releasing of other nutrient sources into the environment).

References

- Argo. (n.d.). *What does an Argo float do?* Retrieved November 22, 2024, from <https://argo.ucsd.edu/how-do-floats-work>.
- Bœuf, G., & Payan, P. (2001). How should salinity influence fish growth? Comparative biochemistry and physiology. *Toxicology & Pharmacology: CBP*, 130(4), 411-23.
- Copernicus Marine Service. (n.d.). *Mediterranean Sea Surface Temperature cumulative trend map from Observations Reprocessing*. Retrieved November 22, 2024, from <https://marine.copernicus.eu/access-data/ocean-monitoring-indicators/mediterranean-sea-surface-temperature-cumulative-trend-map>.
- Encounter Edu. (n.d.). Why is thermohaline circulation so important? Retrieved November 22, 2024, from <https://encounteredu.com/multimedia/images/why-is-thermohaline-circulation-so-important>.
- European Space Agency. (2019). *Mapping salty waters*. https://www.esa.int/Applications/Observing_the_Earth/Space_for_our_climate/Mapping_salty_waters.
- European Space Agency. (2020). *SMOS tracking changes in ocean salinity*. https://www.esa.int/ESA_Multimedia/Videos/2020/03/SMOS_tracking_changes_in_ocean_salinity.
- Khélifi, N. (2010). *Variations in Mediterranean Outflow Water and its salt discharge versus Pliocene changes in North Atlantic thermohaline circulation prior and during the onset of major Northern Hemisphere Glaciation*, 3.7-2.6 Ma.
- Kim, Y. J., Han, D., Jang, E., Im, J., & Sung, T. (2023). Remote sensing of sea surface salinity: challenges and research directions. *GIScience & Remote Sensing*, 60(1). <https://doi.org/10.1080/15481603.2023.2166377>.
- NASA Jet Propulsion Laboratory (JPL). (2011). *NASA's "Salt of the earth" Aquarius reveals first map*. <https://www.jpl.nasa.gov/images/pia14786-nasas-salt-of-the-earth-aquarius-reveals-first-map>.
- Olson, S., Jansen, M. F., Abbot, D. S., Halevy, I., & Goldblatt, C. (2022). The Effect of Ocean Salinity on Climate and Its Implications for Earth's Habitability. *Geophysical Research Letters*, 49(10), Article e2021GL095748. <https://doi.org/10.1029/2021GL095748>.
- Smyth, A., Laughinghouse, H. D., Reynolds, L., Camp, E., & Havens, K. (2024). Climate Change: Effects on Salinity in Florida's Estuaries and Responses of Oysters, Seagrass, and Other Animal and Plant Life: SGEF-218/SG138, rev. 4/2024. *EDIS*, 2024(2). <https://doi.org/10.32473/edis-sg138-2024>.

World Resources Institute (n.d.). *Interactive Map of Eutrophication & Hypoxia*. Retrieved November 22, 2024, from <https://www.wri.org/data/interactive-map-eutrophication-hypoxia>.

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THE SOCIO-ECONOMIC AND ENVIRONMENTAL CONSEQUENCES OF TOURISM EXPANSION ON THE ISLAND'S DESTINATION: THE ISLAND OF HVAR (CROATIA)

A b s t r a c t

Tourism growth and development are significant challenges to destinations due to their pressure on the local community and natural environment. Also, tourism's various adverse socio-economic and environmental outcomes may outperform its overall beneficial effects in small island destinations. This paper investigates the local population's attitudes to tourism's negative and positive effects on small island destinations. The paper aims to study socio-economic and environmental impacts on the local community and to reveal whether negative impacts outperform positive socio-economic effects. The quantitative research method is used to gather primary data. The research surveyed residents of port towns/municipalities on the island of Hvar, Croatia (City of Hvar, Jelsa, Stari Grad, and Sućuraj). The findings show that the positive socio-economic effects of tourism growth outperform its adverse socio-economic effects while do not outperform its adverse environmental impact. Thus, the negative environmental footprint of tourism growth in the observed island destination outperforms its favorable socio-economic effects.

Key words: island destination, tourism growth, socio-economic impacts, environmental impacts, local community

INTRODUCTION

The global tourism industry is increasingly expanding, generating diverse effects on local economies, communities, and the natural environment. The industry is a cornerstone of economic development and cultural exchange in numerous areas worldwide, particularly in destinations rich in natural resources, tradition, and cultural heritage

(Thommandru et al., 2021). Tourism has become one of the fastest-growing economic sectors worldwide due to various factors, such as increased disposable incomes, growing technological advances in transportation, the influential expansion of online platforms for planning and booking trips, and diverse digital content (Nguyen, 2021; WTTC, 2023; SEGITTUR & Alzua-Sorzabal, 2024; SEGITTUR, 2024; UNWTO, 2024). According to the United Nations World Tourism Organization (UNWTO, 2024), international tourist arrivals reached 1.3 billion in 2023, indicating the sector's remarkable resilience in post-pandemic turbulence and crises.

As particularly popular and desirable destinations, islands are paramount in this growth, attracting millions of visitors annually. With their unique geographical isolation, diverse ecosystems, and local cultures, islands are unique tourist destinations with superior attractions for travelers and visitors (del Río-Rama et al., 2020). The tourism industry often serves as a lifeline for island economies, presenting a key source of income and business opportunities, creating new jobs and employment possibilities, and stimulating investments in infrastructures and facilities (Knoll, 2012; Dimanche & Andrades, 2024; SEGITTUR, 2024).

While tourism undoubtedly brings notable economic prosperity, it also triggers considerable environmental, social, and economic challenges for many destinations worldwide, particularly island and coastal areas.

As the global tourism industry continues to expand, the concept of sustainability is gaining increasing attention and relevance in discussions around tourism in the academic and broader community, particularly around island tourism (Hsu et al., 2019; Rasoolimanesh & Seyfi, 2020; Ravikumar et al., 2022; SEGITTUR & Alzua-Sorzabal 2024; SEGITTUR, 2024). The emphasis on sustainability in tourism underscores the need to balance economic benefits with the preservation of natural resources, cultural heritage, and the well-being of local communities (Butler, 2011; Sharpley, 2014; Butler, 2019).

The socio-economic impact of tourism on islands is multifaceted. Tourism drives economic development by creating jobs and profit opportunities for residents while generating revenues for local governments through taxes and fees, which can be reinvested into infrastructure and public services. In addition, tourism provides opportunities for cultural exchange, allowing local communities to showcase their traditions and heritage to the global public. However, the socio-economic consequences of expanding tourism can be damaging, specifically in the long run. For instance, tourism is turning many destinations into economic monocultures, jeopardizing traditional economic activities, which tend to disappear. Furthermore, tourism monoculture is adding to seasonality issues, which causes seasonal overcrowding and the emergence of 'ghost cities'. Overreliance on tourism often leads to economic vulnerability, as fluctuations caused by various factors (e.g., economic and geopolitical shifts, pandemics, etc.) can have severe consequences for local economies.

From an environmental perspective, tourism significantly pressures island environments through resource overconsumption, habitat destruction, and waste generation (del Río-Rama et al., 2020). Constructing and developing tourism infrastructures, such as hotels, marinas, and roads, often involves the destruction of natural habitats and landscapes. The increased consumption of water, energy, and other resources by tourism-related activities puts additional strain on already limited supplies. Furthermore, waste generation and pollution, including plastic waste and sewage, pose significant threats to marine and terrestrial biodiversity and ecosystems. The strain on water and energy is particularly acute in island destinations globally.

Despite these ever-growing challenges, tourism's negative impacts do not necessarily outweigh its positive contributions. However, there is a growing recognition of the need to address the adverse effects of the tourism sector, particularly its environmental footprint and contribution to the loss of cultural authenticity. This perspective promotes the importance of adopting a balanced approach to tourism development, prioritizing sustainability and the long-term well-being of local communities and the environment. Scientists underscore the significance of sustainable tourism practices in mitigating the negative consequences of expanding tourism on islands. For instance, Butler (2011, 2019) proposed the 'tourism area life cycle' model, which suggests that destinations go through diverse stages, emphasizing the risks of overdevelopment and eventual decline in destinations lacking effective management. Similarly, Sharpley (2014) stresses the importance of stakeholder collaboration in balancing economic, social, and environmental objectives. Such approaches are particularly relevant for developing tourism in destinations like small island cities to ensure that tourism growth continues to benefit the community without compromising its natural and cultural assets.

As the tourism sector depends on human capital, where the local community plays a paramount role in its successful and sustainable development, the views of community members are the building blocks in understanding the sector's benefits and consequences. Therefore, this paper investigates the attitudes of an island's local population toward tourism's positive and negative impacts on the local community, considering three sustainability aspects: economic, social, and environmental. It surveys residents of small port towns on the island of Hvar (City of Hvar, Jelsa, Stari Grad, and Sućuraj). In Croatia, where coastal and island tourism is essential for the national economy, the expansion of tourism has brought many promising opportunities and challenges, especially for island destinations (Croatian National Bank, 2024; Ministry of Regional Development and EU Funds, n.d.). Croatian islands and richly indented coastline are becoming among the most popular destinations worldwide, with growing attention and popularity in tourism and travel. The natural and cultural attractions of the distinctive Croatian archipelago are among the most prominent and appraised value propositions in the country's tourism appeal.

TOURISM IMPACTS ON THE ISLAND DESTINATIONS: EXAMPLE OF THE ISLAND OF HVAR, CROATIA

The Croatian archipelago is the second largest in the Mediterranean (Ministry of Regional Development and EU Funds, n.d.). With its 1,244 islands scattered along the Adriatic coast, Croatia has become one of the leading Mediterranean destinations, and its popularity in the world's tourism market is rising (Ministry of Tourism and Sport, 2023). Tourism accounts for almost 20% of the country's GDP, underscoring its economic importance and contribution to the Croatian economy (Croatian National Bank, 2024). Moreover, tourism development contributes to revitalizing the local economy, encouraging the growth of small businesses, and improving tourist and public-related infrastructure, thus ensuring the conditions for the municipality's sustainable development (Municipality of Jelsa, 2021). Hvar, in particular, is one of the most visited and popular Croatian islands due to its unique natural attractions and beauties, crystal clear sea and vibrant marine biodiversity, favorable climate, and historic towns with rich culture and tradition.

The economic benefits of tourism are widely acknowledged and remain undeniable (Thommandru et al., 2021) in island destinations. However, there is a growing need to address tourism's environmental footprint and adverse social impacts. This perspective promotes the importance of adopting a balanced approach to island tourism development, prioritizing sustainability and the long-term well-being of local communities and the environment.

Small island cities like the Hvar, Jelsa, Stari Grad, and Sućuraj face specific challenges related to sustainable development. Such distinct destinations are scarce in land area, freshwater, and other natural resources, with fragile ecosystems and dependence on limited transport, which makes them highly vulnerable to tourism pressures. Moreover, tourism expansion generates inflation, rising real estate prices, and a loss of cultural authenticity that threatens residents' quality of life (Dimanche & Andrades, 2024). These challenges, which increasingly overshadow tourism demands, particularly the increase in real estate prices and loss of traditional lifestyle, are particularly evident on island destinations like Hvar. As global awareness of environmental issues rises, the urgency of investigating and adopting sustainable tourism practices becomes more pronounced. Tourism highly depends on human capital, and with the crucial role of the local community in developing sustainable destinations, attention to the interests and opinions of the local population is growing. Therefore, the attitudes of the Hvar population toward tourism's positive and negative impacts on their island may bring additional valuable insights and contribute to the growing research on sustainable tourism.

Variable	Abbv.	Variable description
Tourism growth		
Pse1-EcBusEmpl	Pse1	positively impact the local economy, business, and employment
Pse2-Infrast	Pse2	positively impact on the improvement of local infrastructure (transport)
Pse3-HosLPoCuEx	Pse3	increases the hospitality of the local population and cultural exchange.
Nse1-IncrPrice	Nse1	generates increases in prices
Nse2-IncrTaxFe	Nse2	generates increased taxis and various fees
Nse3-TrfInfCong	Nse3	causes traffic congestion, overcrowding, and infrastructure overloads
Nse4-CriSafSec	Nse4	increases crime and adversely affects safety and security
Nse5-RelatResTour	Nse5	strains the relationship between residents and tourists
Nse6-HealthQoL	Nse6	adversely affects residents' health and quality of life
Nenv1-OverConNatRes	Nenv1	causes overconsumption of natural resources.
Nenv2-IncEnvPoll	Nenv2	increases environmental pollution (air, water, land, noise, waste, etc.)
Nenv3-BioDivEcoSy	Nenv3	adversely impacts biodiversity and the ecosystem.
Tourism benefits		
Ben1-ImpactSE	Ben1	outperform its adverse socio-economic impacts
Ben2-ImpactENV	Ben2	outperform its adverse environmental impacts

Table 1 — Socio-economic impact variables and environmental impact

METHODOLOGY

This study uses the island of Hvar as an example to investigate the impacts of tourism growth on island destinations. The survey was conducted in January 2022 on the island of Hvar in four municipalities (City of Hvar, Jelsa, Stari Grad, and Sućuraj), with all-year-round residents. The questionnaire consists of 20 questions /statements related to the demographic characteristics of respondents (closed and open questions) and statements on the impact of tourism growth on the destination (5-point Likert scale).

Table 1 presents variables related to tourism growth's socio-economic and environmental impacts and its benefits vs. adverse effects.

The questionnaire was distributed via social networks (WhatsApp, Messenger, and Viber), and 112 responses were received (N = 112). The data was analyzed using statistical analysis programs DATatab and JASP.

RESULTS

This section presents the main results of the research. Figure 1 presents the respondents' demographic characteristics. It shows that almost half of the respondents are residents of Jelsa (48,21%), followed by the residents of the City of Hvar (25%), Stari Grad (21,43%), and Sućuraj (5,36%). Likewise, almost half of the respondents are employed (47,32), followed by students (34,82%), non-employed (11,61), and retired (6,25%).

Figure 1 shows that half of the respondents have completed high school (50%), while around one-third of them got an undergraduate degree (30.36%), followed by respondents with a graduate degree (17.86%), and the littlest share of those with a doc-

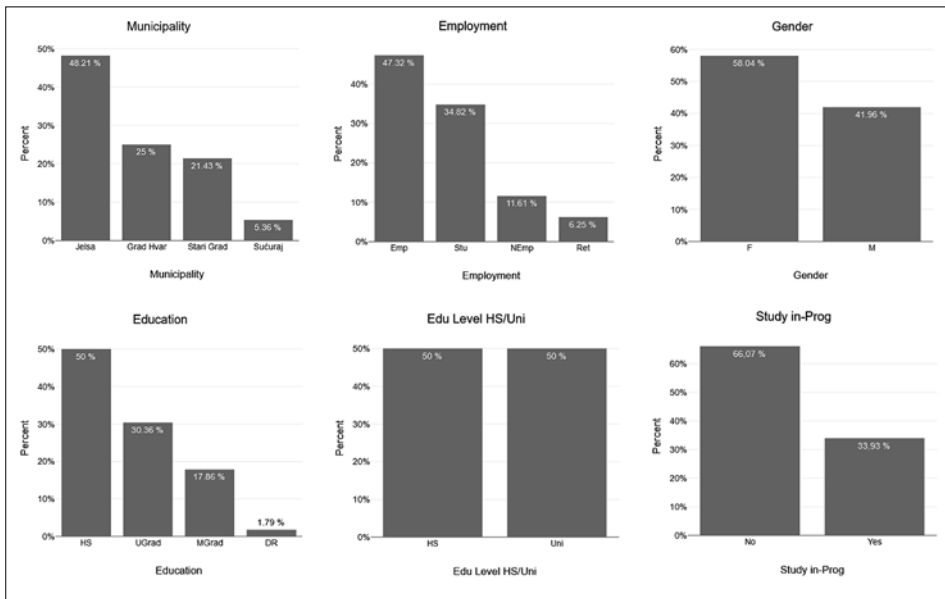


Figure 1 — Respondents' demographics data (N = 112)

toral degree (1.79%). The distribution of respondents who completed high school (50%) and respondents with higher education (50%) is even. Women comprise over half of the respondents (58.04%), while the rest are men (41.96%). Two-thirds of respondents are currently not studying in any higher education program (66.07%), while the rest attend some form of study (33.93%).

As the socio-economic and environmental variables investigated were not normally distributed, non-parametric statistical analyses, such as the Kruskal-Wallis test (ANO-

	Mean	Median	Mean $\pm$ Std.
Pse1	4.05	4	4.04 $\pm$ 1.09
Pse2	4.13	4	4.13 $\pm$ 1.13
Pse3	3.58	4	3.58 $\pm$ 1.22
Nse1	4.05	4	4.04 $\pm$ 1.02
Nse2	3.97	4	3.97 $\pm$ 1.13
Nse3	3.90	4	3.9 $\pm$ 1.11
Nse4	3.38	3	3.38 $\pm$ 1.36
Nse5	3.37	4	3.37 $\pm$ 1.31
Nse6	3.23	3	3.23 $\pm$ 1.51
Nenv1	3.66	4	3.66 $\pm$ 1.14
Nenv2	3.97	4	3.97 $\pm$ 1.04
Nenv3	4.14	5	4.14 $\pm$ 1.07
Ben1	3.65	4	3.65 $\pm$ 1.25
Ben2	3.04	3	3.04 $\pm$ 1.32

Table 2 — Socio-economic impact variables and environmental impact variables (N = 112)

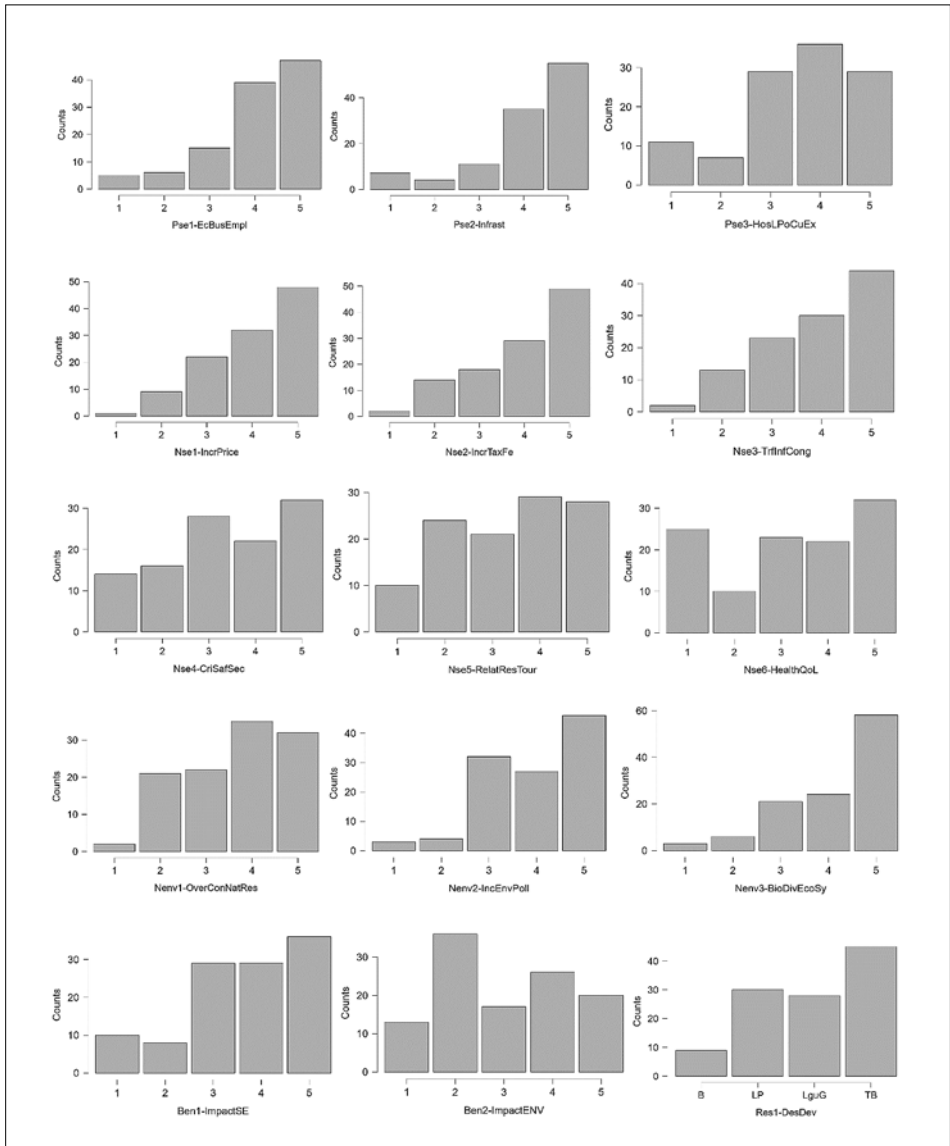


Figure 2 — Socio-economic impact variables and environmental impact variables, tourism benefits vs. adverse socio-economic and environmental impacts, and inclusion of the local population in adopting tourism development plans (N = 112)

VA for non-parametric statistics), were performed. Table 2 and Figure 2 show descriptive statistics for variables related to the socio-economic and environmental impacts on the island community (Pse1-Pse3, Nse1-Nse6, Nenv1-Nenv3, Ben1, Ben2).

From Table and Figure 2, the investigated variables Pse1, Pse2, Nse1, Nse2, Nenv2, and Nenv3 show positive respondents' attitudes. Considering the standard deviations,

it can be observed that the responses to the question range from the "neutral" to the "strongly agree" range. For instance, for the variables *Pse1* and *Pse2* (*Pse1-EcBusEmpl*, *Pse2-Infrast*), the results show that the respondents exclusively share a positive attitude. Further, the results for other variables are mixed, showing that respondents have diverse perspectives on the impacts of tourism growth. Analyzing the standard deviation, it is evident that the respondents have somehow reserved opinions regarding the socio-economic impact. The results show mixed attitudes regarding whether tourism outperforms adverse socio-economic and environmental impacts (*Ben1-ImpactSE*, *Ben2-ImpactENV*). Also, most respondents agree that the local population should participate in adopting tourism development plans, i.e., strategies, policies, and action plans.

CONCLUSION

Tourism growth on islands and small destinations like port cities/municipalities on the island of Hvar (Croatia) presents opportunities and challenges for the local communities and their sustainability. For small island port cities like the Hvar, Jelsa, Stari Grad, and Sućuraj, the socio-economic benefits of tourism are undeniable. However, tourism expansion has numerous adverse effects, affecting the local community and the environment.

The results from the survey conducted with all-year-round residents on the Island of Hvar show that tourism growth positively impacts the local economy, business, and employment, improvement of infrastructures (e.g., transport), an increase in the hospitality of the local population, and cultural exchange. However, the results also show many adverse socio-economic effects of tourism expansion (increases in prices, traffic congestion, overcrowding, infrastructure overloads, increase in crime, jeopardizing safety and security, straining the relationship between residents and tourists, and adversely affecting residents' health and quality of life). Furthermore, the results highlight adverse environmental effects (overconsumption of natural resources, environmental pollution such as air, water, land, noise, waste, garbage pollution, and negative impacts on biodiversity and the ecosystem).

This research has shown that tourism's benefits outweigh its adverse socio-economic impacts but do not surpass its environmental footprint. Furthermore, community engagement is key to successful and sustainable tourism development. The local population must actively participate in decision-making processes to ensure that tourism development plans (strategies, policies, action plans) align with their needs and priorities. This shared responsibility is crucial in addressing tourism's socio-economic and environmental impacts, prioritizing the long-term well-being of local communities, and preserving their natural and cultural heritage. Finally, this paper indicates the necessity of further research on tourism growth-related issues and their impact on local communities, particularly in island areas.

References

- Butler, R. W. (2011). *Tourism Area Life Cycle. Contemporary Tourism Reviews*. Goodfellow Publishers Limited.
- Butler, R. W. (2019). 6. Overtourism and the Tourism Area Life Cycle. In R. Dodds & R. Butler (Eds.), *Overtourism: Issues, realities and solutions* (pp. 76-90). De Gruyter Oldenbourg. <https://doi.org/10.1515/9783110607369-006>.
- Croatian National Bank (2024). *Revenues from tourism increased by 11.4%*. Available at: <https://www.hnb.hr/en/-/prihodi-od-turizma-u-2023-veci-za-11-4-posto>.
- del Río-Rama, M. d. l. C., Maldonado-Erazo, C. P., Álvarez-García, J., & Durán-Sánchez, A. (2020). Cultural and Natural Resources in Tourism Island: Bibliometric Mapping. *Sustainability*, 12(2), 724. <https://doi.org/10.3390/su12020724>.
- Dimanche, F., & Andrades, L. (2024). Tourism Trends: Current Challenges for Tourism Destinations Management. In Andrades, L., Romero-Dexeus, C., Martínez-Marín, E. (Eds.), *The Spanish Model for Smart Tourism Destination Management: A Methodological Approach* (pp. 3-21). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-60709-7_1.
- Knoll, E.-M. (2012). Book Review: Island Tourism: Sustainable Perspectives. *Tourist Studies*, 12(2), 204-207. <https://doi.org/10.1177/1468797612454628>.
- Ministry of Regional Development and European Union Funds. (2023). *Register of Islands*. Available at: <https://registar-otoka.gov.hr>.
- Ministry of Tourism and Sport. (2023). Strategija razvoja turizma Republike Hrvatske do 2030. godine. NN, 2/23. (Tourism development strategy of the Republic of Croatia until 2030.).
- Nguyen, Q. H. (2021). Impact of investment in tourism infrastructure development on attracting international visitors: A nonlinear panel ARDL approach using Vietnam's data. *Economies*, 9(3), 131. <https://doi.org/10.3390/economies9030131>.
- Općina Jelsa. (2021). Provedbeni program Općine Jelsa za razdoblje 2021.—2025. (Implementation program of the Municipality of Jelsa for the period 2021—2025).
- SEGITTUR, & Alzua-Sorzabal, A. (2024). Methodological framework of the Spanish smart tourism destinations model. In *The Spanish model for smart tourism destination management: A methodological approach* (pp. 37-86). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-60709-7_3.
- SEGITTUR. (2024). The DTI model experience: Best practices on smart destination management. In *The Spanish model for smart tourism destination management: A methodological approach* (pp. 251-276). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-031-60709-7_9.
- Sharpley, R. (2014). Host perceptions of tourism: A review of the research. *Tourism Management*, 42, 37-49. <https://doi.org/10.1016/j.tourman.2013.10.007>.
- Thommandru, A., Espinoza-Maguiña, M., Ramirez-Asis, E., Ray, S., Naved, M., & Guzman-Avalos, M. (2023). Role of tourism and hospitality business in economic development. *Materials Today: Proceedings*, 80, 2901-2904. <https://doi.org/10.1016/j.matpr.2021.07.059>.
- UN World Tourism Organization (UNWTO). (2024). *World tourism barometer*. 22(1), January 2024 (Excerpt). Madrid, Spain. <https://doi.org/10.18111/wtobarometereng>.
- World Travel and Tourism Council (WTTTC). (2023). *Global travel & tourism catapults into 2023 Says WTTTC*. Available at: <https://wtcc.org/news-article/global-travel-and-tourism-catapults-into-2023-says-wttc>.

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TEMPORARY LIVING ON THE ISLANDS: CHANGES IN THE PATTERN OF SECOND HOME DEVELOPMENT ON CROATIAN ISLANDS BETWEEN 2011 AND 2021

A b s t r a c t

While census data from 2021 indicate a general decline in the number of second homes at the national level, the density of second homes remains high in certain parts of Croatia. Due to the tendency to concentrate in and near amenity-rich areas, their presence is particularly visible in the coastal region of Croatia, especially on the islands. When considering the impact of second homes on the socio-spatial transformation of host areas, it is also crucial to consider the dynamics of their usage. Many authors have observed that second homes were more intensively used during and after the recent COVID-19 pandemic. Like other aspects of everyday life, the dynamics and how second homes are used are also linked to some elements of broader socio-technical transformation, such as the increase in teleworking and the growing popularity of online homestay marketplaces. Given that Croatian islands are generally development-specific areas, and second homes constitute a large portion of the housing stock there, any kind of transformation of the second home phenomenon could be significant for local development in the future. Therefore, this paper aims to get an insight into patterns of second home development on Croatian islands between 2011 and 2021. For this purpose, we used census data to analyze changes in the structure of the housing stock in general and in the number of second homes in particular as well as their relations with the change of population.

Keywords: *second homes, islands, local development, Croatia*

INTRODUCTION¹

When examining Croatian islands as a diverse socio-spatial category, we must acknowledge the significant variation in their characteristics, influenced by a variety of factors including proximity to the mainland, transportation connectivity, geographical, historical, demographic, natural, climatic, and cultural aspects. This understanding is essential for conceptualizing any research topic related to the islands and for potentially comparing quantitative indicators, results, and insights from empirical studies. This geographical distinction is likely to impact different developmental outcomes. Islands face both progressive and regressive processes over time. On one hand, there are negative demographic trends, such as an aging population, youth emigration, and overall depopulation (as noted by Lajić & Mišetić, 2006; Faričić, Graovac & Čuka, 2010). On the other hand, the appeal of islands for tourism is increasingly acknowledged due to their lower population density, scenic beauty, cleaner seas, and quieter, less urban lifestyles. These factors positively influence tourism and the development of second home phenomenon (as described by Kušen, 2001; Peračković, Miletić & Mrčela, 2018).

According to that, the islands are marked by a disparity between objective developmental limitations and the appeal of their available resources — ranging from natural to cultural and historical aspects — and their overall developmental potential. The development of second home phenomenon plays a crucial role in this context, presenting both advantages and disadvantages. This includes the construction of vacation dwellings and apartments, as well as the revitalization of old stone houses, often passed down through families². Analyses of data from the 2001 to 2011 census periods indicate an increase in vacation dwellings on Croatian islands, suggesting that these areas are more appealing for temporary residence rather than permanent living (Miletić, 2013). At the beginning of this century, second home phenomenon emerged as one of the most significant factors transforming Croatian island settlements, making this issue critical for discussions about island development³.

Given the distinctive developmental characteristics of Croatian islands, where vacation dwellings represent a significant portion of the housing stock, any changes in the nature of these dwellings could be crucial for local development in the future. The-

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² In literature, the term "dwellings for vacation and recreation" is commonly used, whereas in our context, the term "weekend houses" is more customary.

³ Previous studies on the second homes phenomenon in Croatia, including a comprehensive research project conducted by the Institute Pilar in 2004 and another research project carried out in collaboration with the Croatian Science Foundation (HRZZ) from 2014 to 2017, have shown that this type of housing plays a significant role in redefining space. It contributes to the adaptation of environments for greater comfort and the enhancement of experiences. Consequently, this development has a notable impact on the local social reality.

refoe, one of the primary objectives of this study is to gain insights into the patterns of second home phenomenon development on Croatian islands. To achieve this, we will analyse shifts in the overall housing stock structure, with a focus on vacation dwellings, and explore their relationship with population changes during the most recent inter-census period.

CURRENT TRENDS IN SECOND HOME DEVELOPMENT

The recent pandemic and the fear of coronavirus infection prompted significant changes in individuals' daily lives and the overall functioning of society. This shift transformed society's relationship with space, particularly in how the uncertainty driven by the pandemic made second home phenomenon more appealing. Due to health risks, many people across Europe and Croatia sought safety by relocating from urban to rural areas, often choosing islands as their new dwellings. This trend led to an increased use of vacation dwellings, as highlighted by numerous studies worldwide. For example, a study by Åberg and Tondelli (2021) examined the situation in Gotland, one of Sweden's most desirable destinations for second home phenomenon. Their research confirmed that during the pandemic, the total number of people on the island increased, which was directly related to the heightened use of existing vacation dwellings. Additionally, they observed a significant rise in the prices of vacation dwellings in the local real estate market. This suggests that the pandemic not only led to a greater presence of current vacation dwelling users but also attracted new arrivals interested in purchasing property there.

In the United Kingdom, interest in second home phenomenon increased during the pandemic, showing a clear trend away from suburban areas and toward remote rural and peripheral locations. Gallent, Stirling and Hamiduddin (2023) pointed out that this shift reflects not only changes in locational preferences but also alterations in mobility patterns and the ways people use vacation dwellings. The pandemic raised important questions about societal functioning during crises, as well as about the role of vacation dwellings and the implications of residing away from one's primary dwelling in contemporary society. Müller specifically highlighted the impact of normalizing remote work as a legitimate form of employment. This shift opens up new opportunities for utilizing secondary residences and could signify a movement toward a truly multi-local and mobile society (Müller, 2020, p. 97). While this change is already affecting current vacation dwelling users, it is expected to be even more pronounced among younger generations. The growth of new technologies and digitalization also plays a significant role in the commercialization of secondary dwellings. Bachimon, Eveno and Gélvez Espinel (2020) observed that the rise of online rental markets, such as Airbnb and similar platforms, has greatly facilitated the use of vacation dwellings for tourism purposes. The potential for attractive earnings acts as an incentive not only for current

owners to activate their vacation dwellings for rental but also for new households to purchase secondary residences, which can be used for leisure and provide additional income.

In Croatia, recent studies indicate that in the years leading up to the coronavirus pandemic, there was a notable trend in construction in attractive island locations. Given the nature and locations of these buildings, a portion is expected to be used as second home phenomenon. Research conducted on the island of Krk offers valuable insights into vacation dwelling usage patterns both before and during the pandemic. The findings reveal that usage of vacation dwellings intensified during the pandemic, with many of these properties having been acquired within the last decade (Opačić & Korderman, 2024).

However, according to the 2021 Census, there was a decrease in the number of vacation dwellings at the national level for the first time in the last 50 years, recording a total of 231,488 units — a 7% decline compared to 2011. Considering the Croatian islands, there were 58,757 vacation dwellings in 2021, which constitutes 32% of the total housing stock, whereas the national proportion is around 10%. It is noteworthy that in 23 out of 46 island municipalities or cities, there are more vacation dwellings than permanently inhabited dwellings. Nevertheless, even on the islands, a negative trend in the number of vacation dwellings has emerged, mirroring the national level, with an overall decrease of approximately 12% in the last intercensal period.

OBJECTIVES, ANALYTICAL FRAMEWORK AND METHODOLOGY

Studies from abroad indicate an increased use of vacation dwellings during and after the pandemic, alongside findings from domestic research conducted in several locations (Miletić & Peračković, 2020), which did not show a significant decrease in interest in second home phenomenon. The discrepancy between these observations raises a fundamental question for our analysis: Does the reduction in the number of vacation dwellings signify a real decline in interest in second home phenomenon, or does it reflect a transformation process occurring within this type of housing? We aim to partially answer this question through a detailed analysis of the changes in the structure of the island housing stock over the most recent inter-census period.

Our analysis will focus on changes in the number of housing units from 2011 to 2021 across five main categories: (1) inhabited dwellings, (2) uninhabited dwellings, (3) dwellings for seasonal agricultural work, (4) dwellings for business activities, and (5) vacation dwellings. The scope of our analysis is defined by the fact that Croatia has 50 permanently inhabited islands with 56 island municipalities distributed across their territory. 46 island municipalities exclusively consist of island settlements, while 10 of them have island settlements representing only part of the municipality territory. As our aim was to assess the features of recent second home development on islands, our ana-

	Census		Change	
	2011	2021	net	index
Occupied dwellings	44.211	45.467	1.256	103
Unoccupied dwellings	18.504	45.592	27.088	246
Dwellings used during seasonal agricultural activities	934	735	- 199	79
Dwellings for business activity only	25.173	33.962	8.789	135
Dwellings for vacation	66.217	58.575	- 7.642	88
T o t a l	155.039	184.331	29.292	119

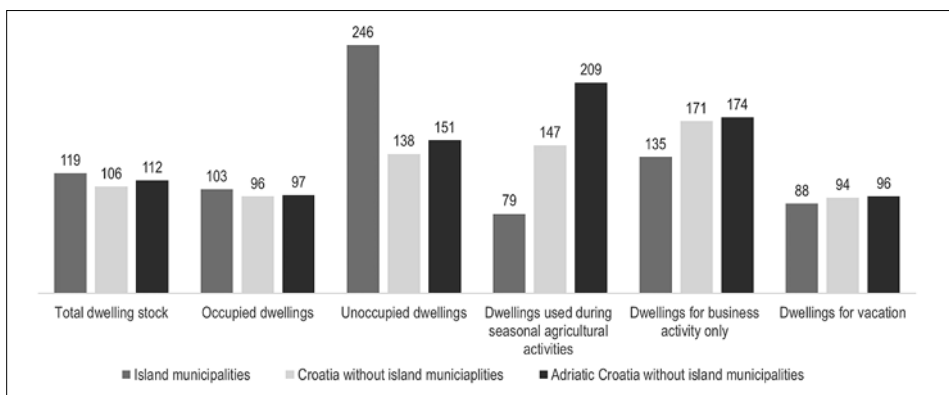
Table 1 — Change in dwelling stock in island municipalities (2011—2021)

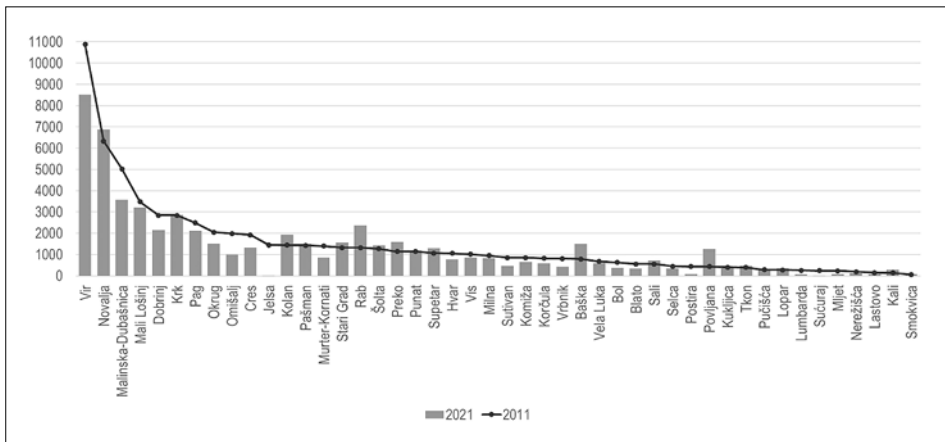
lysis focused solely on island municipalities, encompassing a total of 46 units (which account for approximately 90% of the island's housing stock).

RESULTS AND INTERPRETATION

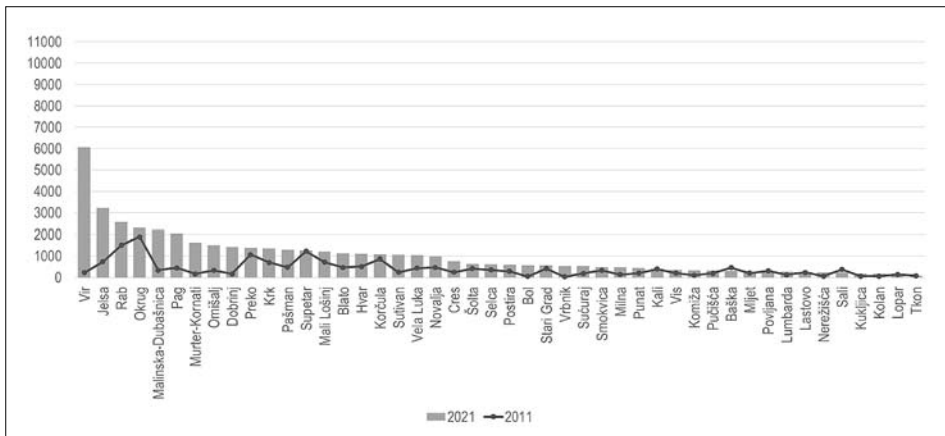
The Table 1 displays comparative data on dwellings by usage type across 46 island municipalities for the years 2011 and 2021. During the period between the two censuses, the total number of dwellings on the islands increased from 155,000 to nearly 185,000, representing a growth of approximately 19%. Among the five statistical categories of dwellings, there was an increase in both occupied and uninhabited dwellings, as well as in dwellings used for various activities. However, there was a decline in the number of vacation dwellings and dwellings used for agricultural work.

These trends show some similarities to those observed at the national and regional levels. However, a unique aspect of island municipalities is that the overall growth of housing stock surpasses the national and regional averages. This includes a more substantial decline in the number of vacation dwellings and a noticeable increase in the number of uninhabited dwellings. Interestingly, while the number of inhabited

**Picture 1** — Comparison of change in dwelling stock (2011—2021)



Picture 2 — Net change in the number of dwellings for vacation by island municipalities



Picture 3 — Net change in the number of unoccupied dwellings by island municipalities

dwellings is decreasing nationally and regionally, there has been an increase in inhabited dwellings within the island municipalities. To better understand how this relates to population trends, further analysis would be necessary. It is worth noting that in these 46 municipalities, there was a recorded population decline of approximately 4% (from 114,453 to 111,343) during the past inter-census period.

The number of vacation dwellings decreased by approximately 12%. However, it is important to note that not all municipalities on the island experienced this decline. Out of the 46 municipalities, 28 saw a reduction in vacation dwellings, while 18 reported an increase. Notable differences appeared; for instance, in Povljana and Baška, the number of vacation dwellings doubled or even tripled. In contrast, Sućuraj saw a dramatic drop from 237 vacation dwellings in 2011 to just one in 2021. Similarly, in Jelsa, the count fell from 1,450 to only 13 over the span of ten years. There has been a remarkable increa-

	β
Type of the total dwelling stock change 2011-2021 (3 categories; decrease, below average or above average increase)	0,128
Net change in the number of occupied dwellings 2011-2021	0,020
Net change in the number of unoccupied dwellings 2011-2021	-0,767**
Net change in the number of dwellings for business activity only 2011-2021	-0,203**
Net change in the number of dwellings used during seasonal agricultural activities 2011-2021	0,001
Average VIF	1,147
Adjusted R2	0,598

Table 2 — Results of regression analysis for net change in the number of dwellings for vacation 2011—2021

se in the number of uninhabited dwellings, with the total count rising by nearly 250%. For example, in Jelsa on Hvar, the number of uninhabited dwellings grew from about 500 in 2011 to 3,200 in 2021, while the total housing stock increased by 530 units. Similarly, in Malinska on Krk, the number of uninhabited dwellings rose from approximately 300 to 2,200. During the same period, vacation dwellings decreased from around 5,000 to 3,500, and the total housing stock increased by only 1,000 units. These figures indicate that, in addition to the construction of new buildings on the islands, there has been significant functional reallocation within the existing housing stock.

We aimed to identify patterns in the transformation of the housing stock, specifically focusing on the functional conversion of vacation dwellings on Croatian islands. To investigate this, we conducted a regression analysis, with the change in the number of vacation dwellings from 2011 to 2021 as the dependent variable. The predictor variables included changes in the overall size of the housing stock and changes in the number of dwellings across four additional categories: inhabited, uninhabited, for agricultural work, and for business activities. Before presenting our results, it is important to note that the Variance Inflation Factor (VIF) analysis indicated no issues with multicollinearity among the predictor variables, with an average VIF value of 1.147.

The analysis revealed that our regression model explained nearly 60% of the variance in the data. We found a strong correlation between the criterion variable and the "net change in the number of unoccupied dwellings from 2011 to 2021" ($\beta = -0.767$). There was also a weak correlation with the "net change in the number of dwellings used for business activities only from 2011 to 2021" ($\beta = -0.203$). The relationships with the other three variables were negligible. These results suggest that on the islands, the decrease in vacation dwellings is strongly associated with an increase in uninhabited dwellings and, to a lesser extent, with an increase in dwellings used for business activities.

CONCLUSION

The 2021 Census marked the first decrease in the number of vacation dwellings in Croatia in 50 years, following their separate categorization. During the same period, from 2011 to 2021, the total number of housing units increased at both the national level and among island local municipalities. Despite this decline in vacation dwellings, both domestic and international studies indicate that interest in second home phenomenon remains high, and in some cases, it has even grown, particularly during the pandemic (Åberg & Tondelli, 2021). However, some studies also highlight a trend toward transformation within the second home market, with an increasing instance of hybridization (Müller, 2021; Zoğal, Domènech & Emekli, 2022). On one hand, we see a strengthening of multilocality and heterolocality processes, which may serve as a transitional phase for transforming vacation dwellings into permanent residences. On the other hand, there is a trend toward commodification and commercialization, where vacation dwellings are increasingly utilized for tourism purposes, potentially leading to exclusive use as rental properties.

Given these trends, this study aimed to investigate the factors contributing to the census data that shows a reduction in vacation dwellings in Croatia. Our analysis reveals that the majority of the decrease in vacation dwellings on the islands is directly associated with their transformation, primarily into uninhabited dwellings, and, to a lesser extent, into properties designated for business activities. In other words, a significant number of island dwellings classified as vacation dwellings in 2011 were reclassified as uninhabited by 2021.

The reasons for this conversion primarily stem from the methodological framework of the Census. As mentioned earlier, a vacation dwelling is defined as a property that is used exclusively for vacation purposes, whether that use is occasional or spans several months of the year. Therefore, when the function of a vacation dwelling changes or expands, it no longer qualifies as a vacation dwelling in Census records. For example, if a vacation dwelling is converted for short-term rentals, it may be classified as uninhabited if it was vacant and available for rental at the time of the Census.

In conclusion, due to the complexity of second home phenomenon and the evident challenges in capturing this complexity within official statistics, it is essential to explore alternative research approaches. To better understand the contemporary forms of this practice, it would be beneficial to empirically examine and validate our findings regarding the intensification of transformational and hybridization processes in second home phenomenon on Croatian islands through additional field research.

References

- Åberg, H. E., & Tondelli, S. (2021). Escape to the country: A reaction-driven rural renaissance on a Swedish island post COVID-19. *Sustainability (Switzerland)*, 13(22), 12895. <https://doi.org/10.3390/su132212895>.

- Bachimon, P., Eveno, P., & Gélvez Espinel, C. (2020). Primary and secondary place of residence, the digital link and the rise of presence. *Worldwide Hospitality and Tourism Themes*, 12(4), 369-385. <https://doi.org/10.1108/WHATT-05-2020-0033>.
- Faričić, J., Graovac, V., & Čuka, A. (2010). Mali hrvatski otoci — radno-rezidencijalni prostor i/ili prostor odmora i rekreacije. *Geoadria*, 15(1), 145-185. <https://doi.org/10.15291/geoadria.548>.
- Gallent, N., Stirling, P., & Hamiduddin, I. (2023). Pandemic mobility, second homes and housing market change in a rural amenity area during COVID-19. The Brecon Beacons National Park, Wales. *Progress in Planning*, 172, 100731. <https://doi.org/10.1016/j.progress.2022.100731>.
- Kušen, E. (2001). Hrvatski otoci u deset slika Prilog procjeni utjecaja turizma na razvoj hrvatskih otoka. *Sociologija i prostor*, 39(1/4), 109-152.
- Lajić, I., & Mišetić, R. (2006). *Otočni logaritam: Aktualno stanje i suvremeni demografski procesi na Jadranskim otocima*. Ministarstvo mora, prometa i infrastrukture Republike Hrvatske; Institut za migracije i narodnosti (IMIN).
- Miletić, G. M. (2013). Jednom nogom na otoku: sekundarno stanovanje na Zlarinu. *Migracijske i etničke teme*, 29(2), 225-249. <https://doi.org/10.11567/met.29.2.5>.
- Miletić, G. M., & Peračković K. (Ur.) (2020). *Povremeno živjeti drugdje. Sekundarno stanovanje i socijalna održivost lokalnih zajednica u Hrvatskoj*. Institut društvenih znanosti Ivo Pilar.
- Müller, D. K. (2020). 20 years of Nordic second-home tourism research: a review and future research agenda. *Scandinavian Journal of Hospitality and Tourism*, 21(1), 91-101. <https://doi.org/10.1080/15022250.2020.1823244>.
- Opačić, V. T., & Koderman, M. (2024). Second homes, COVID-19 pandemic and the (not so) "new reality": Changes in the patterns of second home use on the Island of Krk, Croatia. *Tourism: An International Interdisciplinary Journal*, 72(2), 233-251.
- Peračković, K., Miletić, G., & Mrčela, D. (2018). Prilog analizi čimbenika odabira mjesta sekundarnog stanovanja: primjer naselja okrug gornji na otoku Čiovu. *Socijalna ekologija*, 27(1), 27-47. <https://doi.org/10.17234/SocEkol.27.1.3>.
- Zoğal, V., Domènech, A., & Emekli, G. (2022). Stay at (which) home: second homes during and after the COVID-19 pandemic. *Journal of Tourism Futures*, 8(1), 125-133.

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BENEFITS OF THE BLUE CAVE ON LOCAL COMMUNITIES

Abstract

In 1884, the Viennese painter baron Eugen Ransonnet introduced the Blue Cave on the island of Biševo to the world. His discovery marked the beginning of tourism in Dalmatia and the Blue Cave has become a must-see tourist attraction of the Adriatic Sea. The Blue Cave is protected as a geomorphological monument of nature since 1951. A special natural light phenomenon in the cave leaves no one indifferent. Ransonnet wrote that this rich light source gave the rocks, the ores and other submerged objects a silvery-blush hue similar to the one in the Capri Blue Grotto, directing light from all sides onto the rocky reef, making it look like a castle of a sea deity. The geological survey of the cave in 2019 shed further light on the phenomenon. During the 2019 research, a total of 119 marine species have been found in the Blue Cave, five of which are strictly protected by the law. In order to preserve the cave and for safety reasons, it is only possible to visit the cave accompanied by the concession-holder Nautical center Komiža. SWOT analysis present benefits of the Blue Cave for local communities, and it showed an increased interest in the Blue Cave over the years. The SWOT analysis presents key facts and events to facilitate a strategic approach and recognition of strategic problems. Analysis help understanding and studying organizational internal strengths, weaknesses, opportunities and recognizing threats from the environment. All of the above provides great potential for sustainable development in local communities. The Blue Cave is part of EU project for regional development.

Key words: *Blue Cave, communities, benefits, increased interest*

INTRODUCTION

In 1884, the Viennese painter baron Eugen Ransonnet introduced the Blue Cave on the island of Biševo to the world. His discovery marked the beginning of tourism in Dalmatia and the Blue Cave has become a must-see tourist attraction of the Adriatic Sea. The Blue Cave is protected as a geomorphological monument of nature since

The tourism destination Vis is geographically, naturally and culturally positioned in an environment that, with its key characteristics, makes a tourism cluster of Middle Dalmatia (Split-Dalmatia County). Strategic positioning of destinations within the Split-Dalmatia County is defined in the Tourism master plan of Split — The geological survey of the cave in 2019 shed further light on the phenomenon. During the 2019 research, a total of 119 marine species have been found in the Blue Cave, five of which are

strictly protected by the law. In order to preserve the cave and for safety reasons, it is only possible to visit the cave accompanied by the concession-holder “Nautical center Komiža” d.o.o. Dalmatia County, where the island of Vis is positioned as ‘the hideaway island’. The term ‘hideaway’ is used in its widest sense and represents a sanctuary as well as the place of spiritual and cultural revitalization, which presupposes the complete high value tourism change development.

WORKING METHODS

The data used for the purposes of this research were taken from the “Nautical Center Komiža” d.o.o.

According to the objectives of this research and basic descriptive parameters presented, increased interest in visiting Blue Cave over the years was analyzed. The benefits of Blue Cave were presented to local communities through SWOT analysis. The obtained data was processed using Statistics ver. 14 software packages (Stat Soft, Inc. TULSA, USA).

RESULTS AND DISCUSSION

The Blue Cave is a well-known global phenomenon that attracts high numbers of visitors to Biševo with its light phenomenon and the natural beauty of its immediate surroundings. In order to preserve the natural features of the cave, the visitors can enter them only accompanied by authorized personnel or the concession holder, adhering to the Code of Conduct.

Starting from 2013, the terrestrial and marine part of the island belong to the Natura 2000 ecological network, with the goal of preserving the island’s numerous habitats and species, implying the need to develop the island on sustainable basis. The Environmental Protection Act prescribes the protection of the strictly protected flora and fauna species, making the protection of nature of Biševo island multi-layered. Its implementation is monitored by the public institution Sea and Karst.

Table 1 presents interest in visiting the Blue Cave over the years. It shows increase interest through the years 2012.—2019. In 2020, the world was dealing with the COVID 19 pandemic “Corona virus”, which change the situation in tourism. After 2020, the trend of an increase in visitors began and continued up to 2023.

Table 2 presents basic descriptive parameters for all the studied variables, arithmetic mean (AM), the lowest (MIN) and the best (MAX) result and standard deviation (SD).

Descriptive statistics showed us that the number of visitors to the Blue Cave increased every year. Growing interest and the attractiveness of natural, cultural, historic and rural attractions of the island can contribute to the implementation of tourism development in a sustainable way.

Year	Adult	Children	VIP-Guest	Summary
2012	42.570	2.561	0	45.131
2013	53.915	2.961	0	56.876
2014	46.576	2.530	0	49.106
2015	84.407	4.935	0	89.342
2017	122.573	5.864	130	128.567
2018	158.600	7.533	168	166.301
2019	170.141	8.271	249	178.661
2020	55.423	5.030	65	60.518
2021	99.141	5.007	158	104.306
2022	127.053	5.987	211	133.251
2023	144.024	5.960	277	150.261

Table 1 — Presentation of interest in visiting the Blue cave over the years

Variable	N	AM	MIN	MAX	SD
Adult	11	100.402,09	42.570,00	170.141,00	46.945,29
Children	11	5.149,00	2.530,00	8.271,00	1.890,12
VIP-Guest	11	114,36	0,00	277,00	106,62
Summary	11	105.665,45	45.131,00	178.661,00	48.815,59
AM (arithmetic mean), MIN (lowest result), MAX (best result), SD (standard deviation)					

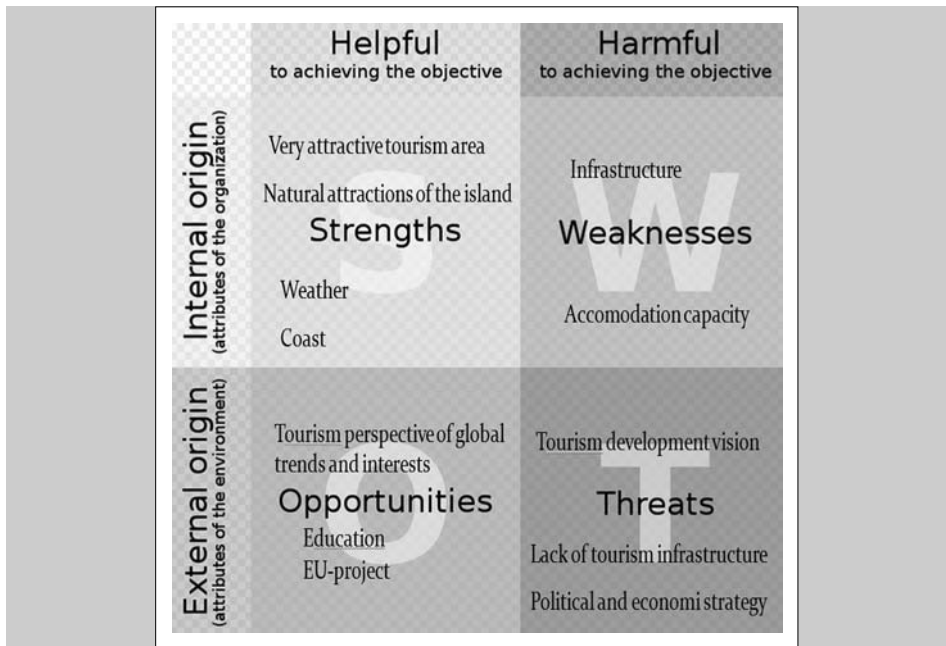
Table 2 — Basic descriptive statistic parameters

SWOT ANALYSIS

SWOT analysis makes it possible to create a framework for systematic analysis and facilitates comparison of external threats and opportunities with internal strengths and weaknesses.

The main purpose of a SWOT analysis is to isolate key facts and events to facilitate a strategic approach and recognition of strategic problems. Likewise, SWOT analysis can be seen as a tool for understanding and studying organizational internal strengths and weaknesses and opportunities and recognizing threats from the environment.

Inner strength lies in attractive tourism areas, location attractions, coast and weather. All of the above provides great potential for sustainable development on local communities. It also provides opportunities for global tourism, education and EU projects. Unfortunately, every project has its own shortcomings, such as infrastructure, ca-



SWOT analysis

capacity and political strategy. With cooperation with the local community, success could be achieved.

According to Rudan (2012), the inclusion of the local population when defining the needs and potential of a destination, i.e., creating its vision, and at the same time using the enthusiasm of the local population, an offer that understands the needs of the local area. As a result of such an approach, management sustainability is achieved, tourist content of the tourist destination. Sustainability presupposes successful management of the emergence of a negative attitude of the population whose presence makes it difficult to build a destination in a tourist sense.

According to Dulčić and Petrić (2001), tourism development planning at the local level should be based on general development goals and priorities determined by the local population. To achieve permanent positive results, the community should be an active participant instead of a passive observer. Muganda et al. (2013) note that in order to achieve greater local engagement in decision-making, for example, citizens can be enabled to request a certain part of tax revenues from tourism, which will be intended for community development and protection of tourist resources.

The graphic representation (Fig. 1) gives us a clear picture of the growing interest in visiting the Blue Cave over the years 2010–2024.

With the diagram (Fig. 2), we can clearly see growing interest in visiting the Blue Cave over the years 2010–2024.

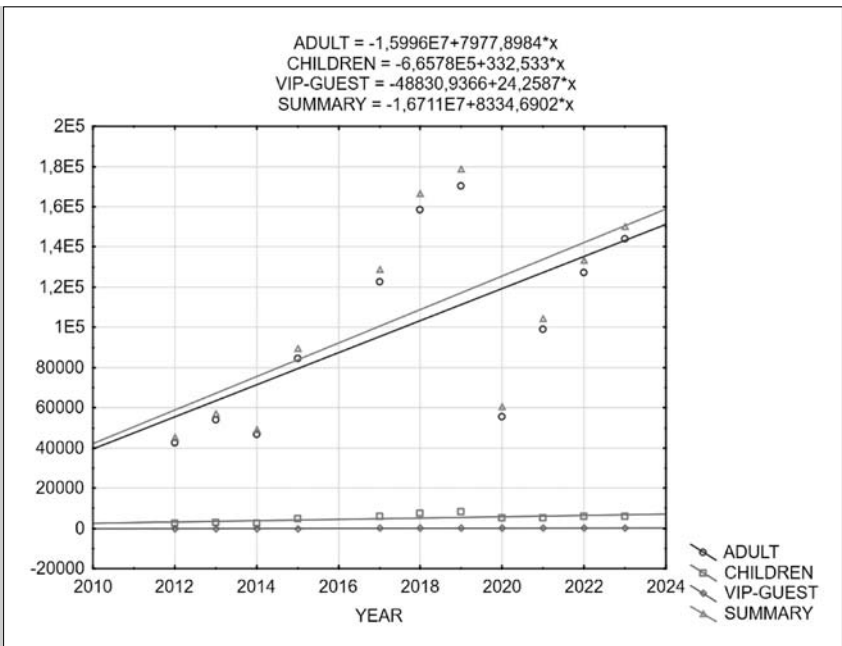


Fig. 1 — Graphical presentation of interest in visiting the Blue cave over the years 2010—2024

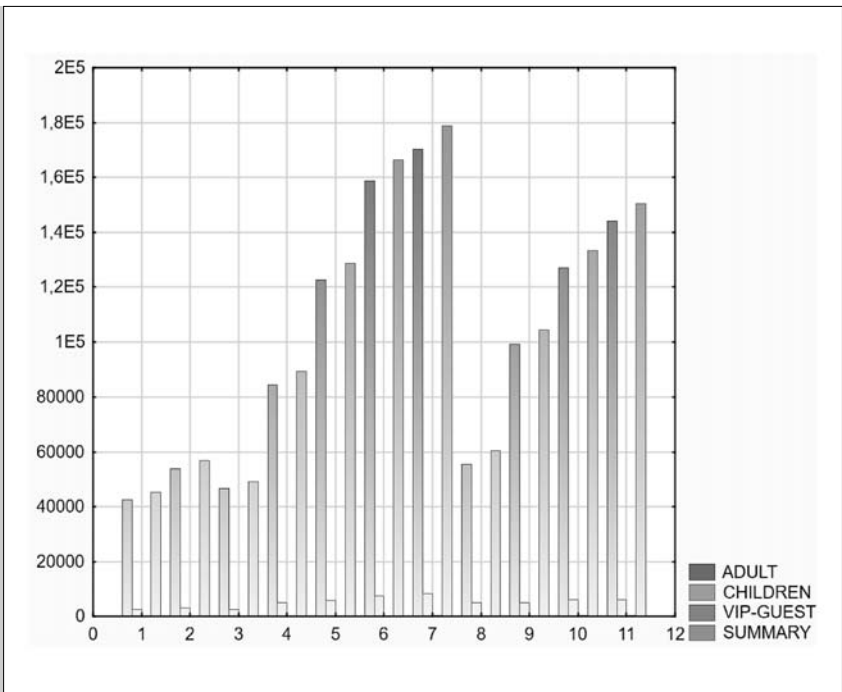


Fig. 2 — Diagram bar presentation of interest in Blue cave

Due to increased interest, the offer is expanding and the infrastructure is improving. Grants are received from European funds. Together, it affects both the extension of the tourist season and sustainable development. Starting from 2013, the terrestrial and marine part of the island belong to the Natura 2000 ecological network, with the goal of preserving the island's numerous habitats and species, implying the need to develop the island on a sustainable basis.

Tourism development of Vis is based on the creation of the integrated tourism value chain, which is embedded into historic attractiveness of the island and its tradition through fishing, olive growing, lemon production, wine production, as well as through the valuation of key identity symbols such as Falkuša, Modra Spilja, etc.

In a process of creating a destination development plan, it is essential to set development guidelines for the distribution of destination's resources. The Island of Vis uses tourism to revitalize its area and generate economic growth, which is done by restructuring its space and innovative high value tourism offer that highlights the identity as well as natural and socio-cultural characteristics of the island.

CONCLUSION

The Blue cave is getting popular, and has a steady-growing communities of tourist from many countries. The Blue Cave is a known global phenomenon that attracts high numbers of visitors to Biševo with its light phenomenon and the natural beauty of its immediate surroundings. The SWOT analysis presented the benefits of the Blue Cave for local communities, and it showed an increased interest in the Blue Cave over the years 2010—2024. The SWOT analysis presented key facts and events to facilitate a strategic approach and recognition of strategic problems. Analysis help understanding and studying organizational internal strengths, weaknesses, opportunities and recognizing threats from the environment. Inner strength lies in attractive tourism areas, location attraction, coast and weather. All of the above provides great potential for sustainable development in local communities. In a process of creating a destination development plan, it is essential to set development guidelines for the distribution of destination's resources. The Island of Vis uses tourism to revitalizes its area and generate the economic growth, which is done by restructuring its space and innovative high value tourism offer that highlights the identity as well as natural and socio-cultural characteristics of the island.

Due to increased interest, the offer is expanding and the infrastructure is improving. Grants are received from European funds. It gives the opportunity to affects both the extension of the tourist season and sustainable development. This method gives the possibility of using more European funds.

References

- Archer, B., Cooper, C., Ruhanen, L., & Theobald, W. F. (2005). *Global tourism*.
- Dickinson, J. E., Lumsdon, L. M., & Robbins, D. (2011). Slow travel: Issues for tourism and climate change. *Journal of Sustainable Tourism*, 19(3), 281-300.
- Dulčić, A., & Petrić, L. (2001). Upravljanje razvojem turizma. *Marketing-tehnologija*.
- Razović, M., & Tomljenović, R. (2015). *Development model of tourism on Croatian open-sea islands*, 63(1), 19-36. UDC: 338.48-44(210.7)(497.5).
- Muganda, M., Sirima, A., & Ezra, P. M. (2013). The role of local communities in tourism development: Grassroots perspectives from Tanzania. *Journal of Human Ecology*, 41(1), 53-66.
- Ramkissoon, H. (2020). Perceived social impacts of tourism and quality-of-life: a new conceptual model. *Journal of Sustainable Tourism*, 31(2), 442-459. <https://doi.org/10.1080/09669582.2020.1858091>.
- Rudan, E. (2012). Uloga lokalnog stanovništva u razvoju turizma destinacije. *Tranzicija*, 14(29), 58-67.
- Scheyvens, R. & Momsen, J. (2008). Tourism in small island states: From vulnerability to strenghts. *Journal of Sustain-able tourism*, 16(5), 491-510.
- Strategija i razvoj turizma otoka Visa, preuzeto: 6. 9. 2022. s Web stranice: <https://spasimobisevo.org/plan-ravoja-ekoloskog-i-ruralnog-turizma>.

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SUSTAINABLE HOUSING — ENCOURAGING THE DEMOGRAPHIC GROWTH OF THE ISLAND POPULATION BY FORMING SEPARATE PARTS OF THE CONSTRUCTION AREA OF THE SETTLEMENT

Abstract

The Adriatic Islands represent the geographical, cultural, historical and natural beauty of exceptional category. At the same time, it is exactly the syndrome of distance and the isolation of many islands that leads to small populations on the islands. The purpose of the paper is to show the possibility of forming separate parts of the construction area of settlements that would represent rural residential self-sustaining communities, in carefully selected areas of the island, near existing settlements. Spatial and urban planning of separate parts of the construction area of the settlement is necessary to create the possibility for a relatively fast and legal way of achieving such settlements, with the demographic growth of the island population as the main aim. For the analysis of the possibilities for forming new residential settlements, a natural uninhabited locality in the western part of the Pelješac Peninsula, southwest of the village of Lovište, was chosen for observation. To collect data on potential interest in such an offering, a survey conducted via social media revealed that interest is primarily among younger and middle-aged groups. The survey aimed to examine the extent of interest in a new lifestyle in harmony with nature within residential communities formed as separated parts of settlement construction areas. These communities would represent rural, self-sustainable residential communities in carefully selected areas of Adriatic islands near existing settlements.

Key words: demographic growth, spatial and urban planning, separated parts of settlement construction area, self-sustainable residential communities

INTRODUCTION

Croatia is one of the most indented countries in the Mediterranean and the world. Along the Croatian Adriatic coast there are 1,244 islands, 48 of which are inhabited.

The purpose of this paper is to present the possibility of forming separate parts of construction zones within settlements that would represent rural, self-sustainable residential communities. These would be located in carefully selected areas of islands, near existing settlements, taking into account recommendations derived from prior multidisciplinary site suitability analyses. Such hamlets should offer a new and high-quality lifestyle that maintains closeness to nature, relying on sustainable construction and renewable energy sources, aligning with permaculture principles but also maintaining legal and administrative ties to developed parts of the island. Through urban planning and design of these separate construction zones it is necessary to create the potential for a relatively quick and legal pathway to establishing such communities.

Two hypotheses have been proposed:

1. There is a legal and practical possibility for the formation of new small sustainable residential communities on the islands of the Croatian Adriatic by creating separate parts of settlement construction zones, which would contribute to the demographic renewal of the islands.
2. There is interest among people of various professions and age groups in living in newly established sustainable residential communities on the islands of the Croatian Adriatic, with individuals willing and eager to relocate to the islands under the new conditions of a sustainable lifestyle.

The observation of the possibilities for forming new residential communities according to the proposed model is focused on inhabited islands with an existing active local population. These islands are often highly developed tourist destinations which significantly make the seasonal life of the islanders difficult. The idea of creating new settlements in natural uninhabited areas, yet close to existing larger settlements, would enable quality living conditions even during the tourist season.

LEGAL FRAMEWORK

For the proposed project, it is necessary to analyze the possibilities of spatial planning within the existing legal framework and, with the demonstrated goodwill of the domicile population, an encouraging atmosphere and idea of co-financing by the state and local governments, the represented idea could start on good ground.

By investigating the possibilities of implementing the imagined project in accordance with the legal framework of the Republic of Croatia, an insight was made into the provisions of the Spatial Planning Act (Official Gazette 153/13, 65/17, 114/18, 39/19, 98/19, 67/23), which, through Article 3, defines the concept of a construction area as also providing for the concept of "undeveloped part of the construction area" — an area determined by the spatial plan, planned for further development", an area determined by a spatial plan on which a settlement has been built and an area planned for the arrangement, development and expansion of the settlement, which consists of the construction area of the settlement (item 8), a separate part of the construction

area of the settlement (item 12) — as a separate part of the existing construction area of the same settlement created by the action of traditional, spatial and functional influences, determined by the spatial plan, and a separate construction area outside the settlement (item 11) — as a spatial entity outside the construction area of the settlement planned for all purposes, except for residential.

It is necessary to emphasize the need for legislators' sensibility to values that lead to opening up research possibilities and the ultimate realization of the idea. Such sensibility can obviously be recognized in the already existing legal framework and, under the influence of the favorably oriented development policies of the European Union, an encouraging atmosphere on the national legislative platform can be expected. Emphasized through the principle of spatial sustainability of development and quality of construction from Article 10 of the Act which states that "the state and local and regional self-government units must encourage the economic and social development of society so that by meeting the needs of the present generation, equal opportunities for meeting the needs of future generations are respected", that "spatial planning supports sustainable development" and "circular management of space and buildings so that existing resources are preserved" and the realization and protection of public and individual interests, as a principle established by Article 11 of the same Act, with monitoring and respecting both current and future generations in the interest of the development of nature, culture, economy, society and ensuring a quality living and working environment, all through the prism of sustainability and efficiency of nature and protection of space. What is even more important is the good will, and the principle of vertical integration from Article 13 — the obligation of vertical cooperation between state and local administration during spatial planning and development, to achieve final goals. The attitude of the local community is transmitted to the state leadership, which, by making decisions and amending laws through goals and interests expressed in documents of a higher level, or a wider area, can contribute to the implementation of spatial planning policy at the local and regional level.

The first part of the hypothesis is confirmed — the existing legal regulations opens up the possibility of performing our proposed project, from the view of the current Spatial Planning Act:

a) Within the areas of the by spatial plans foreseen "separated construction area outside the settlement" — to propose the possibility of a residential function and, in line with vertical integration, point out to the state-level legislator the need to expand the possibilities and this function within the given legal concept, in the broad social interest of the state and local governments.

b) Within the areas of the "undeveloped part of the construction area" foreseen in the spatial plans, through further spatial plans and separate sustainable residential communities, belonging to existing settlements nearby, for the purpose of achieving a broader social interest — the settlement of islands and encouraging demographic growth.



Figure 1 — Pelješac Peninsula — satellite image with the marked area under observation.
Source: satelitska snimka hrvatske — Bing images; 25. 7. 2022. processed by the author.

Starting from such already open, and potentially still further proclaimed and strengthened legal principles and possibilities, with the positive influence of global and European sustainability policies and the positive outcome of field and sociological research that increasingly point to such needs, this interesting idea could become a social reality of still unrecognized possibilities and values.

SPATIAL POSSIBILITIES

With the percentage of development seen on most islands, the terrain configuration and access from both land and sea, there is a realistic possibility for the formation of new sustainable settlements near existing towns and villages on all inhabited Adriatic islands. To avoid a discriminatory study focused on just one island, the locality of the Pelješac Peninsula was selected for further analysis, as shown in figure 2; specifically — its tip, almost submerged in the sea, the village of Lovište, located in the municipality of Orebić. By all characteristics, the Pelješac Peninsula closely resembles the definition of an island, considering its exceptionally long coastline on nearly all sides, with only a small land connection at its eastern end. Perhaps this choice naturally imposed itself since the Pelješac Bridge has resolved one of the most highlighted "problematic" issue of isolation and disconnection from the mainland.

The selected locality is just one among many possibilities offered by the inhabited islands of the Adriatic archipelago. At each island we can find the most favorable location at the local level, which largely depends on microclimatic conditions, transport accessibility, terrain.

FIELD CONDITIONS

For the analysis of the possibilities for forming new residential settlements, a natural uninhabited locality in the western part of the Pelješac Peninsula, southwest of the village of Lovište, was chosen for observation. This area administratively belongs to the

municipality of Orebić in the Dubrovnik-Neretva County. A review of the cartographic representations of the spatial development plan identified the use and purpose of land, transportation and other infrastructure, with special attention paid to protected natural areas, ecological networks and the landscape values of the observed locality near the village of Lovište.

Urban planning and design of separated parts of construction areas within settlements must create opportunities for a fast and legal pathway to establish such communities. In line with the interest in the lifestyle proposed by the suggested framework, spatial planners and urbanists, in collaboration with local self-governments and within the current legal framework, can offer a new way of living and attract specific groups to settle and contribute to the further development of the islands.

SUSTAINABLE LIVING

The purpose of this paper is to demonstrate the possibility and necessity of forming separated parts of construction areas within settlements that would represent rural self-sustainable residential communities. These communities would be located in carefully selected areas of islands near existing settlements, respecting recommendations derived from previous multidisciplinary site suitability analyses. Such hamlets should offer a new and high-quality lifestyle that maintains closeness to nature, relies on sustainable construction and renewable energy sources, and aligns with permaculture principles, while being legally and administratively connected to the developed parts of inhabited areas on the islands. Sustainable living is an increasingly popular choice — among both mature individuals and young people seeking something new, while becoming aware of their own needs as well as the problems associated with the typical contemporary way of living in large cities with noise, light, traffic and informational pollution. Modern individuals increasingly seek a way back to nature, control over their own time, food and community, cohabitation with animals, socially beneficial work and contributions to the community in which they live, enriching their lives and finding the full meaning of their existence.

SURVEY QUESTIONNAIRE

To collect data on potential interest in such an offering, a survey conducted via social media revealed that interest is primarily among younger and middle-aged groups.

The survey aimed to examine the extent of interest in a new lifestyle in harmony with nature within residential communities formed as separated parts of settlement construction areas. These communities would represent rural, self-sustainable residential communities in carefully selected areas of Adriatic islands near existing settlements.

The survey questionnaire was conducted from August 2nd to August 14th, 2024 anonymously through the link: Sustainable living survey — MIC-Vis 2024; August 2024

— Google Forms. Responses to the survey questions were subsequently processed, graphically designed and interpreted by the author.

A total of 77 respondents participated in the survey: 80.5% female and 19.5% male. The age groups were distributed as follows: 54.5% aged 30-50, 19.5% aged 20-30, 15.6% aged 50-60 and 10.4% over 60. In terms of education, 58.4% of respondents have a higher or university-level education, 26% have a secondary education and 15.6% hold postgraduate degrees. Almost 90% of respondents live in families consisting of 2 to 4 members. Regarding employment, a wide range of professions was represented, including economist, lawyer, seafarer, mechanical engineer, educator, electronics technician, sustainable development engineer, food technologist, forestry engineer, accountant, English and French teacher, IT specialist, architect, physiotherapist, legal expert, teacher, tailor, veterinarian, ecologist, retiree, musician, trader, pharmacist, kinesiology graduate, physician, notary, journalist, pilot, civil engineering technician, dentist, and more.

The responses to question 9 from the Survey Questionnaire: "Are you willing to relocate to one of the Adriatic islands if provided with employment in your field and a residential unit for you and your family?" showing that under the condition of securing a job and access to a residential unit 20% of respondents are willing to relocate to an island, about 14% entirely reject the idea of living on an island, while approximately 66% of respondents are willing to consider it.

According to the responses to question 13: "Are you inclined to shift your lifestyle towards nature, giving up the conveniences of modern life in larger towns?", only about 8% of respondents would not want to give up the urban lifestyle. Approximately 16% wish to be closer to nature and are willing to abandon their current habits, 32% see it as a unique challenge and 44% have not considered it but are willing to try. Overall, 92% of potential residents of the new settlement are open to the idea, some perhaps just as a challenge or trial.

The responses to question 15: "Are you willing and ready to replace your current lifestyle with a new way of living in residential communities of a rural settlement on an Adriatic island, near an already inhabited area?", showing that 66% of respondents are willing to consider the proposed new lifestyle, weighing its pros and cons. Meanwhile, an equal percentage of respondents, 17%, are definitively for or against such an option.

Figure 2 graphically represents the responses to question number 19, which pertains to the benefits of the proposed location and lifestyle.

The advantages cited by respondents in question 26 include peace and quiet, nature, proximity to the sea and lifestyle. The disadvantages mentioned in question 27 are the lack of access to doctors, shops and similar services, fewer opportunities for children's development, less civilization, isolation, remoteness and poor connectivity with the mainland.

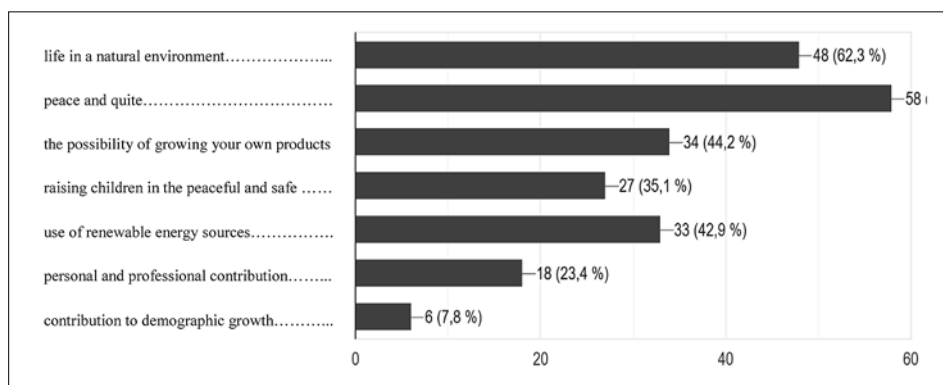


Figure 2 — Graphical representation of responses to question number 19, where respondents could select multiple offered answers to the given question: "What factor could attract you to a new life in a small rural community on an island?"

The majority of respondents are drawn to the islands by peace and quiet, life in nature, the possibility of growing their own produce, using renewable energy sources and raising children in a peaceful and safe environment. Less than 20% highlighted the importance of personal and professional contributions to the island's development and demographic growth.

About 31% of respondents perceive living on an island as isolation, around 25% do not see it as a disadvantage, while 44% could not assess it without concrete experience.

More than 75% of respondents believe that co-financing from the state and/or local government is crucial when starting life on an island, while for approximately 25%, it is not of decisive meaning.

ANALYSIS OF SURVEY RESULTS

The results of the survey show that the isolation of islands is only partially seen as a drawback. There is a critical mass of respondents who do not perceive island life as isolating or who would not let this factor deter them from deciding to relocate and adopt a new lifestyle. Poor connectivity with the mainland, as well as between islands, is a problem that should be prioritized, as solving it could increase the number of those interested in relocating and living on the island. The lack of access to doctors, shops and other services, fewer opportunities for children's development and reduced levels of civilization represent insurmountable challenges for some, while for others they are insignificant. Better connectivity with the mainland would certainly open the door for those willing to make some compromises to enjoy the benefits. Peace and quiet, nature, a new lifestyle and proximity to the sea are definitive advantages that attract both younger and older individuals from various professions, who could embrace a new,

high-quality and sustainable lifestyle in shared community living. Their relocation could breathe fresh life into the islands. If island residents are willing to accept this option, by amending their spatial plans, they can establish the basic prerequisites for further development in the proposed direction.

A review of geographic maps reveals that the vast majority of areas on inhabited islands, including the Pelješac Peninsula, are uninhabited. These are mainly rocky or forested regions with inaccessible coastlines that feature stunning coves, accessible mostly by sea. These areas are characterized by exceptional natural and scenic value. In this context, what is imagined is the creation of new small residential communities, built in an environmentally friendly manner, respecting nature and blending harmoniously into its rules. The survey results indicate a tendency to accept the conditions of island life in exchange for a new quality of life.

CONCLUSION

Demographic growth, residential communities, separated parts of settlement construction areas, sustainable living, spatial and urban planning and urban design form the backbone of this paper. The formation of new smaller rural, self-sustainable residential communities has already been a global trend for a while now. With spatial plans that would, through their amendments, open the possibility of building a legal basis for such settlements, this trend would certainly take hold in Croatia as well. Currently, there are only similar attempts at (still) illegal basis of smaller residential communities, which are sufficient to demonstrate that life in them is not only possible, but also challenging and beautiful. It is the task of society to listen the needs and desires of its citizens and enable legal new ways of living — since the respectable segment of the population is clearly ready for change. Although residential communities of this proposed type can be planned in any geographically suitable area, offering this lifestyle on the islands would contribute to retaining people on the islands, encourage returnees and newcomers, while also fostering demographic growth and increasing the birth rate. For the islands, this would mean recovery — instead of being overexploited tourist destinations, they could once again become vibrant places that live year-round in harmony with nature and its changes, nurturing tradition and contributing to the development of a healthier society.

Through an analysis of the current state, legal framework, spatial possibilities and the selected demonstration site on the Pelješac Peninsula, as well as a study of sustainable living, this paper aimed to show that there is a good platform for building a different way of life than the one currently prevalent.

The survey analysis unexpectedly revealed significant interest in the proposed new possibilities, as well as a high level of willingness to consider a change in location and lifestyle. Notably, such decisions do not depend on the level of education, age

or occupation. On the contrary, the diversity of interests and professions among the respondents highlights the potential for creating a vibrant community. It would be a small community where "people would truly support one another."

Based on the above, it is concluded that both hypotheses have been confirmed.

References

Spatial Planning Act (Official Gazette 153/13, 65/17, 114/18, 39/19, 98/19, 67/23).

Spatial Development Plan of the Municipality of Orebić — *February 2018* — revised text — 5. 9. 2024. Prostorni (orebic.hr).

Amendments to the spatial plan of the municipality of Orebić — *March 2023* — 5. 9. 2024. Prostorni (orebic.hr).

Graphic part — cartographic presentation of the Amendments and Supplements to the Spatial Development Plan of the Municipality of Orebić, /04_kartografski_prikaz_1_25000.pdf — 5. 9. 2024.; *Grafički dio — kartografski prikaz Izmjene i dopune prostornog plana uređenja općine Orebić, /04_kartografski_prikaz_1_25000.pdf* — Search.

Survey questionnaire: Survey SUSTAINABLE HOUSING — MIC-Vis 2024; August 2024 — Google Forms.

Answers to survey questions:

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CHALLENGE AND OPPORTUNITY FOR TOURIST SPORTS AND RECREATIONAL OFFERINGS WITHIN THE FRAMEWORK OF SUSTAINABLE COASTAL SPATIAL PLANNING

A b s t r a c t

The Adriatic coastline, with its intricate topography and natural terrain configuration, represents a symbiotic beauty of the sea, stone, and Mediterranean vegetation. Much of it remains untouched, with the most beautiful beaches and unique coastal areas often accessible only by sea. This paper aims to identify the challenges of "wild" nature and propose opportunities for organizing tourist sports and recreational activities that respect the existing coastal environment. It suggests regulating designated public spaces for sports purposes through spatial planning and creating active tourism areas encompassing various sports and recreational offerings. The island of Vis, with its southeastern coastal strip and stunning bays, serves as an inspirational setting for such a tourism concept. The intention is to facilitate access to bays via regulated cycling and walking trails, connecting several bays through paths embedded in the natural rock while installing minimal urban infrastructure. The proposed intervention would enable activities like swimming, diving, cliff jumping, hiking, climbing, running, rollerblading, and cycling, all with minimal construction impact. The discussion begins with an analysis of the geographical and natural characteristics of the terrain, site selection, defining the population that would choose such locations for active leisure, and researching whether similar complexes already exist along the Adriatic coast. From an architectural-urban perspective, the paper envisions a sports corridor subtly integrated into the existing landscape on four levels of urban pathway/bridge designs. Sustainability challenges include utilizing on-site materials, ensuring harmony with the environment, and employing modular sports elements to allow the possibility of reverting to the original state.

Keywords: coastal area, designated public sports space, sports and recreational offerings, minimal construction impact, sustainable material use, reversible interventions

INTRODUCTION

The Adriatic coastline, with its intricate topography and natural terrain configuration, represents a symbiotic beauty of the sea, stone, and Mediterranean vegetation. Much of it remains untouched, with the most beautiful beaches and unique coastal areas of-



Figure 1 — Satellite image of the town of Vis area. Source: Vis — Google maps
<https://www.google.com/maps/place/Vis/@43.0609447,16.1897916,3378m/data=!3m1!1e3!4m5!3m4!1s0x133597b19936c6c9:0xb27cbcb723213e90!8m2!3d43.0602104!4d16.18287>.

ten accessible only by sea. The challenge arises: how to make these captivating bays accessible and assign them a sustainable purpose — preserving nature's integrity while enabling enjoyment, ensuring they remain a shared resource for all without being compromised. Three hypotheses are proposed:

1. There are natural areas of unique beauty and quality along the eastern and southern coastal regions of Vis Island, which are difficult to access from land.
2. Through spatial planning, it is possible to establish new sports and recreational facilities by expanding R1-designated areas outside settlements to serve the community.
3. Active tourism can be developed through sustainable sports activities, making bays and beaches appealing and content-rich year-round.

An analysis of the current state of Vis Town and its spatial plans for development leads to considerations of sports and recreational zones, defined within spatial plans for further detailed planning. The goal is to connect the "wild" nature with opportunities for developing sports activities based on natural resources.

Figure 1 shows a satellite image of the area around the town of Vis, illustrating how the town's expansion is strictly limited by the terrain's configuration. There is little space available for additional developments, particularly for sports and recreational



Figure 2 — Marked areas for the development of new sustainable sports and recreational zones 1 and 2. Source: <https://www.google.hr/maps/@42.9426996,16.9170915,26046m/data=!3m1!1e3!5m1!1e4?entry=ttu> (preuzeto: 2. 5. 2024.)

facilities, which typically require significant spatial dimensions. However, the picturesque landscape — featuring the sea, cliffs, and natural terrain — naturally invites exploration and challenges physical endurance, agility, and dexterity. In such a setting, it is unnecessary to create extensive new facilities; instead, one can simply utilize what nature already provides.

From this standpoint, the idea emerges to establish new sports and recreational zones near the town of Vis. These zones would offer natural challenges and incorporate sports disciplines that align with the existing terrain conditions. Access to the new zones is partially provided by smaller paths, but connecting the selected areas would require the development of new trails and pathways to link the existing bays. This would make the bays more accessible from the mainland, with the connections serving as a multi-functional sports corridor designed for the proposed sports activities.

The town of Vis holds a unique position relative to the numerous bays surrounding it on the eastern and southern sides of the island, all located in close proximity to the town. Two zones have been designated: Zone 1, situated near the town, and Zone 2, located on the southern part of the island. Both zones are challenging to access but are connected by an existing network of cycling and walking trails. Figure 2 illustrates the marked areas designated for the development of the proposed new sustainable sports and recreational zones, Zone 1 and Zone 2.

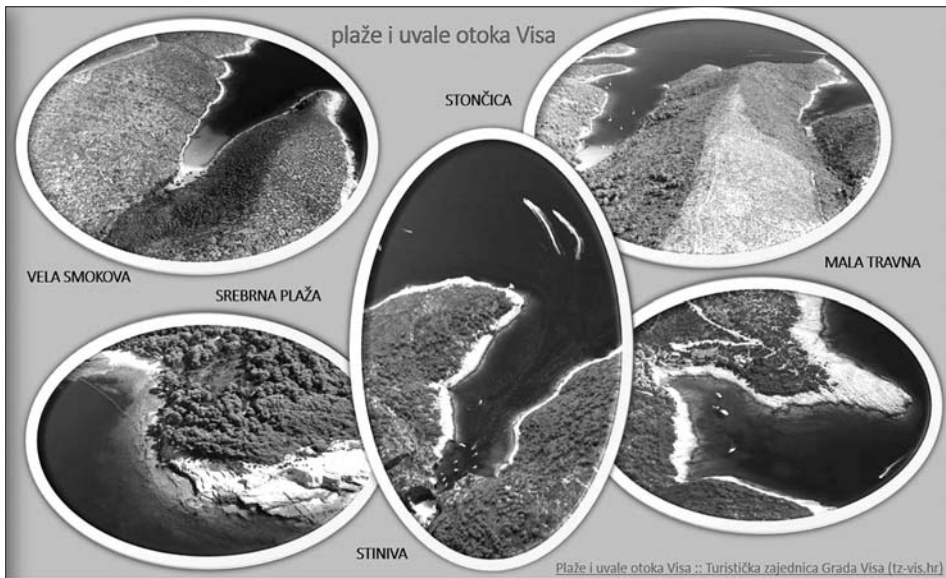


Figure 3 — Beaches and bays of the island of Vis. Source: Tourist Board of the Town of Vis (tz-vis.hr)

The intention of this study is to formalize the concept of creating sports and recreational zones outside the town yet belonging to it, integrating them into the domain of spatial and urban planning. This approach would provide these zones with a clear developmental trajectory while ensuring that they rely on the area's natural assets, which must not be diminished under any circumstances. In this way, existing beaches and bays become more accessible to people, while high-quality sustainable planning and design in spatial plans ensure that nature is preserved. Furthermore, if the proposed areas are addressed within the framework of detailed spatial plans, they gain enhanced protection against uncontrolled and uncompromising exploitation, as well as potential illegal construction and use.

The tourist guide from the Tourist Board of the Town of Vis highlights these renowned beaches and bays. Vela Smokova is described as a favourite destination for sailors, with access recommended only with an experienced guide. Srebrna Beach is reachable by road, which stops about 250 meters from the beach, making it a popular choice for families with children. The widely famous Stiniva Beach is enclosed by two tall rocky cliffs, between which a pebble beach is nestled. It is accessible from land via a steep and, at times, very challenging goat trail. A road from Vis leads to a dirt path, from which the beach can be reached on foot in less than ten minutes. Mala Travna Bay is also accessible via a dirt road.

Figure 3 showcases the stunning, untamed beauty of the beaches and bays in the observed area, offering nothing but themselves — which is more than enough. In a sincere relationship with nature, every well-meaning visitor is encouraged to preserve the

beauty that has captivated and drawn them. Within this context, the concept of "utilizing" natural potentials for sports and recreational purposes is presented.

The authors of this paper wish for it to remain this way: dirt roads, "goat trails," and similar pathways, accompanied by the idea of connecting the bays and beaches through a corridor aligned with a shared coastal line, with branches leading to individual bays.

SPATIAL PLANNING OF NEW SPORTS AND RECREATIONAL ZONES

The purpose of this paper is to identify the challenges of "wild" nature and propose opportunities for organizing tourist sports and recreational activities in a way that fully respects the existing state of the coastal area. This includes regulating designated public spaces for sports purposes through spatial planning and creating active tourism areas that encompass a variety of sports and recreational offerings.

To explore the feasibility of the proposed project, a review of the Spatial Plan of the Town of Vis was conducted, focusing on the land use and zoning map. It was concluded that only a very small area is designated for R1 purposes — sports and recreation — and this is limited to a small portion within the town of Vis. In Category II, Development and Landscaping of Areas Outside Settlements, there are no provisions for sports and recreation. As a result, the potential offered by the coastline and the sea remains underutilized, failing to provide benefits to the residents of Vis and interested tourists. This is particularly relevant to the sustainable use of natural resources in the important segment of active tourism, while respecting the principles of sustainable management of protected forest areas.

From an architectural and urban planning perspective, the study envisions the design of a sports corridor with various levels of urban development for trails and bridges, discreetly integrated into the existing environment. The design adapts to different uses such as running, rock hiking, cycling, and more. In terms of sustainability, the challenge lies in utilizing materials sourced from the site itself, ensuring full integration with the natural surroundings, and employing modular sports elements. This approach ensures that the area can be returned to its original state if necessary.

Figure 4 provides an overview of the Spatial Plan of the Town of Vis, displaying the land use and zoning map with the designated areas for planning new sports and recreational zones—Zone 1 and Zone 2. The map highlights forest areas in close proximity to the coastline and sea on the southern and eastern sides of the town of Vis, as well as the area's limited accessibility. Zone 1 is located just outside the town's eastern edge and could potentially be seen as an extension of the urban area, but exclusively for sports and recreational purposes, safeguarded from construction investments. Zone 2 represents a standalone area outside the town, observed in the proposed context.

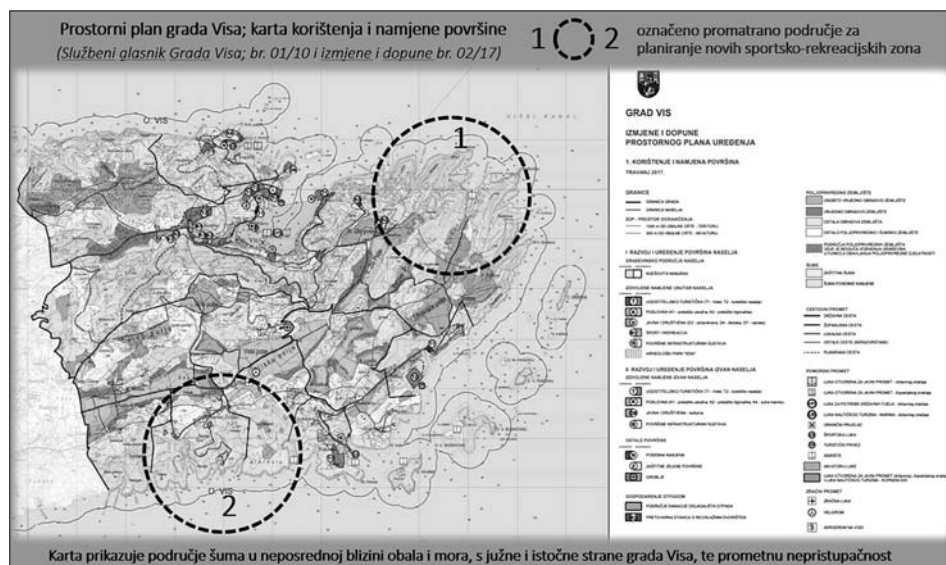


Figure 4 — Spatial plan of the town of Vis;
land use and zoning map with highlighted areas
for planning new sports and recreational zones — Zone 1 and Zone 2.
Source: Official Gazette of the Town of Vis: br. 01/10 i br. 02/17.

The island of Vis, with its southeastern coastal strip and stunning bays, serves as an inspiring setting for this type of tourism offering. The intention is to facilitate access to the bays via regulated cycling and walking paths and to connect several bays with trails embedded into the natural stone, complemented by the installation of minimal urban equipment. The proposed nature-friendly intervention would enable activities such as swimming, diving, cliff jumping, hiking, rock climbing, running, rollerblading, and cycling, all carried out with minimal construction impact.

Figure 5 illustrates the author's graphic representation of the proposed sports and recreational routes, highlighting the access points from existing paths for Zone 1 — eastern coastline and Zone 2 — southern coastline.

The proposed scheme emphasises elements of sustainability: access to bays and beaches via well-maintained pedestrian and cycling trails, equipment along the trails dedicated solely to sports activities, development of sports activities aligned with the natural terrain features, and the establishment of Sports and Recreational Zones 1 and 2 as part of the town's offerings.

Such a solution would not only contribute to the town's development in sports and recreation but also promote an active lifestyle, a closer connection with nature, and improved accessibility to these areas. It would particularly appeal to recreational athletes, nature enthusiasts, and adventurers, potentially extending the tourist season by attracting targeted groups and encouraging year-round use.

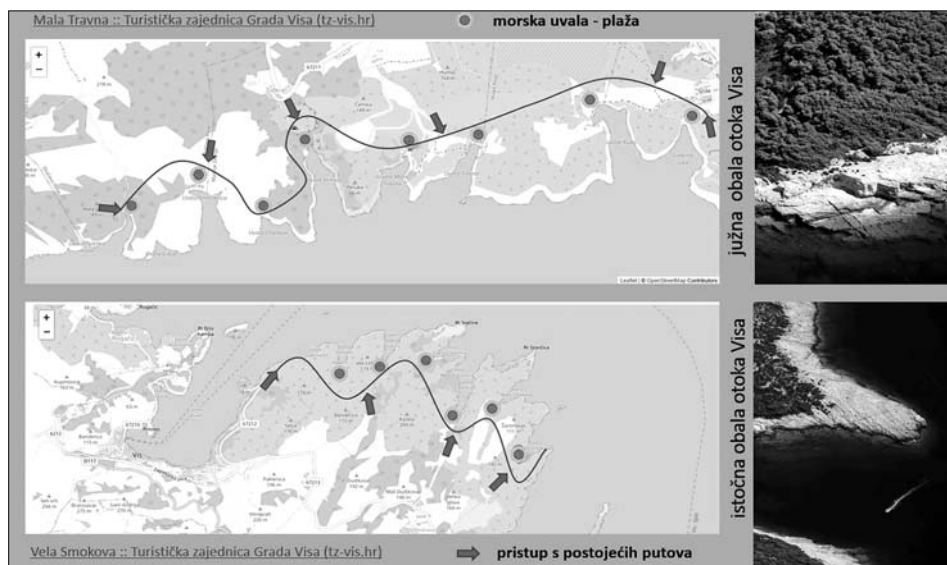


Figure 5 — Diagram of sports and recreational routes with marked access points from existing paths — Zone 1: eastern coastline and Zone 2: southern coastline — author's graphic representation.

Source: Mala Travna, Tourist Board of the Town of Vis (tz-vis.hr);

Vela Smokova, Tourist Board of the Town of Vis (tz-vis.hr).

PREVIOUS RESEARCH AND OBJECTIVES OF SPORTS TOURISM

Research in the field of sports tourism and its interaction with the natural environment shows a continuous increase in interest due to both its economic and ecological implications. Lukoseviciute et al. (2022), in their review of the economic benefits of recreational trails, highlighted the significant economic potential of long and short trails for local communities, particularly in rural areas, through increased tourist spending. Similarly, Ballantyne and Pickering (2015) emphasise the importance of sustainable trail management in natural areas to prevent negative impacts on vegetation and soil, especially in sensitive ecosystems such as mountainous habitats.

Annual analyses of the ecological impacts of sports trails on vegetation and fauna are presented in the works of Jule and Voiculescu (2022), who applied dendrogeomorphological methods to assess erosion rates along mountain trails in the Carpathians. On the other hand, Runkowski (2016), in his dissertation, highlights the need for further research on the impact of recreational trails on endangered plant communities, emphasising the necessity of balancing tourism with nature conservation. Both studies underscore the importance of appropriate design and management of sports trails and recreational paths to avoid ecological harm. They conclude that such an approach can effectively preserve natural environments.

In the context of social and ecological factors, Chakraborty (2019) highlights the social benefits of cycling trails in revitalizing rural communities and strengthening their economic independence. Nagler et al. (2013) explore the economic contributions of recreational trails on public lands in rural areas, concluding that such trails positively impact local economies but require careful management to minimize environmental impacts.

Ballantyne and Pickering (2015) and Lukoseviciute et al. (2022) provide comprehensive analyses that encompass the economic, ecological, and social dimensions of sports tourism. Their studies emphasise the importance of sustainable planning, particularly in the context of protecting natural resources and promoting sustainable forms of tourism. Evju et al. (2021) underscore the importance of adapting trail management to environmental conditions, especially in wet areas where trails are most susceptible to degradation.

Previous research on adventure tourism has explored its growing popularity, driven by the desire for unique and immersive experiences. Studies have highlighted the importance of natural environments, physical activity, and risk as key components of adventure tourism. Researchers have also examined the sustainability of adventure tourism, emphasising the need for responsible management of natural resources.

Additionally, the role of adventure tourism in promoting local economies, extending tourism seasons, and encouraging active outdoor lifestyles has been a central focus. These findings underline the potential for further development of sustainable and appealing adventure tourism offerings. Based on previous research, four main goal areas can be identified for implementing sports activities in tourism within a specific region:

1. *Sustainability* — The primary goal of sports and recreational tourism is to minimize environmental impact. Activities should be designed to reduce ecosystem disruptions, preserve biodiversity, and protect natural resources such as water, soil, and wildlife. Infrastructure should use renewable and locally sourced materials, and good practices should be promoted, such as waste reduction, water conservation, and the use of renewable energy sources. Eco-friendly transportation options, like cycling and walking trails, should be encouraged, with emissions compensated where possible.

2. *Nature Conservation* — Protecting natural landscapes is a critical component of sustainable adventure tourism. It is essential to ensure that activities like hiking, rock climbing, or diving do not cause permanent damage to sensitive natural areas, such as forests, coral reefs, and mountains. The application of the "Leave No Trace" principles encourages practices that prevent environmental pollution, waste dumping, and destruction of natural habitats, promoting responsible behaviour among tourists and operators. Adventure tourism should actively contribute to conservation efforts through reforestation projects, habitat restoration, and wildlife protection programs, ensuring the long-term sustainability of natural resources and ecosystems.

3. *Social Orientation* — Involving local communities in planning and decision-making is vital to respecting their needs, cultural values, and traditional knowledge of the area. This strengthens their role in sustainable tourism development. Simultaneously, educating tourists about environmental conservation and responsible tourism practices fosters a deeper connection with nature and raises awareness about the importance of protecting natural resources. Cultural heritage preservation is equally important, emphasising respect for local traditions and customs to prevent their exploitation while promoting their celebration and protection as integral parts of an authentic tourism offering.

4. *Economic Objectives* — Supporting local economies is a key aspect of sustainable adventure tourism. Priority should be given to employing local guides, instructors, and service providers and using locally produced goods, thereby boosting employment and increasing regional income. Developing activities that extend the tourism season beyond peak periods enables year-round tourism, ensures stable income for local communities, and reduces environmental pressure during high seasons. Fair pricing and inclusive growth allow both locals and tourists to benefit from the economic opportunities created by adventure tourism, contributing to the long-term development and sustainability of the destination.

To achieve these goals, several options are proposed to enhance sports tourism on the island while minimizing environmental impact. Floating or suspension bridges can provide a scenic and functional way to connect both sides of a bay, harmoniously blending into the natural environment and offering pedestrians and cyclists breathtaking views. For adrenaline enthusiasts, a zip line across the bay presents an attractive solution, offering a unique and thrilling experience. The introduction of systems like Kayakomat, a self-service platform for renting kayaks and SUP boards, enables easy access to water activities through automated kiosks near lakes, rivers, or coastal areas. Bicycle rental stations also provide an eco-friendly and practical way to explore natural spaces such as parks, forests, and coastal trails, promoting sustainable movement and a deeper connection with nature.

Additionally, hiking and trekking along natural trails remain popular activities, allowing tourists to discover diverse landscapes, from gentle coastal paths to challenging mountain routes, while enjoying natural scenery, flora, fauna, and cultural landmarks. Off-road cycling further enriches this offer, providing adrenaline-filled rides through coastal and hilly terrains while exploring remote parts of the island, with minimal impact on soil and vegetation. Kayaking and canoeing allow eco-friendly exploration of hidden bays, sea caves, and small islands, fostering unique interactions with marine ecosystems while emphasising the importance of preserving water cleanliness and protecting sensitive habitats. Diving and snorkeling, focused on exploring the underwater world of coral reefs, caves, and shipwrecks, not only offer unforgettable experiences but also promote ecological awareness and the conservation of natural heritage. The-

se activities, while highly valuable for sports tourism, require responsible management and adherence to sustainable development principles to ensure that the island's natural resources are preserved for future generations.

CONCLUSION

This study analysed the coastal area of the island of Vis, specifically the zones belonging to the town of Vis on its eastern and southern sides. These areas, identified as Zone 1 and Zone 2, have been designated as separate public spaces for sports purposes. A sports and recreational offering has been proposed to expand the town's tourist offerings while also meeting the needs of the local population. This proposal emphasises minimal construction interventions, ensuring the sustainable use of materials in each spatial development and the fundamental condition that the area can be restored to its original natural state.

The analysis confirms the presence of natural areas of exceptional beauty and quality along the eastern and southern coastal regions of Vis Island, which are difficult to access from land. Furthermore, the possibility of creating new sports and recreational facilities through spatial planning has been established. These facilities would involve amendments to the spatial plan to expand R1-designated areas outside settlements for the benefit of the local community. Additionally, there is significant potential to develop active tourism through sports disciplines that sustainably utilise natural resources, making the bays and beaches appealing and content-rich throughout the year. Based on the findings, all three hypotheses presented in the study have been confirmed.

References

- Ballantyne, M., & Pickering, C. M. (2015). The impacts of trail infrastructure on vegetation and soils: Current literature and future directions. *Journal of Environmental Management*, 164, 53-64. <https://doi.org/10.1016/j.jenvman.2015.08.032>.
- Chakraborty, K. (2019). Economic benefits from biking trails and greenways. *Business and Economic Research*, 9(2), 199-206. <https://doi.org/10.5296/ber.v9i2.14727>.
- Evju, M., Hagen, D., Jokerud, M., Olsen, S. L., Selvaag, S. K., & Vistad, O. I. (2021). Effects of mountain biking versus hiking on trails under different environmental conditions. *Journal of Environmental Management*, 278, Article 111554. <https://doi.org/10.1016/j.jenvman.2020.111554>.
- Google. (n.d.-a). *Map of Vis, Croatia [Map]*. Google Maps. Retrieved May 2, 2024, from <https://www.google.com/maps/place/Vis>.
- Google. (n.d.-b). *Vis Island and surrounding area [Map]*. Retrieved May 2, 2024, from <https://www.google.hr/maps/@42.9426996,16.9170915,26046m>.
- Jula, M., & Voiculescu, M. (2022). Assessment of the mean erosion rate using dendrogeomorphological approaches on exposed roots along hiking and biking trails in the Bucegi Mountains, Romanian Carpathians. *Catena*, 217, Article 106435. <https://doi.org/10.1016/j.catena.2022.106435>.

- Lukoseviciute, G., Pereira, L. N., & Panagopoulos, T. (2022). The economic impact of recreational trails: A systematic literature review. *Journal of Ecotourism*, 21(4), 366-393.
<https://doi.org/10.1080/14724049.2022.2030745>.
- Nagler, A. M., Bastian, C. T., Taylor, D., & Foulke, T. (2013). Community economic contributions from recreational trails usage on public lands: Implications from a comprehensive Wyoming case study. *Journal of Park and Recreation Administration*, 31(2), 1-11.
<https://doi.org/10.22004/ag.econ.17666>.
- Runkowski, M. (2016). The impacts of recreational trail infrastructure on threatened plant communities [Doctoral dissertation, Central Queensland University]. CQUniversity Institutional Repository. <https://doi.org/10.25904/1912/3385>.
- Tourist Board of the Town of Vis. (n.d.-a). *Beaches and bays of Vis Island*. Retrieved from <https://www.tz-vis.hr>.
- Tourist Board of the Town of Vis. (n.d.-b). *Mala Travna*. Retrieved from <https://www.tz-vis.hr>.
- Tourist Board of the Town of Vis. (n.d.-c). *Vela Smokova*. Retrieved from <https://www.tz-vis.hr>.
- Town of Vis. (2010). Spatial plan of the town of Vis — Map of land use and zoning. *Official Gazette of the Town of Vis*, No. 01/10.
- Town of Vis. (2017). Amendments and supplements to the spatial plan of the town of Vis. *Official Gazette of the Town of Vis*, No. 02/17.

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DIMENSIONALITY REDUCTION TECHNIQUES IN SUSTAINABLE TOURISM

Abstract

Dimensionality reduction methods play a crucial role in simplifying and extracting meaningful insights from complex datasets. They can help in finding and understanding hidden structures and patterns in high-dimensional data. In the realm of sustainable tourism, where numerous variables influence overall sustainability, dimensionality reduction techniques offer a valuable tool for identifying key parameters and patterns. This study provides an overview of dimensionality reduction methods such as principal component analysis (PCA), multiple correspondence analysis (MCA) and correspondence analysis (CA), focusing on their applications in sustainable tourism contexts. By analyzing the existing literature, the study aims to elucidate the advantages, limitations and potential challenges of employing these techniques in sustainable tourism research and practice. Additionally, the study aims to shed light on the emerging trends and future directions of utilizing dimensionality reduction techniques to enhance sustainability efforts in the tourism industry. By conducting a thorough analysis of the existing scientific literature, this research contributes to a better understanding of the current achievements as well as the advantages and disadvantages of using dimensionality reduction techniques in the context of sustainable tourism.

Key words: sustainable tourism, dimensionality reduction techniques, principal component analysis (PCA), multiple correspondence analysis (MCA), correspondence analysis (CA)

INTRODUCTION

Sustainable tourism has emerged as a crucial approach for balancing the economic, social, and environmental dimensions of tourism development. It seeks to minimize negative impacts while maximizing benefits for local communities, cultural heritage, and natural ecosystems. As the demand for sustainable practices increases, there is a need for robust analytical methods to explore and address the complexities of this field. Dimensionality reduction techniques such as principal component analysis (PCA), multiple correspondence analysis (MCA), and correspondence analysis (CA) are widely used

to simplify and interpret multivariate data. These techniques enable researchers to uncover patterns and relationships of sustainable tourism practices by reducing data complexity while retaining the most significant information. This study explored the application of dimensionality reduction methods in sustainable tourism through an analysis of relevant literature indexed in the Scopus database.

SUSTAINABLE TOURISM

The first scientific article on sustainable tourism, indexed in the Scopus database, was published in 1989. The emergence of an interest in sustainable tourism can be attributed to a global rise in awareness of the environmental, social, and economic challenges associated with development. A key turning point during this period was the publication of "Our common future" (also known as the Brundtland Report) by the World Commission on Environment and Development in 1987 (World Commission on Environment and Development /WCED/, 1987). This report introduces the concept of sustainable development, defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Soon after, sustainability has become a critical topic across various sectors, including tourism, due to its significant connections with natural resources, local communities, and economies. In 1989, global leaders and researchers began exploring ways to align tourism with the principles of sustainable development, addressing issues such as minimizing environmental impacts, preserving local cultures, and ensuring the equitable distribution of economic benefits. Additionally, the late 1980s marked the growth of mass tourism, which led to visible negative consequences such as environmental degradation, overcrowding of destinations, and the loss of cultural authenticity. These issues have spurred the demand for alternative approaches, with sustainable tourism emerging as a development model aimed at balancing the needs of tourists, local communities, and the environment.

Table 1 presents the research strategy employed to determine the number of works published on sustainable tourism within the Scopus database. A search of the Scopus database using the keyword "sustainable tourism" yielded a total of 9201 results

Search strategy	Hits	Time span
TITLE – ABS – KEY ("sustainable tourism")	9201	1989 - November, 2024
AND (LIMIT – TO (LANGUAGE, "English"))	8825	1989 - November, 2024
AND (LIMIT – TO (DOCTYPE, "ar") OR LIMIT – TO (DOCTYPE, "ch") OR LIMIT – TO (DOCTYPE, "bk") or LIMIT – TO (DOCTYPE, "cp"))	8340	1989 - November, 2024

Table 1 — Scopus search strategy for publications on sustainable tourism

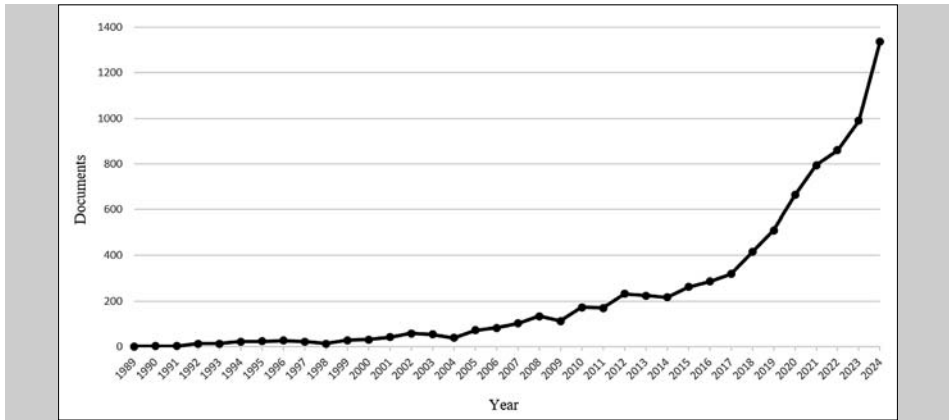


Figure 1 — Documents by year. Source: authors' work.

spanning the publication years 1989 to November 2024. The results were filtered to include only works published in the English language, reducing the total to 8825 results for the same period. Subsequently, the results were refined by limiting the document type to articles, conference papers, books, and book chapters. This final filtering step resulted in 8340 results from 1989 to November 2024.

Figure 1 provides the annual distribution of publications on sustainable tourism indexed in the Scopus database from 1989 to November 2024. The data reveal a steady increase in the number of publications over the years, with notable growth over the past decade. After first publication in 1989, the field has seen a significant rise, culminating in 1338 documents in 2024 (till November) and the distribution curve continues to rise. The early years (1989—2000) showed minimal activity with fewer than 50 publications annually. However, since the mid-2000s, a gradual increase has been observed, reaching over 100 documents annually by 2007. A sharp upward trend began around 2015, reflecting heightened global attention to sustainability issues in tourism. The most pronounced growth is evident in the post-2020 period, likely influenced by increased awareness of sustainable development goals and the impact of global challenges, such as climate change and the COVID-19 pandemic, on the tourism industry.

Figure 2 provides the distribution of publications on sustainable tourism indexed in the Scopus database by country. The United Kingdom and the United States lead the rankings with 784 publications each, indicating a strong academic and research interest in sustainable tourism within these nations. They were followed by China (665), Australia (598), and Spain (571). Several other countries with substantial contributions include Italy (560), Indonesia (500), and India (432), emphasizing widespread interest in sustainability issues. Among the smaller countries, Portugal (321), New Zealand (193), and Greece (180) demonstrate noteworthy academic activity, reflecting their reliance on tourism and interest in sustainable practices. Other noteworthy contributors

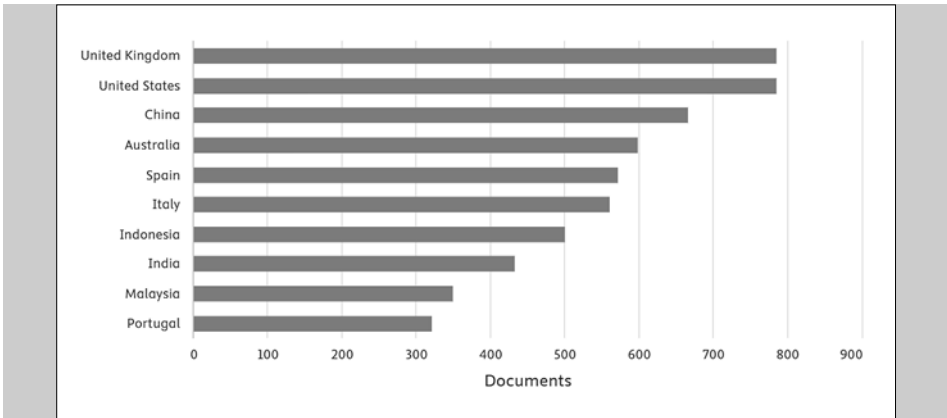


Figure 2 — Documents by country. Source: authors’ work, Scopus.

included Malaysia (349), South Africa (297), and Turkey (246). Smaller nations such as Croatia (100), Slovenia (88), and Botswana (44) also show significant output, underscoring their proactive role in sustainable tourism research. A notable number of countries, including Cyprus (59), Iceland (20), and Fiji (15), actively contribute to global discussions on sustainability, showcasing a universal recognition of its importance in tourism.

DIMENSIONALITY REDUCTION

Dimensionality reduction is an analytical process in data science and research that simplifies complex datasets by reducing the number of variables, while retaining the most meaningful information. The studies related to sustainable tourism (Table 1) were analyzed based on the dimensionality reduction methods they employed. The results of this search are summarized in Table 2. A search of the Scopus database resulted in 3 documents containing the keywords "sustainable tourism" and the "principle component analysis" method, 12 documents containing the keywords "sustainable tourism" and the "multiple correspondence analysis" method, and 32 documents containing the keywords "sustainable tourism" and the "correspondence analysis" method. However, some articles mentioned the MCA or CA method only in the references, and some were not accessible for full review and analysis. The retained and analyzed documents are listed in Table 3.

Method	Hits	Time span
principle component analysis	3	2016 - November, 2024
multiple correspondence analysis	12	2016 - November, 2024
correspondence analysis	32	2015 - November, 2024

Table 2 — Scopus search strategy for dimensionality reduction techniques in sustainable tourism

Authors	Title	Year	Method
Qian Jin, Hui Hu, Philip Kavan	Factors influencing perceived crowding of tourists and sustainable tourism destination management	2016	PCA
Sadia Bano, Mehtab Alam, Anwar Khan, Lu Liu	The nexus of tourism, renewable energy, income, and environmental quality: an empirical analysis of Pakistan	2021	PCA
Tao Zeng, Long Ma, Yizhen Li, Jilili Abuduwaili, Wen Liu & Sen Feng	Source apportionment of soil heavy metals with PMF model and Pb isotopes in an intermountain basin of Tianshan Mountains, China	2022	PCA
Delia M. Andries, Cecilia Arnaiz-Schmitz, Pablo Díaz-Rodríguez, Cristina Herrero-Jáuregui and María F. Schmitz	Sustainable tourism and natural protected areas: Exploring local population perceptions in a post-conflict scenario	2021	MCA
Klaudia Przybysz, Elżbieta Roszko-Wójtowicz, Agnieszka Stanimir	Is seniors' tourism behavior related to sustainable tourism?	2023	MCA
Adam R. Szromek, Beata Hysa, Aneta Karasek	The perception of overtourism from the perspective of different generations	2019	CA
Lóránt Dénes Dávid, János Csapó, Ákos Nagy, Mária Törocsik	Can we understand non-tourism as a form of sustainable tourism? The role of lifestyle and motivations behind non-traveling based on the Hungarian example	2020	CA
Danny Daniel Castillo Vizuete, Alex Vinicio Gavilanes Montoya, Eduardo Antonio Muñoz Jácome, Carlos Renato Chávez Velásquez, Stelian Alexandru Borz	An evaluation of the importance of smart tourism tools in the Riobamba canton, Ecuador	2021	CA
Julia Wojciechowska-solis, Agata Kobylka, Adam Gawryluk	Social responsibility of economic units and the well-being of society in the tourism sector: Example of accommodation facility	2021	CA
Marek Nowacki, Agnieszka Niezgoda	What experiences do tourists seek in national parks? Analysis of Tripadvisor reviews	2023	CA

Table 3 — Articles published in Scopus database using dimensionality reduction method in sustainable tourism

Principal component analysis (PCA) is a valuable tool in sustainable tourism research, helping to simplify complex data and uncover key patterns. Jin et al. (2016) used PCA to identify tourists' motivational factors, such as cultural interests and novelty seeking, and to analyze how perceptions of crowding are influenced by factors such as nationality and cultural background. By reducing data complexity, PCA provides actionable insights for managing tourist flows and enhancing visitor experiences, thereby contributing to the development of sustainable tourism strategies (Jin et al., 2016). Bano et al. (2021) used principal component analysis (PCA) as a dimensionality reduction technique to develop a composite index for tourism in Pakistan. By summarizing key indicators - tourist arrivals, tourism expenditure, and tourism receipts - PCA simplifies complex data into a single index capturing the majority of variance. This index

highlights the role of tourism in economic growth and its environmental impact, providing insights into sustainable tourism development (Bano et al., 2021). Zeng et al. (2022) employed principal component analysis (PCA) to identify the sources of heavy metals in soil, focusing on the environmental impacts of tourism. PCA reduces data complexity while preserving key variance, enabling the identification of contamination sources and their links to tourism activities. This aids in interpreting pollution patterns, guiding sustainable management practices, and monitoring soil quality over time, supporting efforts to mitigate environmental impacts in tourist areas (Zeng et al., 2022).

Andries et al. (2021) used multiple correspondence analysis (MCA) to examine local perceptions of tourism development in the Jaltepeque Estuary. MCA categorizes social actors based on responses to questionnaires about sustainable tourism and the proposed Biosphere Reserve. The analysis highlights the overall community support for tourism while addressing specific concerns, such as the economic disparities noted by fishermen. These insights inform inclusive tourism management strategies aligned with community needs (Andries et al., 2021). Przybysz et al. (2023) used multiple correspondence analysis (MCA) to examine seniors' behaviors and preferences in sustainable tourism, utilizing data from the Flash Eurobarometer 499. MCA identifies patterns among demographic factors, awareness of sustainability, and tourism participation, highlighting the key determinants of travel behavior. It also facilitates cross-country comparisons, revealing how cultural and regional differences influence seniors' engagement with sustainable tourism practices (Przybysz et al., 2023).

Szromek et al. (2019) used CA to explore generational differences in the perceptions of overtourism. CA helps visualize how each generation views the impact of tourism on the environment and local communities, revealing significant attitude differences. It maps the awareness levels of overtourism across generations and identifies the relationships between travel behaviors and opinions on sustainable tourism practices. The method provides a visual representation, making it easier to interpret complex data and understand intergenerational variations in overtourism perceptions (Szromek et al., 2019). Dávid et al. (2020) uses correspondence analysis to examine the relationship between lifestyle groups and reasons for non-travel. This method identifies key patterns, such as traditional barriers like lack of money or time and modern preferences like virtual tourism. By segmenting non-travelers and visually mapping their motivations, the analysis provides valuable insights into non-tourism behavior and offers a framework for understanding the potential demand in sustainable tourism (Dávid et al., 2020). Vizuite et al. (2021) use correspondence analysis (CA) to explore the relationship between tourists' ratings of smart tourism tools and their preferences. CA reduces the dimensionality of data from a questionnaire evaluating 38 smart tools, simplifying complex datasets while retaining most of the variance. It identifies the associations between ratings from national and international tourists, revealing distinct profiles for each group. The analysis provides valuable insights for local governments to prioritize smart

tourism tools that align with tourist preferences and support sustainable tourism development (Vizuete et al., 2021).

Wojciechowska-solis et al. (2021) apply Correspondence Analysis (CA) to explore the relationships between corporate social responsibility (CSR) practices in the accommodation sector in Poland, specifically waste segregation and energy-saving measures. CA was used to analyze data from a survey of 207 facilities, revealing distinct patterns in how different types of accommodation manage waste. For example, hotels typically have staff sort waste, whereas family guest rooms rely on guests. The analysis also identified variations in energy-saving practices across facilities. By using CA, the study provides insights into the CSR practices of accommodations, contributing to sustainable tourism discussions (Wojciechowska-solis et al., 2021).

Nowacki and Niezgoda (2023) use correspondence analysis (CA) to examine visitor experiences in national parks in Poland, contributing to sustainable tourism. By visualizing the relationships between different visitor experiences and park characteristics, CA helps identify key patterns and trends. By analyzing TripAdvisor reviews, the authors categorize these experiences, providing insights that can inform park management and the development of sustainable tourism products. The analysis highlights important dimensions, such as nature appreciation and physical activity, aiding in the management of tourism in sensitive natural areas, and promoting environmental awareness among visitors. Overall, CA offers valuable insights for fostering sustainable tourism practices (Nowacki & Niezgoda, 2023).

CONCLUSION

This study explored the application of dimensionality reduction techniques in sustainable tourism research, focusing on methods such as principal component analysis (PCA), multiple correspondence analysis (MCA), and correspondence analysis (CA). These techniques offer valuable tools for simplifying complex datasets, thereby enabling researchers to identify meaningful patterns and relationships in tourism-related data. By reviewing the articles indexed in the Scopus database, the analysis highlights the increasing integration of these methods in understanding sustainability challenges, tourism behaviors, and stakeholder preferences. The findings underline the importance of advanced analytical techniques in supporting sustainable tourism development. For instance, PCA effectively condenses multidimensional data to identify key drivers of sustainability, whereas MCA and CA provide insights into categorical relationships, such as tourist behaviors or corporate social responsibility practices in tourism facilities. These methods enhance decision making by offering actionable insights that align with sustainability goals. Moreover, the integration of these techniques enables a deeper understanding of complex phenomena, such as overtourism, resource management, and visitor preferences, which are important for developing tailored and effective strategies.

Their application holds significant potential for advancing both theoretical research and practical implementation in sustainable tourism.

References

- Andries, D. M., Arnaiz-Schmitz, C., Díaz-Rodríguez, P., Herrero-Jáuregui, C., & Schmitz, M. F. (2021). Sustainable tourism and natural protected areas: Exploring local population perceptions in a post-conflict scenario. *Land*, 10(3).
- Bano, S., Alam, M., Khan, A., & Liu, L. (2021). The nexus of tourism, renewable energy, income, and environmental quality: an empirical analysis of Pakistan. *Environment, Development and Sustainability*, 23(10), 14854-14877.
- Dávid, L. D., Csapó, J., Nagy, A., & Törocsik, M. (2020). Can we understand non-tourism as a form of sustainable tourism? The role of lifestyle and motivations behind non-traveling based on the Hungarian example. *Sustainability (Switzerland)*, 12(18).
- Jin, Q., Hu, H., & Kavan, P. (2016). Factors influencing perceived crowding of tourists and sustainable tourism destination management. *Sustainability (Switzerland)*, 8(10), 1-17.
- Nowacki, M., & Niezgoda, A. (2023). WHAT EXPERIENCES DO TOURISTS SEEK IN NATIONAL PARKS? ANALYSIS OF TRIPADVISOR REVIEWS. *Economics and Environment*, 84(1), 341-359.
- Przybysz, K., Roszko-Wójtowicz, E., & Stanimir, A. (2023). Is Seniors' Tourism Behavior Related To Sustainable Tourism? *Economics and Environment*, 87(4), 1-23.
- Szromek, A. R., Hysa, B., & Karasek, A. (2019). The Perception of Overtourism from the Perspective of Different Generations. *Sustainability (Switzerland)*, 11(24).
- Vizuete, D. D. C., Montoya, A. V. G., Jácome, E. A. M., Velásquez, C. R. C., & Borz, S. A. (2021). An evaluation of the importance of smart tourism tools in the riobamba canton, ecuador. *Sustainability (Switzerland)*, 13(16).
- Wojciechowska-solis, J., Kobyłka, A., & Gawryluk, A. (2021). Social responsibility of economic units and the well-being of society in the tourism sector: Example of accommodation facility. *Energies*, 14(19).
- World Commission on Environment and Development (WCED). (1987). *Our common Future*. Oxford Univeristy Press.
- Zeng, T., Ma, L., Li, Y., Abuduwaili, J., Liu, W., & Feng, S. (2022). Source apportionment of soil heavy metals with PMF model and Pb isotopes in an intermountain basin of Tianshan Mountains, China. *Scientific Reports*, 12(1), 1-14.

TOURISM



Sailing — student competition

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WHAT DO WE KNOW ABOUT DEPOPULATION IN REMOTE PLACES? THE CASE OF THE CROATIAN ISLANDS

Abstract

The Croatian islands have many difficulties that resemble the general problems of rural and remote regions, which include rapid urbanization, deagrarianization, and falling birth rates, but there are also some specific national causes and explanations. Despite this, demographic trends in Croatia are generally treated as a marginal problem, even though they, directly and indirectly, generate economic and social problems that are difficult to overcome: demographic aging, labour market bottlenecks, problems of caring for elderly persons, lack of sustainability in health and social security systems, and reduced economic growth. In this article, we examine previous studies on why people leave remote and rural areas. The research questions are: (RQ1) What do we know about why people leave rural and remote regions? (RQ2) What are the main drivers for leaving rural and remote regions? For this, we use theoretical perspectives on migration and previous empirical findings. We find that there are many lessons learned from international experiences that also can be applied on the Croatian islands, for example, migration due to education and labour market possibilities. When it comes to access to amenities and higher quality of life, these are advantages for the Croatian islands and may be used as comparative advantages.

Key words: *depopulation, urbanization, Croatian islands, rural, remote*

INTRODUCTION

Depopulation is a significant issue facing many regions worldwide, often driven by economic challenges, urban migration, and declining birth rates. This phenomenon affects rural areas the most, particularly islands, as younger generations move to cities seeking better job opportunities, leaving behind aging populations. Depopulation can lead to abandoned villages, a loss of local culture, and challenges in maintaining infrastructure, schools, and healthcare services. In some places, it also impacts agricultural and traditional practices, with fewer people available to work the land. Addressing depopulation often involves initiatives to boost economic development, improve rural services, and promote the area's cultural and natural assets to attract residents. Most European countries have experienced depopulation in rural and remote places over the

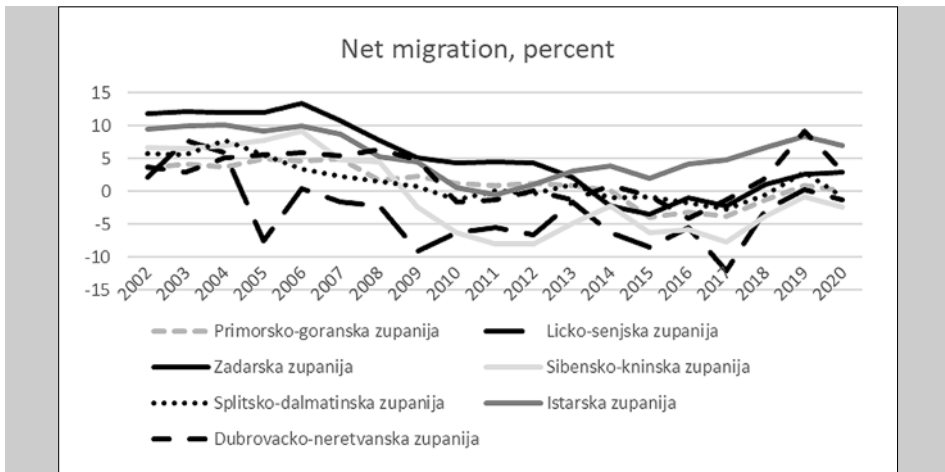


Figure 1 — Net migration, Coastal Croatia counties (NUTS 3). Source: Eurostat Database.

last decade (Eurostat database), and in Eurostat's forecast (Eurostat 2021) populations are likely to shrink in four out of five rural regions by 2050.

In Croatia, for more than half a century, population censuses and vital statistics have recorded an increasing number of places with a significant decrease in the number of inhabitants, and natural decline, or no inhabitants at all. This process is particularly pronounced on many islands. For a long time now, every discourse on demographic trends in Croatia has been factually pessimistic. On a NUTS 3-level (county level) most of the Croatian coast counties experienced a negative net migration from 2010 (see Figure 1), even though major cities like Split and Zadar are included in NUTS 3 statistics, but within these counties, there are also rural and remote places. There are almost 200 uninhabited places in Croatia (Dugački et al. 2021), of which many are located on islands.

The Croatian islands have many problems that resemble the general problems of rural and remote regions, which include fast urbanization — the rural population's flight to bigger cities and, not least, to the capital (here: Zagreb), deagrarianization and falling birth rates. For Croatia, there are some specific national causes and explanations: forced wartime migrations in the 1990s, changes in state structures, economic and political transformation, and privatization (Ministry of Physical Planning, Construction and State Assets, 2017). Despite this, demographic trends in Croatia are generally treated as a marginal problem, even though they, directly and indirectly, generate current long-term economic and social problems that are difficult to overcome: demographic aging, labour market bottlenecks, problems of caring for elderly single, lack of sustainability in health and social security systems, and reduced economic growth.

In general, depopulation occurs because of: (1) negative domestic net migration, (2) negative international net migration, and (3) negative net births. In this article, we

focus on migration and examine previous studies on why people leave remote and rural areas. One of the main reasons for such a challenging demographic situation on Croatian islands is long-term emigration which has been going on for more than a hundred years and especially intensified after the Second World War. In the period from 1900 to 2021, about 50,000 inhabitants emigrated from the Croatian islands, which means that the share of inhabitants on the islands decreased by a quarter during that period. Small and more remote islands suffered in particular, with many being completely depopulated (Nejašmić, 1997, 2013).

In this article, we aim to investigate how this long-term depopulation, and more specifically migration from the islands, can be understood. We will answer the following research questions: (RQ1) What do we know about why people leave rural and remote regions? (RQ2) Based on previous research, what are the main drivers for leaving rural and remote regions? For this, we conduct a literature review and explore both the theoretical perspectives on migration and depopulation and empirical findings.

THEORETICAL EXPLANATIONS

According to the neoclassical theoretical perspective, voluntary migration serves as an economic regulator. It involves the movement of human capital across different geographical regions in response to changing economic and demographic factors. Through migration, human capital is spatially redistributed. This process contributes to regional shifts in labour supply and impacts the local level of human capital. Notably, wage differentials act as powerful magnets, attracting individuals to migrate (see among others Greenwood, 1997; Chen & Rosenthal, 2008; Milanović, 2015, 2016).

Also, different forms of amenities, which encompass various aspects of quality of life (e.g., climate, culture, entertainment), may act as magnets (Roback, 1982; Marston, 1985). In other words, individuals may accept a lower wage if they have access to desirable amenities in a particular location. However, the interaction between amenities, housing, and wages is not straightforward. Marston (1985) highlights that areas with high unemployment often coincide with attractive climates and amenities, as well as high wages and unemployment insurance. Harris and Todaro (1970) explain how high unemployment and high employment growth can coexist due to expectations. People may move from rural to urban areas even without a job, anticipating better-paying employment opportunities. Thus, amenities play a multifaceted role in shaping migration patterns, labour markets, and overall quality of life.

In the human capital theory (see e.g., Becker, 1962) individuals invest in human capital (i.e. education) based on the predicted returns of this investment. These returns of the investment may be maximized if the individual moves to another place. Also, education per se may include a move to another place. If so, the investment calculation also must include this relocation.

In the research on migrations from islands, there is a need to examine the complex interplay of socioeconomic, environmental, and cultural factors that drive people to move from islands to the mainland or other regions. The push-pull theory is a foundational framework that explains migration as a result of both push factors (e.g., economic hardship, lack of resources, environmental challenges) and pull factors (e.g., employment opportunities, better healthcare, or education) that attract individuals to new locations (Fidrmuc, 2001; Regional Cooperation Council and International Organization for Migration, 2015). For islands, push factors primarily include limited economic opportunities, isolation (Babić & Lajić, 2021), and vulnerability to natural disasters or climate change (Lajić, 2006).

Structural theories, such as dependency theory, emphasize how islands, often situated in peripheral positions in the global economy, are influenced by external forces. This dependence on external markets, tourism, and foreign investment can lead to out-migration when local economies face instability (Akrap & Čipin, 2015). Transnationalism and network theory explore how islanders maintain connections with home even after migrating, creating diasporic communities and social networks that support new migrants (Friganović, 2001). For example, family networks often help new arrivals with housing, employment, or cultural adaptation.

Finally, environmental determinism highlights the impact of climate change on island populations. Rising sea levels, coastal erosion, and extreme weather events increasingly act as drivers for migration, making these theoretical perspectives crucial to understanding modern island migration. Together, these frameworks and theoretical explanations offer a comprehensive view of island migration, influenced by economic, social, and environmental dynamics.

INTERNATIONAL EMPIRIC EXPERIENCES

Among the more important determinants of depopulation in Croatia are demographic losses due to two world wars, overseas and European emigration, diseases and epidemics, economic crises, agrarian reforms and colonization, low natality, demographic aging, economic emigration, and rural exodus. Demographic losses in the war 1991–1995 further worsened already disturbed and damaged demographic processes, relationships, and structures in Croatia. Demographic change today affects different parts of the Croatian national territory, regardless of their geographical or developmental characteristics. Accordingly, the analysis of the contemporary process of depopulation must consider the historical connection between demographic and socio-economic development, but there are also some lessons to be learned from international experiences.

Research from the Mid Sweden Region (which contains a large proportion of rural and remote municipalities) has shown that a majority of young people, especially young women studying academic programs, plan to move from their home municipa-

lity after high school (Dalin et al., 2013; Kostela et al., 2013; Boström & Dalin 2018). In fact, the relationship between higher education and mobility is prevalent all over the world. In a British study, Britton et al. (2021) found a relationship between higher education and mobility. At the age of 27, a higher share of graduates (35%), compared to non-graduates (15%) had moved from the area where they lived at age 16.

Thus, previous studies show that young people's tendencies to move depend on jobs, education, and experiences, but also on urban/rural norms in society. These are based on a dichotomization of city and country, where the metropolitan norm is prevalent. There are several studies argue that the 'urban norm' affects young people to leave rural places. For example, Corbett (2007) uses the imperative 'learning to leave' about young people in a coastal community in Canada, and Uddbäck (2021) talks about how the 'mobility imperative' influences young Swedes. The willingness to move, however, differs between groups.

The probability of moving has a socio-economic bias. Boström and Dalin (2018) find that gender, class, and participation are structures that affect the movement. In a study of Swedish rural areas, Ennerberg et al. (2022) argue that the sense of belonging to a rural place is more pronounced for individuals who have caretaking and family obligations and less significant for young people. Thus, age matters, but also other forms of connectivity, like home ownership (see e.g., Bohman et al., 2019). In a study on Selca on the Croatian island of Brač, Štambuk (2004) finds that the primary motivations to move to Zagreb are education and employment.

There is a vast body of research on the gender imbalance in migration from rural areas. According to Johansson (2016), who studied the region of west-northern Sweden [Västernorrland], negative net migration of women from rural areas only occurs in the age group 18-24. In the age groups 25-29 and 30-34, the opposite trend emerges. Johansson connects the out-migration of women to their demand for education and 'women-friendly' labour markets. However, later when they establish families, return migration seems to occur. Further, as some studies claim (see e.g., Lundholm, 2007), migration patterns have changed. Today, it is more common to migrate for educational reasons before establishing oneself in the labour market. Changes in household structures have impacted migration patterns. Interregional migration among families has diminished as dual-income households have become the norm. Although labour-related reasons have traditionally dominated interregional migration, several studies now indicate that the labour market plays a secondary role. It is reasonable to assume that a larger share of interregional moves today occur for reasons independent of labour market factors (Lundholm, 2007, p. 338). Social and environmental motives are more important, and a life-cycle perspective is needed to complement traditional neoclassical explanations for interregional migration. This perspective is grounded in life-course events, such as family formation, career advancement, and changes in household structures.

CONCLUSION

The depopulation of the Croatian islands is a problem to be taken seriously. Even though many islands are seen as tourist havens with a flourishing tourist economy, there are an increasing number of places with a decreasing number of inhabitants. There may be many different reasons, but it appears that access to education is probably one of the most important factors. This is also a factor that can be addressed politically. Factors like the 'urban norm', dual-income households or 'women-friendly' labour markets may be more difficult to address politically.

On the upside for the Croatian islands are their amenities. A relaxing environment, good climate, and engaging natural surroundings are factors that are positive for moving to or remaining on the islands. These amenities, together with access to broadband, can help the Croatian islands transform into attractive places for work and leisure in the digital economy.

References

- Akrap, A., & Čipin, I. (2015). Razvoj stanovništva hrvatskih otoka (Development of the population of the Croatian islands). In Radić, Z. (Ed.) *More — hrvatsko blago*. Matica Hrvatska.
- Babić, D., & Lajić, I. (2021). Dilema mladih otočana: ostanak ili odlazak s otoka Primjer šibenskih otoka (The young islanders' dilemma: to stay on the island or to leave: The islands of Šibenik area example). *Sociologija i prostor*, 39(151/154), 61-82.
- Becker, G.S. (1962). Investment in human capital: A theoretical analysis. *Journal of political economy*, 70(5, Part 2), 9-49.
- Bohman, H., Håkansson, P.G., & Thorsen, I. (2019). Introduction: Spatial Inequalities in the Age of Rapid Technological Advances. In *Investigating spatial inequalities: Mobility, housing and employment in Scandinavia and South-East Europe* (pp. 1-14). Emerald Publishing Limited.
- Boström, L., & Dalin, R. (2018). Young people's opinion on rural Sweden. *International Education Studies*, 11(6), 45-58. <https://doi.org/10.5539/ies.v11n6p45>.
- Britton, J., van der Erve, L., Waltmann, B., & Xu, X. (2021). London calling? Higher education, geographical mobility and early-career earnings. Institute for Fiscal Studies Report, <https://ifs.org.uk/publications/london-calling-higher-education-geographical-mobility-and-early-career-earnings>.
- Chen, Y., & Rosenthal, S.S. (2008). Local amenities and life-cycle migration: Do people move for jobs or fun? *Journal of Urban Economics*, 64(3), 519-537. <https://doi.org/10.1016/j.jue.2008.05.005>.
- Corbett, M. (2007). *Learning to leave. The irony of schooling in a coastal community*. Fernwood Publishing, Morgantown.
- Dalin, R., Bostedt G., & Blusi, M. (2013). *Ungdomar i Västernorrland — åsikter och attityder* [Young people in Västernorrland — opinions and attitudes]. Rapport 2013:12 FOU Västernorrland.
- Dugački, V., Peternel, L., & Škiljan, F. (2021). *Nestala naselja u Republici Hrvatskoj* (Disappeared settlements in the Republic of Croatia), Plejada, Institut za društvena istraživanja, Institut za migracije i narodnosti.

- Ennerberg, E., Lundberg, J., & Axelsson, M. (2022). Local places ruling life: Compromises and restricted career choices in rural Sweden. *Journal of Applied Youth Studies*, 5(4), 281-295. <https://doi.org/10.1007/s43151-022-00085-5>.
- Eurostat (2021). Population projections: urban growth, rural decline, May 2021. <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/ddn-20210520-1> Retrieved 2024-01-05.
- Fidrmuc, J. (2001). Migration and adjustment to shocks in transition economies. *ZEI Working Paper*, No. B 23-2001. available at <https://www.econstor.eu/bitstream/10419/39504/1/338027955>
- Friganović, M.A. (2001). O demografskoj problematici hrvatskih otoka na Jadranu (On Demographic Problems of the Croatian Adriatic Archipelago), *Sociologija i prostora*, 39(1/4 (151/154)), 37-60. <https://hrcak.srce.hr/100235>
- Greenwood, M. (1997). Internal migration in developed countries. In M. Rosenzweig & O. Stark (Eds.), *Handbook of population and family economics* (pp. 647-720). North Holland.
- Harris, J., & Todaro, M. (1970). Migration, unemployment and development: A two-sector analysis. *American Economic Review*, 60(1), 126-142. <https://www.jstor.org/stable/1807860>.
- Johansson, M. (2016). Young women and rural exodus — Swedish experiences. *Journal of Rural Studies*, 43, 291-300. <https://doi.org/10.1016/j.jrurstud.2015.04.002>.
- Kostela, J., Jansson, J., & Möller, P. (2013). *LUPP-enkät Jämtland 2012 Enkätundersökning av ungdomar i år 8 på högstadiet och år 2 på gymnasiet* [LUPP survey Jämtland 2012 Survey of young people in grade 8 at the high school and year 2 of upper high school]. Högskolan Dalarna.
- Lajić, I. (2006). Utjecaj društveno-ekonomskih i demografskih promjena na iseljavanje s dalmatinskih otoka u 19. i prvoj polovini 20. stoljeća (The influence of socio-economic and demographic changes on emigration from the Dalmatian islands in the 19th and first half of the 20th centuries), *Migracijske i etničke teme*, 5(4), 307-324. <https://hrcak.srce.hr/128073>.
- Lundholm, E. (2007). Are movers still the same? Characteristics of interregional migrants in Sweden 1970—2001. *Tijdschrift voor economische en sociale geografie*, 98(3), 336-348. <https://doi.org/10.1111/j.1467-9663.2007.00401.x>.
- Marston, S.T. (1985). Two views of the geographic distribution of unemployment. *The Quarterly Journal of Economics*, 100(1), 57-79. <https://doi.org/10.2307/1885735>.
- Milanovic, B. (2015). Global inequality of opportunity: How much of our income is determined by where we live? *Review of Economics and Statistics*, 97(2), 452-460. https://doi.org/10.1162/rest_a_00432.
- Milanovic, B. (2016). *Global inequality*. Harvard University Press.
- Ministry of Physical Planning, Construction and State Assets (2017). Spatial Development Strategy of the Republic of Croatia 2017, Zagreb: Ministry of Physical Planning, Construction and State Assets. <https://mpgi.gov.hr/UserDocsImages//Zavod/Publikacije//Spaltial.Development.Strategy.pdf>.
- Nejašmić, I. (1997). Suvremene značajke (bio) reprodukcije stanovništva hrvatskog otočja (Contemporary features of (bio) reproduction of the population of the Croatian archipelago). *Migracijske i etničke teme*, 13(1-2), 71-83. <https://hrcak.srce.hr/126623>.
- Nejašmić, I. (2013). Demografsko starenje na hrvatskim otocima (Demographic ageing on Adriatic Islands), *Migracijske i etničke teme*, (2), 141-168.
- Regional Cooperation Council and International Organization for Migration (2015). *Labour Mobility as a Factor of Development in Southeast Europe Regional Overview*. Regional Cooperation

Council and International Organization for Migration. <https://publications.iom.int/books/labour-mobility-factor-development-south-east-europe>

Roback, J. (1982). Wages, rents, and the quality of life. *Journal of political Economy*, 90(6), 1257-1278.

Uddbäck H (2021). *Att stanna kvar: Arbete, plats och mobilitet i småstaden*. Göteborg University.

Databases

Eurostat Database, General and regional statistics, Regional statistics by typology.

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RIJEKA'S MARITIME HERITAGE AS A RESOURCE FOR EXPERIENTIAL INTERPRETATION THROUGH STORYTELLING

Abstract

Rijeka's maritime heritage is a strong tourist resource that also becomes a kind of platform for interpretation through storytelling and experiential networking, creating special forms of tourism in line with trends in the tourism market. The aim of the paper is to show, through a creative model of interpretation, how to create a tourist experience with the help of historical facts and a certain poetics that can become a recognisable tourist product even outside the tourist season for different target groups of tourists and visitors. Due to its favourable geographical position at the intersection of land and sea routes with a developed maritime and shipbuilding tradition, Rijeka has been of interest to many great powers over the centuries. As the eighth largest and most important port in Europe, Rijeka can rightly tell stories about the sea and the underwater world, sailors, shipbuilders, ship typology and construction, astronomical navigation, the rose of the winds and rescue at sea. For the purposes of this work, the available data on the websites of the City of Rijeka, the Tourist Board and the Maritime and History Museum of the Croatian Coast were analysed, which contain historical facts about the city of Rijeka and can serve as a basis for experiential interpretation. By analysing the attraction base and secondary research of documents and archival materials of the city of Rijeka and Rijeka's maritime heritage, a model of interpretation techniques is developed that includes storytelling as a means of conveying and interpreting the destination experience.

Key words: tourist experience, cultural heritage, maritime heritage of Rijeka, experiential interpretation, storytelling

INTRODUCTION

Tourism has long emphasised autochthonous, unique and content-rich destinations and has given rise to specific forms such as cultural tourism. Cultural heritage is a cultural resource that can be integrated into tourism activities in various ways and contributes

to the sustainable development of tourism (Wasela, 2023). Cultural tourism connects the past and the present, i.e. historical cultural values and current cultural treasures. Not only buildings and tangible heritage are passed on from generation to generation, but also customs, festivals, stories, music, events and intangible heritage (Higginbotham, 2012). The totality of material (entire tourism infrastructure) and spiritual values (customs, lifestyle, traditions) that a community experiences as its specific way of life is referred to as culture in the context of tourism (Bui et al, 2020).

The topic of this article is the valorisation of Rijeka's cultural heritage. Rijeka has numerous cultural, protected, tangible and intangible goods, which are of great importance to every individual of this city, but also to its visitors and tourists.

This contribution is about revitalising the themes of Rijeka through storytelling, e.g. stories about the sea, sailors, shipbuilding, navigation and sea rescue. This approach can contribute to the creation of innovative tourist products based on historical facts, providing visitors a unique experience through different interpretation techniques.

CULTURAL HERITAGE AS A TOURIST RESOURCE

Culture represents the entire and unique way of life of the community. What is common and everyday in one culture may be new and exotic in another (Higginbotham, 2012).

Cultural tourism is the most multifaceted specific form of tourism. In the broadest sense, it encompasses tourist travel related to tangible and intangible cultural assets (Du Cros & McKercher, 2020).

In his typology of subtypes of cultural tourism, Csapó (2012) emphasises cultural tourism from a thematic perspective according to the principles of the preferred activity. Cultural tourism is based on four main tourism products and/or activities:

- natural and cultural heritage (very closely linked to ecotourism)
- tangible products and/or activities such as built heritage, architectural sites, world heritage, national and historical monuments
- intangible products and/or activities such as literature, art, folklore
- cultural heritage sites such as museums, collections, libraries, theatres, venues of events and remembrances linked to historical figures.

Cultural heritage is an inseparable element of the identity of nations, regions and political and sociological trends, but it also plays a key role in business successes, plans for future prosperity and social development in general. Pereira Roders and Van Oers (2011) argue that cultural heritage encompasses all contemporary manifestations, human creative activities that have been inherited from previous generations and that are considered valuable by communities, groups or society in general, so that they are preserved in the present and passed on to future generations for their benefit.

Cultural heritage is important as a source of remembrance and inspiration, while at the same time contributing to the national and local identity of the community, which is the basis for a sense of belonging and social cohesion.

Vitić-Četković et al. (2015) present some of the strategies that can be used to transform cultural heritage into a tourist resource or product. By utilising these strategies, destinations can effectively transform their intangible cultural heritage into an attractive tourist resource and product. One of these strategies is storytelling. It is storytelling through the presentation of heritage in an exciting story that represents the identity of the destination that can attract tourists who are interested in experiencing the local culture.

As traditional tourist attractions shift towards more interactive experiences, there is a growing emphasis on the creative development of stories and narratives to create a connection between tourists and the places they visit. This means that communities will need to tell more stories about their history and identity, and tourists will also want to create their own creative interpretations of these stories that relate to their own history and identity.

ANALYSIS OF THE ATTRACTION BASIS OF RIJEKA'S MARITIME HERITAGE

In the area of the city of Rijeka, traces can be seen that have their roots in the Palaeolithic and Neolithic periods (<https://www.rijeka.hr>). Rijeka existed as a port at the time of the Illyrians of the Liburnian tribe. The Romans preferred to live near the sea, on the right bank of the mouth of the Rječina River, where today's old town centre is located. The modernity and culture of Tarsatica are evidenced by historically indescribably important archaeological finds such as the foundations of Roman ramparts, building walls, the remains of thermal baths and Roman gates. Due to its favourable location, which is rich in drinking water and contains a sheltered bay, this city was ideal for the development of port industry and trade. The first evidence of the mentioned settlement appears in the first half of the 13th century. In the 16th century, there was a great economic boom, with trade in oil, wood, iron, wool, livestock and leather taking centre stage. Rijeka also prospered in the field of industry when Emperor Charles VI named it a free harbour. Throughout history, Rijeka has changed various rulers, which records various territorial changes.

Below are the most important historical facts of the city of Rijeka, that should be valorized as an attraction basis (Croatian Encyclopaedia; Rijeka; ZIR; PPMHP; HVM).

Industrial heritage of the city of Rijeka

Rijeka is known for its rich industrial heritage, including the 19th-century Hartera Paper Factory and the Torpedo Factory, one of the first in the world to produce torpedo-

es in the late 19th century. The industrial development of Rijeka, along with shipbuilding and refineries, made this city a key port for the Austro-Hungarian Empire. These stories of industrial growth and technological innovation provide opportunities for an attractive narrative about the development of Rijeka as an industrial center.

Turbulent 20th century: During the 20th century, Rijeka went through turbulent periods — from the annexation of Banská Hrvatska under Ban Jelačić, through the short-lived Italian occupation and the proclamation of the Free State of Rijeka, to the final annexation by the Kingdom of Italy and subsequent liberation in World War II. During the Homeland War, Rijeka was not on the front line of the conflict, but it provided logistical and humanitarian support and was home to many veterans. Such a turbulent history can attract tourists interested in political and cultural dramas.

Maritime and history museum of the Croatian littoral: This museum (<https://ppmhp.hr/o-muzeju>) is an excellent starting point for the interpretation of Rijeka's maritime heritage. The museum provides insights into the maritime past of the region, and is an ideal location for storytelling workshops and interpretive tours:

— *Collection of ship models of the Kraljevica shipyard:* This collection revives the shipbuilding tradition through exhibited ship models and historical models that represent the technical development and importance of shipbuilding for the local economy. Storytelling themed tours can explore the technical innovations, craftsmanship methods, and stories of shipbuilders.

— *Stories of the Blue Horizon* — an exhibition about the life of sailors. The stories of captains and sailors and items such as the life jacket from the Titanic provide an authentic insight into life at sea and can be turned into a dynamic narrative for tourists.

— *Fairy tale and heritage through fairy tales:* the project connects the local ethnographic heritage with the fairy tales of the Brothers Grimm, thus creating an educational experience for visitors of all ages. Through characters such as Ana Katarina Frankopan, the stories of mirror and beauty from the fairy tale of Snow White are adapted to local historical figures. This approach refreshes local history and brings it closer to children and families through imaginative and educational stories.

The museum houses an impressive collection of Central European furniture, porcelain, and watches from the 18th and 19th centuries, as well as a collection of weapons from the 17th century. These objects offer an insight into the everyday life of past centuries and allow the reconstruction of the historical atmosphere of the city.

Famous historical figures

Of particular value for the creative interpretation of Rijeka's maritime heritage are famous historical figures and events that have strongly marked the history of Rijeka and contributed to the wider community. Some personalities whose archetypal energy is

still present today at certain locations along the port of Rijeka and the coastal area are listed below.

Luppis, Ivan Blaž (<https://enciklopedija.hr/clanak/lupis-ivan-blaz>) is a Croatian inventor who certainly deserves special attention. Lupis built a torpedo that moved below the surface of the sea, was powered by a compressed air engine that drove a propeller, and a special device controlled the depth of navigation. The first torpedoes were named Luppis-Whitehead; The invention was first bought by the Austro-Hungarian Navy, then by almost all major naval powers in the world, and the Rijeka factory became the first torpedo factory in the world.

Caroline of Rijeka (<https://visitrijeka.hr>), for whom legend says that she saved her city by keeping her composure in the midst of the commotion and approaching the advancing British marines and asking to be received by their commander, an officer in Fremantle who led the attack. Evidently shaken by her sincerity and cordial openness, he promised her that he would spare the city at such a difficult hour, and suspend any hostile act against private property. Thus, many ships were saved, and other valuable assets such as warehouses and magazines were spared. The city was saved from greater destruction. Over time, the event took on mythical proportions, so today it is spoken of as legendary. Nevertheless, Rijeka did not forget her and in 1829 the city government recognized her as a national heroine, in 1901 it donated her portrait to the municipal museum, and in 1905 it named a city street after her. Her name today is called the pier in the very center of the city port.

As a great recognition for its work as part of the "Port of Diversity" program, the city of Rijeka was declared the European Capital of Culture 2020. The goal of the program was to make the city a cultural and creative center for the whole of Europe and the future that awaits it.

PROPOSAL FOR A MODEL OF CREATIVE INTERPRETATION THROUGH STORYTELLING

It is necessary to place the concept of heritage in the context of a tourist destination. By presenting the concept of maritime heritage and the port of Rijeka through a specific narrative related to maritime heritage, an identity is obtained — a mirror in which different groups of tourists looking for added value and emotional experiences are recognised.

In such a context, heritage is given the function of sharing the narrative through the function of presenting tourist attractions and animations. Heritage is used as an attraction base for the creation of stories. According to Salmon (2011), storytelling mechanisms are used, in which four functions are integrated:

1 — present heritage through a story that should construct the narrative identity of the place (storyline),

2 — set the story at a specific time and manage the rhythm and narrative tension throughout the stay of tourists (timing),

3 — frame the message (framing), highlight tourist attractions as the main tourist attractions,

4 — to create a network on the Internet and in the field, i.e. a hybrid and infectious environment through which attention is attracted and the desired market niche of tourists is structured (networking).

The expression of intangible heritage will contribute to the understanding of the site, where it is extremely important to link physical and intangible records of a particular site and related artifacts, to document and preserve oral traditions, to preserve the memory of the past through the stories of people and objects, but also to maintain a sense of pride.

The scope of interpretation of Rijeka's maritime heritage and the port of Rijeka through storytelling combines culture with particular forms of tourism and is very complex and wide. Interpretation should include much more than just the exchange of information, that is, its main task should be in line with the new trends in tourism and emphasise the economy of experience.

Media and new technologies, such as all kinds of publications, video or audio materials, lectures or organised events on site or in a museum or mobile platform, offer a whole range of original possibilities. The proposal is to incorporate new techniques such as virtual reality and augmented reality, as well as living history through a virtual museum. It is also proposed to engage tourists with the local population in an interactive and creative way through living history.

Living history lends itself particularly well to different stories and is a term that encompasses a variety of activities and events that evoke certain aspects of Rijeka's maritime heritage and the port in the past, with the possibility for visitors to actively participate themselves. Transmedia storytelling, also known as cross-platform storytelling, is a technique for telling stories across multiple platforms and formats using current digital technologies.

After analysing the attraction base and archival material of the city of Rijeka and Rijeka's maritime heritage, a model of interpretation techniques is presented below, which includes storytelling as a means of transmitting and interpreting the experience of the destination.

The diagram shows the key components of the interpretation of Rijeka's maritime heritage through storytelling.

CONCLUSION

Through the integration of advanced technologies such as augmented and virtual reality, along with active involvement of the local community in interpretation, Rijeka can

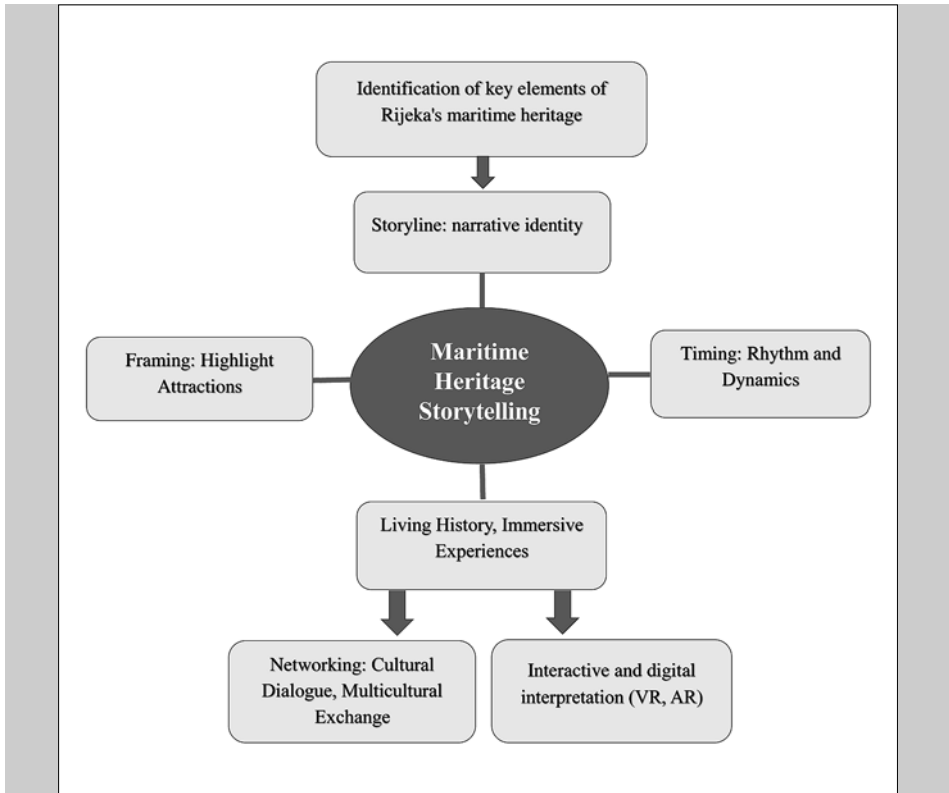


Figure 1 — A model of creative interpretation of Rijeka's maritime heritage through storytelling.
Source: authors

enhance the experience of its maritime heritage. Seasonal programming and transmedia storytelling will allow broader access to diverse tourist demographics year-round, while educational initiatives can spark interest among younger generations. However, challenges like limited resources, heritage preservation, understanding visitor needs, and ensuring sustainable development require careful planning. By thoughtfully balancing these elements, Rijeka can create an innovative tourism product that authentically bridges its past and present.

The valorisation of cultural heritage through tourism has a significant and diverse impact on the local community. Some of these impacts are direct and easy to quantify, while others are more complex and profound and only manifest themselves over time. First and foremost are the positive impacts, such as the preservation of traditions, the revitalisation of culture, the strengthening of the local community, cultural exchange, the creation of economic opportunities and the development of infrastructure. The strengthening of cultural identity is reflected in the competitiveness of local cultural tourism, which has a positive socio-economic impact on the community.

Heritage interpretation encompasses cultural heritage (tangible and intangible) and is one of the key drivers of modern tourism. The role of storytelling in tourism is to bring cultural heritage to life, tell a story, create a quality and authentic experience and encourage visitor engagement and participation. By recognising these potentials, a completely new, innovative, interesting and attractive tourist product can be developed that offers the visitor an unforgettable experience.

References

- Bui, H. T., Jones, T. E., Weaver, D. B., & Le, A. (2020). The adaptive resilience of living cultural heritage in a tourism destination. *Journal of Sustainable Tourism*, 28(7), p. 1022-1040.
- Csapo, J. (2012). The role and importance of cultural tourism in modern tourism industry. *Strategies for tourism industry-micro and macro perspectives*, 10, 201-212.
- Du Cros, H., & McKercher, B. (2020). Cultural tourism. *Routledge*.
- Higginbotham, G. (2012). Seeking roots and tracing lineages: Constructing a framework of reference for roots and genealogical tourism. *Journal of Heritage Tourism*, 7(3), 189-203.
- Pereira Roders, A., & Van Oers, R. (2011). Bridging cultural heritage and sustainable development. *Journal of Cultural Heritage Management and Sustainable Development*, 1(1). 5-14.
- Salmon, C. (2011). Storytelling: Or I'll tell you a story, Clio, Belgrade.
- Vitić-Četković, A., Krstić, B., & Jovanović, I. (2015). Improving the tourist destination image with intangible cultural heritage: Montenegro as a case study. *Economics, Journal for Economic Theory and Practice and Social Issues*, 61(2). 29-37.
- Wasela, K. (2023). The role of intangible cultural heritage in the development of cultural tourism. *International Journal of Eco-Cultural Tourism, Hospitality Planning and Development*, 6(2).. 15-28.
- <https://visitrijeka.hr>.
- <https://enciklopedija.hr/clanak/lupis-ivan-blaz>.
- HYPERLINK "<https://ppmhp.hr/o-muzeju/>"<https://ppmhp.hr/o-muzeju>.
- <https://www.rijeka.hr>.

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APPLICATIONS OF THE DEA METHODOLOGY IN SMART TOURISM: A PRISMA-COMPLIANT SYSTEMATIC LITERATURE REVIEW

Abstract

Smart tourism has been captivating attention from both tourism practitioners and academic members in the past decade and there is a notable technological shift in the tourism sector titled “smart tourism”. Recent research reveals that smart tourism concepts are inevitable and their incorporation into the tourism sector is inescapable. The main aim of this systematic literature review is to survey and present the previously published relevant studies employing the Data Envelopment Analysis (DEA) methodology in smart tourism-related research. Another goal is to provide a theoretical overview of the DEA methodology and the concept of smart tourism. The PRISMA guidelines for an extensive systematic literature review of studies are applied, with the keywords “Data Envelopment Analysis” and “Smart Tourism” in both Scopus and Web of Science global scientific databases. This literature review indicates that the identified relevant studies have been published in the period between 2019 and 2024. The findings primarily present the applicability of DEA methodology in investigating smart tourism solutions. The main scientific and practical contribution of this paper is reflected in the identification, review and in-depth analysis of the published papers in the field of smart tourism. Thus, the findings and different perspectives analysed with DEA could represent a stepping stone for future investigation from other scholars, analysts and local tourism organizations and communities. The ultimate goal of this review is to increase knowledge among academic members, researchers and tourism policymakers in the application possibilities of the DEA methodology in the field of smart tourism.

Key words: *Data Envelopment Analysis (DEA), smart tourism, systematic review, PRISMA.*

INTRODUCTION

The term “smart” has become a buzz word for almost everything. The concept and term *smart tourism* has been constructed and started becoming popular in recent years, due to the increasing use of information and communication technologies (ICT) in the tou-

rism industry (Yalçınkaya et al., 2018). In the simplest terms, smart tourism implies the application of ICT in tourism. According to Gretzel et al. (2015, p. 179) smart tourism is “a new buzzword applied to describe the increasing reliance of tourism destinations, their industries and their tourists on emerging forms of ICT that allow for massive amounts of data to be transformed into value propositions”. The concept and term arise from the convergence of IT with tourism experiences, leading to new business models, experience patterns, and challenges in destination management (Hunter et al., 2015). Jovicic (2017, p. 276) pointed out that “without using digital technologies enabling adequate public-private-consumer collaboration, it is almost impossible nowadays to achieve successful market valorization of destinations’ geographical attributes”.

The main aim of this systematic literature review is to survey and present the previously published relevant studies employing the Data Envelopment Analysis (DEA) methodology in smart tourism-related research. Another goal is to provide a theoretical overview of the DEA methodology and the concept of smart tourism. For this purpose, the PRISMA guidelines were followed and this resulted in six relevant published papers for qualitative analysis.

The paper is structured as follows. After the introductory part, the second section provides theoretical background to smart tourism and the DEA. Section 3 presents the methodology and section 4 presents the relevant published papers in this research area and qualitatively analyses them and their findings. The last section opens up the discussion and concludes the paper.

THEORETICAL BACKGROUND

Smart tourism

There are different definitions of smart tourism. According to Li et al. (2017, p. 293) smart tourism is defined as “as an individual tourist support system within the context of information services and an all-encompassing technology”. Smart tourism includes the tour information service received by tourists during the tour process. Smart tourism raises tourist experiences during travel to a new level and actively strives to achieve efficiency and sustainability (Gretzel et al., 2015b). Smart tourism can be regarded as “a direct extension of e-tourism” and its initiatives aim to enhance tourist experiences, improve residents' well-being, and increase business and destination competitiveness through technology, innovation, and cooperation (Gajdošík, 2018, p. 26).

Ye, Ye and Law (2020) conducted a systematic review of relevant articles related to smart tourism. Based on the conducted analysis, the authors conclude that research topics related to smart tourism were mostly directed towards applied technologies and the behavior, perceptions and experiences of tourists. Research was mainly conducted in the USA, Spain and South Korea. SEM quantitative analysis, which analyzes the be-

havior of customers, and the mixed method, which enables the understanding of smart tourism and can combine qualitative and quantitative analyses, were applied the most.

In addition to the application of ICT, for the definition of smart tourism it is necessary to define the term smart destination, the meaning of which is derived from the definition of a smart city. Nowadays, the popularity of smart destinations is growing. Smart tourist destinations are places that use available technology and innovation to provide pleasure and experience to tourists, but also to make the destinations profit (Jasrotia & Gangotia, 2018). Lopez de Avila (2015, p.2) defined smart tourism destination as “an innovative tourist destination, built on an infrastructure of state-of-the-art technology guaranteeing the sustainable development of tourist areas, accessible to everyone, which facilitates the visitor’s interaction with and integration into his or her surroundings, increases the quality of the experience at the destination, and improves residents’ quality of life.” Smart destinations are not only those that make intensive use of ICT, but also those that use technology to deeply analyze the characteristics and interpretations of human mobility (Lamsfus et al. 2015).

Data envelopment analysis

DEA is a mathematical linear programming-based methodology used to evaluate the efficiency of decision-making units (DMUs) that convert multiple inputs into outputs. DEA offers advantages over other approaches, and thus, this nonparametric method has gained prominence in benchmarking performance across various sectors. Overall, DEA has emerged as a valuable tool in performance evaluation and benchmarking across diverse fields.

RESEARCH PROCESS

The paper adopts the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) approach to systematically review the literature on the smart tourism practices used in combination with the DEA methodology. This kind of methodology is mostly used in healthcare to monitor contemporary events and behavior, however, it is experiencing a growing interest in other research fields as well (marketing in Espejo et al., 2025; education in Khalid et al., 2025; energy in Zakaria et al., 2024; and sports in Soorinarayanan et al., 2024) and represents a framework for systematic literature reviews (SLR).

The PRISMA guidelines were created and first introduced in 2009 by an international network of health-based collaborators to provide “a standardized methodology for searching, filtering, reviewing, and synthesizing findings from multiple publications, ensuring transparency and methodological rigor and quality” (Pati & Lorusso, 2018). As shown in Figure 1, the PRISMA statement consists of a checklist with four steps (identification, screening, eligibility and inclusion) and a flowchart in systematic literature re-

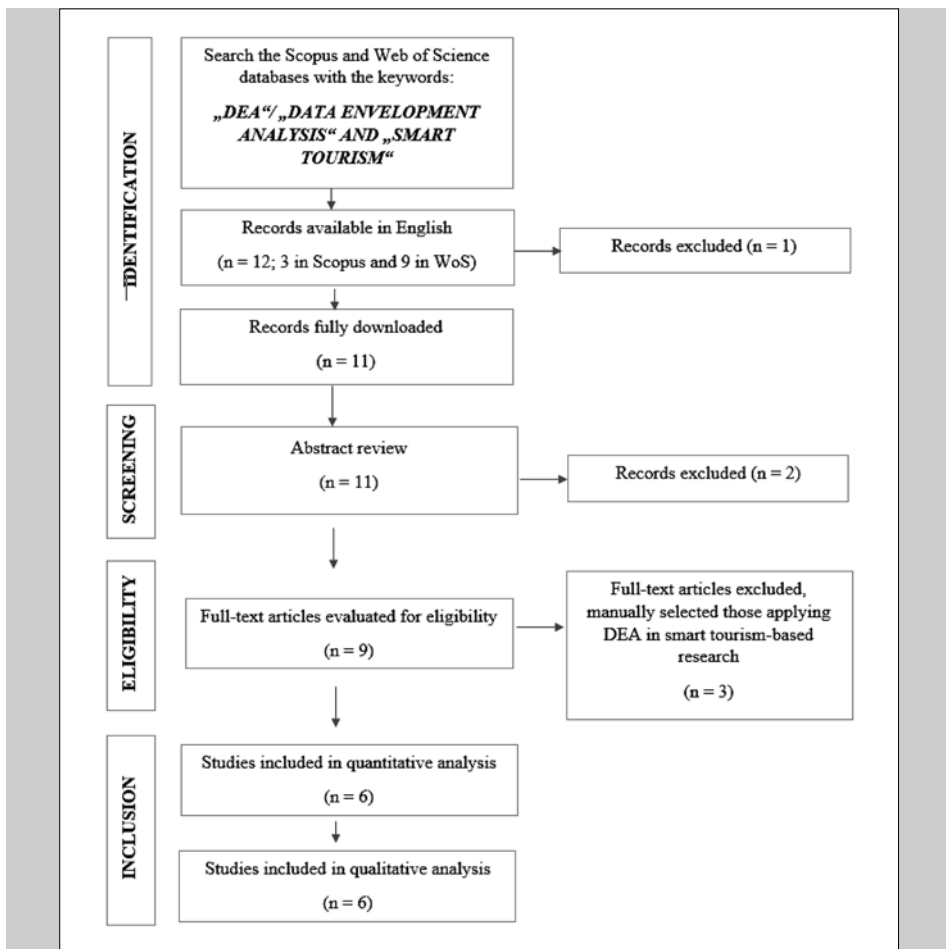


Figure 1 — The review process (PRISMA flow diagram). Source: Authors.

views. In this case, starting from a total of 12 papers in the first step, until the relevant 6 in the inclusion step. These papers are presented in the next section.

RESULTS

The main goal of this paper was the systematization of relevant scientific papers on smart tourism-related research using DEA published in the global scientific databases Scopus and Web of Science. Relevant papers that are available as full-text papers are shown in Table 1 and are analyzed in detail below in a narrative form.

In Hodzic and Jurlina Alibegovic (2019), it was analyzed how effective the expenditures of the regional government are. Empirical analysis was carried out for 20 counties in Croatia between 2011 and 2016. Non-parametric linear programming method,

Authors and year of publication	Title of the paper
Hodzic & Jurlina Alibegovic (2019)	The efficiency of regional government expenditure in smart tourist destination: The case of Croatia
Yifei (2021)	Research on financial performance evaluation of smart tourism enterprises based on DEA-AHP
Mitrović, Manić & Ivanović (2021)	Business conditions regional analysis with a reference to potentials in tourism development: The case of Serbia
Wu et al. (2023)	Measurement and determinants of smart destinations' sustainable performance: A two-stage analysis using DEA-Tobit model
Vidali, Menegaki & Ahmad (2024)	Parametric and non-parametric measurement of efficiency in hotel industry: A systematic literature review
Tang (2024)	Multi-element integrated design of marine landscape in sustainable smart ports

Table 1 — Results of the PRISMA literature review. Source: Authors.

DEA, was used with “regional government expenditures for tourism” and “regional government expenditures for recreation, culture and religion” as input variables and “tourist arrivals and tourist nights” as output variables. Based on the data analysis, the authors conclude that in terms of the effectiveness of regional government expenditures in Croatia, the number of counties in coastal and continental Croatia is equal, even though more and more tourists gravitate towards smart tourist coastal Croatian destinations, especially in the summer period. Lika-Senj County was detected as an efficient county, followed by Sibenik-Knin and Dubrovnik-Neretva counties. The results of this research can guide the regional government on the sustainable development and growth of tourist destinations from the point of view of smart tourism.

In today's time of rapid development of information and communication technology, tourism companies are faced with business models for smart tourism to be sustainable and successful. Yifei (2021), based on DEA and AHP methods, builds a system of financial performance indexes for smart tourism companies. Smart tourism companies as well as competitive tourism companies during their development face changes in the consumer market. Further to the same, their business development largely depends on the assessment of their financial performance.

Mitrović, Manić and Ivanović (2021) tried to reveal the differences about business conditions in the development of tourism in the regions of Serbia. By applying the DEA methodology, the authors determined regional parts of the country that are the best for the development of tourism considering various factors measured by development indices. The Zlatibor district stands out as an example of one of the most visited desti-

nations within this district, and it has relatively low business conditions for the development of tourism.

Wu et al. (2023, p.1) applied the DEA-Tobit model to analyze the impact of the digital economy on the sustainability of 50 smart tourism destinations in China. The research results show that “both online attention and digital economy have significant positive impacts on sustainable performance” and that “digital economy positively moderates the impact of online attention on sustainable performance”. Also, the authors concluded that unwanted effects, like for example air pollution, and how satisfied tourists are with the destination, are important factors in measuring how much a destination has a sustainable effect.

Vidali, Menegaki and Ahmad (2024) conducted a systematic literature review from the Scopus scientific database on hotel efficiency and, among other parametric and non-parametric methods, reviewed non-parametric data envelopment analysis (DEA) and its improvements. In short, DEA enables the analysis of efficient companies on the one hand and inefficient ones on the other hand, considering whether they have efficient production feasibility.

Tang (2024) analyzed how smart technology affects the development and efficiency of a smart port in China. The internal routes of smart port maritime landscapes were optimized and a predictive model was developed to measure the impact of smart port landscapes. Risks in smart port supply chains were assessed using set theory and neural networks, which significantly improved their accuracy. The Malmquist index method of data envelopment analysis (DEA) was applied in the analysis of the economic efficiency of smart connections. The conducted research provides significant decision-making support for port management and insight into the economic operation of smart ports to ensure the long-term sustainability of smart ports.

DISCUSSION AND CONCLUSION

Smart tourism emerged as a concept in recent years and it “describes the current stage of tourism development influenced by the evolution of information technologies and is becoming a promising way how to face the new market conditions” (Gajdošík, 2018, p. 25). However, even though smart tourism offers optimistic possibilities for tourism development, it brings many new challenges and obstacles that need to be tackled in further research. Thus, this paper sheds light into this relatively novel area and represents a stepping stone for this new academic focus in forthcoming years. Notwithstanding, the use of the DEA methodology and many of its hybrid models could tackle many of the ongoing and current issues of smart tourism.

The main objective of this paper is to survey and present the previously published relevant studies employing the DEA methodology in smart tourism-related research. This was achieved by using the PRISMA-guided systematic review and based on

the keywords “Data Envelopment Analysis” and “Smart Tourism” from both Scopus and Web of Science global scientific databases relevant papers were identified. A total of six full-text papers were analyzed qualitatively. All the mentioned papers were published in the past five years. Three articles were published in journals and three as conference papers.

The relatively small number of available papers and the period of their publication indicate that this is a novel and still insufficiently researched area. This paper's findings and publication will contribute to the popularization of this research field in conjunction with the DEA methodology. Moreover, the scientific contribution of this research is reflected in the identification, review and in-depth analysis of the published papers in the field of smart tourism and the applicability of DEA methodology in smart tourism. The literature review based on smart tourism and DEA presented in this paper would significantly contribute to the scientific literature and is a stepping stone for future investigation from other scholars, analysts and local tourism organizations and communities.

The review of papers from only the two mentioned databases and including only available full-text papers potentially eliminates relevant documents from other databases, which represents the main limitation of this research. The authors will try to justify this main limitation through future research by expanding the scientific bases and exploring the bases of smart tourism practices in Croatia and the EU-27 region.

References

- Espejo, L., Perez, N., Mendoza, C., & Gagarín, Y. (2025). A systematic review on unique characteristics of Generation Z and their impact on purchasing decisions. *Journal of Ecohumanism*, 4(1), 12-25.
- Gajdošík, T. (2018). Smart tourism: Concepts and insights from Central Europe. *Czech Journal of Tourism*, 7(1), 25-44.
- Gretzel, U., Reino, S., Kopera, S., & Koo, C. (2015). Smart tourism challenges. *Journal of Tourism*, 16(1), 41-47.
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015) Smart tourism: Foundations and developments. *Electron Markets* 25, 179-188 (2015a). <https://doi.org/10.1007/s12525-015-0196-8>
- Hodžić, S., & Jurlina Alibegović, D. (2019). The efficiency of regional government expenditure in smart tourist destination: the case of Croatia. *ToSEE — Tourism in Southern and Eastern Europe*, 5, 307-318.
- Hunter, W. C., Chung, N., Gretzel, U., & Koo, C. (2015). Constructivist research in smart tourism. *Asia Pacific Journal of Information Systems*, 25(1), 103-118. <http://dx.doi.org/10.14329/apjis.2015.25.1.105>.
- Jasrotia, A., & Gangotia, A. (2018). Smart cities to smart tourism destinations: A review paper. *Journal of Tourism Intelligence and Smartness*, 1(1), 47-56.
- Jovicic, D. Z. (2017). From the traditional understanding of tourism destination to the smart tourism destination. *Current Issues in Tourism*, 22(3), 276-282. <https://doi.org/10.1080/13683500.2017.1313203>.

- Khalid, I. L., Abdullah, M. N. S., & Fadzil, H. M. (2025). A systematic review: Digital learning in STEM education. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 51(1), 98-115.
- Lamsfus, C., Martín, D., Alzua-Sorzabal, A., & Torres-Manzanera, E. (2015). Smart tourism destinations: An extended conception of smart cities focusing on human mobility. In I., Tussyadiah, & A. Inversini (Eds.) *Information and Communication Technologies in Tourism*. Springer, Cham. https://doi.org/10.1007/978-3-319-14343-9_27.
- Li, Y., Hu, C., Huang, C., & Duan, L. (2017). The concept of smart tourism in the context of tourism information services, *Tourism Management*, 58, 293-300. <https://doi.org/10.1016/j.tourman.2016.03.014>.
- Lopez de Avila, A. (2015). *Smart destinations: XXI century tourism* (conference presentation). ENTER2015 Conference on information and communication technologies in tourism, Lugano, Switzerland, February 4-6, 2015.
- Mitrović, D., Manić, E., & Ivanović, S. (2021). *Business conditions regional analysis with a reference to potentials in tourism development: the case of Serbia*. 6th international scientific conference ToSEE — tourism in Southern and Eastern Europe 2021, 6, 491-502. 10.20867/tosee.06.33.
- Pati D., & Lorusso L.N. (2018) How to write a systematic review of the literature. *HERD: Health Environments Research & Design Journal*, 11(1), 15-30. 10.1177/1937586717747384.
- Soorinarayanan, S., Aziz, S. A., Elumalai, G., Chanthiran, M., Khan, T. K. A., & Ruskova, D. (2024). Beyond the court: How virtual reality is changing the game for athletes. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 48(1), 77-88.
- Tang, N. (2024). Multi-element integrated design of marine landscape in sustainable smart ports. *Journal of Sea Research*, 199, 102496.
- Vidali, M. E., Menegaki, A. N., & Ahmad, N. (2024). Parametric and non-parametric measurement of efficiency in hotel industry: A systematic literature review. *Journal of Economic Surveys*, 1-27. <https://doi.org/10.1111/joes.12653>.
- Wu, D., Li, H., Huang, Q., Li, C., & Liang, S. (2023). Measurement and determinants of smart destinations' sustainable performance: a two-stage analysis using DEA-Tobit model. *Current Issues in Tourism*, 27(4), 529-545. <https://doi.org/10.1080/13683500.2023.2228977>.
- Yalçinkaya, P., Atay, L., & Korkmaz, H. (2018). An evaluation on smart tourism. *China-USA Business Review*, 17(6), 308-315.
- Ye, B. H., Ye, H. and Law, R. (2020). Systematic Review of Smart Tourism Research. *Sustainability*, 12, 3401. <https://doi.org/10.3390/su12083401>.
- Yifei, S. (2021). Research on financial performance evaluation of smart tourism enterprises based on DEA-AHP. AICSconf '21: 2021 2nd artificial intelligence and complex systems conference, 95-98. <https://doi.org/10.1145/3516529.3516547>.
- Zakaria, Z., Othman, M. N., Zainuddin, H., Rosdi, M. J., & Khallawi, A. R. (2024). Systematic review of risks in energy performance contracting (EPC) projects. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, 48(2), 235-250.

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE TOURISM SECTOR IN CROATIA

Abstract

This paper explores how Artificial Intelligence (AI) is being used to enhance the tourism industry in the Republic of Croatia. With tourism being a major contributor to Croatia's economy, there is a growing need for innovative technologies to support and boost this sector. AI offers numerous opportunities to improve tourist experiences and streamline operations. The study looks at key areas where AI is making a difference: customer service, personalized marketing, predictive analytics, and operational management. AI-powered chatbots and virtual assistants are now providing round-the-clock customer support, answering questions in various languages, and improving tourist satisfaction. Personalized marketing, driven by AI, helps deliver tailored travel recommendations and special offers, leading to higher engagement and booking rates. AI's predictive analytics can forecast travel trends, manage tourist numbers, and optimize resource use, which is essential for balancing tourist inflow and sustainability. Additionally, AI enhances the efficiency of hotels and transport services by automating processes like bookings, check-ins, and route planning, reducing costs, and improving service quality. The paper also examines real-life examples of AI use in Croatia, showcasing successful applications in hotels, travel agencies, and tourism boards. These examples highlight the benefits and challenges of using AI, providing a clear picture of its current and future impact. Findings suggest that while AI is still emerging in Croatian tourism, it holds great promise for growth. Challenges include the need for better technological infrastructure, improved digital skills, and supportive regulations. The paper concludes with recommendations for policymakers and industry leaders to create a favorable environment for AI adoption, ensuring Croatia stays competitive and innovative in the global tourism market.

Key words: Artificial intelligence, AI in travel and tourism, AI applications in Croatian tourism.

INTRODUCTION

Artificial intelligence (AI) is increasingly shaping modern tourism, enabling the customization of offers for users, improving operational efficiency, and creating innovative tourism experiences. In its Artificial Intelligence Act from 2024, the European Parliament defines AI as: "... a machine-based system that is designed to operate with vary-

ing levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments.” (European Parliament, 2024). In short, AI can be described as a set of computational technologies that simulate human cognitive functions such as learning, pattern recognition, and decision-making (Huang & Rust, 2018).

Its implementation in tourism covers a wide range of applications, including big data analytics, chatbots, virtual assistants, recommender systems, augmented reality (AR), and many others. The application of AI enables destinations and tourism companies to tailor their services based on the analysis of user preferences and behavioral history, offering personalized itineraries and recommendations (Bulchand-Gidumal, 2020). Additionally, AI systems employ advanced recommendation technologies and analytical tools to adapt experiences to users, providing offers tailored to their specific interests and needs. Such systems make trip planning more intuitive and seamless for tourists, significantly enhancing their overall experience (Samala et al., 2022). By the 2030s, AI is expected to play a key role in organizing and managing tourism resources, enabling personalized services and more efficient handling of large volumes of data in tourism and hospitality (Doborjeh et al., 2022).

One of the key roles of AI in tourism is process automation. AI-based systems reduce the possibility of human error and are available around the clock, minimizing the need for human intervention in routine tasks (Ho et al., 2022). The integration of generative AI, such as ChatGPT, into tourism provides opportunities for faster responses to customer inquiries, optimized travel planning, and improved overall guest experiences (Dwivedi et al., 2022). AI not only facilitates the personalization of user experiences in tourism but also automates complex tasks such as booking and travel planning, thereby increasing service efficiency and reducing operational costs (Tuo et al., 2021).

Another significant advantage of AI systems is their ability to predict tourism trends using big data analytics, enabling service providers to adjust offerings to demand, optimize pricing, and improve logistics (Suanpang & Pothipassa, 2024). AI also transforms how users plan and experience travel by integrating technologies such as AR and VR, which allow virtual tours and destination preview before actual travel. These technologies enable tourists to explore destinations interactively and informatively, potentially increasing their satisfaction with their choice (Li et al., 2021). Generative AI further contributes to this process by enabling the automatic creation of content, such as personalized guides and marketing materials, tailored to user preferences (Suanpang & Pothipassa, 2024). Furthermore, AI fosters inclusivity in tourism through technologies that support individuals with disabilities, such as audio descriptions for visually impaired users (Domínguez Vila et al., 2024).

Despite numerous benefits, the application of AI in tourism faces several challenges. Ethics and data privacy are significant issues, particularly in the context of using

sensitive data to tailor services (Ivanov & Umbrello, 2021). It is essential to ensure transparency in data usage and compliance with legislative frameworks regulating user privacy (Gupta et al., 2023). Additionally, technological acceptance among users and service providers varies, with many expressing concerns about the complexity of technology and the loss of personal interaction, often crucial in tourism experiences (Goel et al., 2021).

The development of AI in tourism also raises sustainability-related questions. While AI and IoT can optimize resources and reduce the negative impact on the environment, the growing application of technology also brings risks, such as increased energy consumption and electronic waste. Therefore, it is crucial to develop technologies that are not only functional but also environmentally responsible (Tong et al., 2022). With proper regulation and strategic implementation, AI has the potential to transform the tourism industry towards personalized, efficient, and sustainable solutions that meet the needs of modern travelers.

AI IN CROATIAN TOURISM

An analysis of available data and studies online reveals that there is limited information on the specific applications of AI within the Croatian tourism industry. Although still in its early stages, AI adoption is steadily gaining momentum. In a tourism-driven country like Croatia, where international visitors are the primary market, multilingual chatbots could play a crucial role in enhancing the overall customer experience.

Large international hotel chains operating in Croatia have begun integrating AI solutions, particularly in customer service and operational management. For instance, the Croatian hotel company Jadranka Group has implemented an AI system called the 'Amenity Recommender' across its properties to enhance guest experiences. This system analyzes extensive data, including age, gender, country of origin, travel companions, room type, and stay duration, to provide personalized recommendations for activities such as excursions, dining, wellness services, and more. It also monitors weather conditions to adjust its suggestions accordingly. Importantly, the system operates with anonymized data to ensure compliance with privacy regulations. The company plans to integrate this system with Amazon Echo devices, allowing guests to interact with virtual assistants like Alexa through voice commands (Total Croatia, 2023).

According to Vedran Antoljak, the director of Apsolon, AI in Croatian tourism is predominantly used for applications and in-room technologies. However, nearly 90% of hotels in Croatia have yet to adopt these innovations (MINT, 2023). Predictive analytics, a valuable AI tool, is already helping hotels address key challenges in the Croatian hospitality industry (such as seasonality, increasing guest demands, and growing market competition) by managing advertising strategies, tracking performance across

social media and digital platforms, and tailoring promotional materials to reach and attract targeted audiences (Lider media, 2023).

One of Croatia's primary challenges, not only in tourism but across various sectors, is the shortage of ICT professionals in the labor market. This issue largely arises from the relatively low salaries offered to ICT specialists, particularly in the public sector, driving many Croatian experts to seek employment with foreign companies or relocate abroad. In this context, research by Pisker, Radman-Funarić, and Kukina (2024) also emphasizes a labor shortage in Croatia's tourism and hospitality sector, underscoring the importance of AI as a critical tool for streamlining operations and addressing service demands.

Despite these obstacles, Croatia has made significant progress in digitalizing small and medium-sized enterprises (SMEs). However, obstacles remain in advancing the digitalization of government services, adopting AI and data analytics, and improving connectivity in rural areas (Trade.gov, 2024). Nevertheless, Croatia's government has recognized AI's potential for economic growth, including its applications in tourism, and has launched initiatives to promote its adoption. In 2020, Croatia began developing a National AI Strategy, which outlines plans to establish AI infrastructure, invest in research, and promote AI skills through specific policies and actions for the period from 2021 to 2025 (European Commission, 2021). Furthermore, in 2023, Croatia adopted the Digital Croatia Strategy, which extends to 2032. This strategy emphasizes the development of e-services for businesses and the enhancement of the national open data portal. The portal, designed to include high-value data and ensure public data interoperability, aims to leverage disruptive technologies like AI and machine learning to support business innovation in both test and real-world environments (NN, 2023).

RESEARCH METHODOLOGY

This study employed a qualitative research approach based on semi-structured interviews with experts in the field of tourism in the Republic of Croatia. The research was conducted during the summer of 2024, involving five participants: a long-time manager of a successful travel agency, the director of a tourist board in a popular destination, the director and founder of a Croatian high-tech hospitality company, a high-ranking official from the Ministry of Tourism of the Republic of Croatia, and the Director of Digital Strategy and Technology at one of the largest and leading hotel chains in Croatia. The identities of the participants are not disclosed, as they are not critical to the study's findings (they are known to the authors).

The primary objectives of the research were to explore the participants' familiarity with the use of artificial intelligence (AI) technologies in tourism, both globally and in Croatia, and to examine how they integrate AI tools into their work. Additionally, the study sought to identify the specific AI tools they utilize, their views on the advan-

tages and disadvantages of AI in tourism, concrete examples of AI applications that have improved certain processes in their business, and the main potential drawbacks of AI implementation in the tourism sector. Lastly, the research aimed to capture their perspectives on the future of AI usage in tourism.

All interviews were transcribed and coded to extract key themes and patterns. The significant insights and findings from the participants' responses are summarized in the following chapter. The analysis presents participants' perspectives on AI applications in Croatia's tourism industry, accompanied by some practical examples of its implementation and potential benefits.

RESEARCH FINDINGS

Despite the growing prominence of AI, most participants revealed that they do not currently use advanced AI tools directly in their operations. Instead, they employ AI applications such as ChatGPT for everyday tasks like drafting and replying to emails, translating documents, summarizing information, and generating initial drafts for content. While these tools somewhat improve their efficiency, participants emphasized the need for broader and deeper integration of AI into core tourism operations.

A recurring theme across the interviews was the importance of guest data and open data in improving tourism services. However, participants expressed dissatisfaction with the limited access to high-quality, actionable data in Croatia's tourism sector, identifying this as a key area requiring improvement. They agreed that better availability of structured and open data would significantly enhance their ability to implement AI-driven solutions effectively.

All participants also agreed that there is considerable potential to integrate AI into their operations. Their vision for AI in tourism was overwhelmingly optimistic. They highlighted the opportunities AI offers in automating repetitive tasks such as check-ins, managing reservations, and providing weather, traffic, and other logistical information. The consensus was that AI cannot replace human empathy or the personal touch, but it can improve task efficiency through automation, enabling employees and industry professionals to focus more on creating meaningful and memorable guest interactions, which are essential for fostering loyalty and enhancing the overall tourism experience.

Some of the participants emphasized AI's transformative potential in big data analysis, enabling personalized services, trend prediction, and improved customer satisfaction. They highlighted its role in enhancing direct bookings and optimizing marketing strategies through targeted campaigns. They also emphasized the role of AI in streamlining operations by automating routine tasks, such as customer feedback analysis, call center workflows, and dynamic pricing, ultimately reducing costs and improving efficiency.

One of the participants, responsible for digital strategy and IT technology in one of Croatia's leading hotel chains, was the only one to provide specific examples of how artificial intelligence (AI) was applied in their company's operations. This hotel chain categorized employee and guest satisfaction surveys into various categories and subcategories, analyzing the sentiment of comments to determine whether they expressed satisfaction or dissatisfaction with the service or facilities. Previously, this process involved manual annotation of text and training proprietary AI models, which was a complex and time-consuming task. With the implementation of ChatGPT, the process was simplified and accelerated, leading to improved categorization quality. Tasks that previously took months were completed in just a few days. Additionally, the company tested the use of ChatGPT to generate personalized marketing content tailored to different guest profiles, such as informal texts for younger audiences or content emphasizing sports-related services for active travelers.

Furthermore, the hotel chain utilized AI for automatic recognition and processing of fields in documents submitted by seasonal workers, who can number up to 5,000 during peak seasons. This significantly streamlined and expedited the workload of the human resources department, a task that was previously highly demanding and time-intensive. The hotel chain also employed AI to process the large volume of emails received in its reservation center, which handled hundreds of thousands of inquiries annually. AI systems analyzed the language, intent (e.g., booking, payment, or information requests), and attributes such as arrival dates for new reservations. Emails were then prioritized based on their business value, ensuring sales-related inquiries were addressed within the same day. This system enabled faster and more efficient processing of inquiries, improved sales performance, and increased conversion rates.

CONCLUSION

While the adoption of AI in Croatia's tourism sector is still in its early stages, stakeholders are optimistic about its future potential. They see AI as a transformative tool to enhance operational efficiency, personalization, and overall customer satisfaction. As AI technology advances, it will likely become an integral part of the tourism industry, helping Croatia remain competitive in the global tourism market. The consensus is that AI will not replace humans but will instead enable industry professionals to focus on creativity, experience design, and relationship-building. Potential areas of growth include AI-driven personalized travel experiences, sustainable tourism management, and enhanced operational efficiency. To fully realize the benefits of AI, Croatia must invest in the necessary technological infrastructure and develop a digitally skilled workforce capable of managing AI systems. Policymakers should also create a regulatory framework that fosters AI innovation while addressing ethical concerns. By taking these steps, Cro-

atia can harness the power of AI to enhance its tourism industry, ensuring long-term growth and sustainability.

References

- Bulchand-Gidumal, J. (2020). Impact of artificial intelligence in travel, tourism, and hospitality. In Z. Xiang et al. (Eds.), *Handbook of e-Tourism*. Springer. https://doi.org/10.1007/978-3-030-05324-6_110-1.
- Domínguez Vila, T., Rubio-Escuderos, L., & Alén González, E. (2024). Accessible tourism: Using technology to increase social equality for people with disabilities. *Tourism Review*. <https://doi.org/10.1108/TR-11-2023-0812>.
- Doborjeh, Z., Hemmington, N., Doborjeh, M., & Kasabov, N. (2022). Artificial intelligence: A systematic review of methods and applications in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 34(3), 1154-1176. <https://doi.org/10.1108/IJCHM-06-2021-0767>.
- Dwivedi, Y. K., Pandey, N., Currie, W., & Micu, A. (2024). Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: Practices, challenges and research agenda. *International Journal of Contemporary Hospitality Management*, 36(1), 1-12. <https://doi.org/10.1108/IJCHM-05-2023-0686>.
- European Commission. (2021, September 1). *Croatia AI strategy report*. Retrieved June 15, 2024, from https://ai-watch.ec.europa.eu/countries/croatia/croatia-ai-strategy-report_en.
- European Parliament. (2024). *Artificial Intelligence Act*. Retrieved June 12, 2024, from https://www.europarl.europa.eu/doceo/document/TA-9-2024-0138_EN.pdf.
- Goel, P., Kaushik, N., Sivathanu, B., Pillai, R., & Vikas, J. (2022). Consumers' adoption of artificial intelligence and robotics in the hospitality and tourism sector: Literature review and future research agenda. *Tourism Review*, 77(4), 1081-1096. <https://doi.org/10.1108/TR-03-2021-0138>.
- Gupta, S., Modgil, S., Lee, C.-K., & Sivarajah, U. (2023). The future is yesterday: Use of AI-driven facial recognition to enhance value in the travel and tourism industry. *Information Systems Frontiers*, 25, 1179-1195. <https://doi.org/10.1007/s10796-022-10271-8>.
- Ho, Y.-H., Alam, S. S., Masukujjaman, M., Lin, C.-Y., & Susmit, S. (2022). Intention to adopt AI-powered online service among tourism and hospitality companies. *International Journal of Technology and Human Interaction*, 18(1), 1-21. <https://doi.org/10.4018/IJTHI.299357>.
- Huang, M.-H., & Rust, R. T. (2018). Artificial intelligence in service. *Journal of Service Research*, 21(2), 155-172. <https://doi.org/10.1177/1094670517752459>.
- Ivanov, S., & Umbrello, S. (2021). The ethics of artificial intelligence and robotization in tourism and hospitality: A conceptual framework and research agenda. *Journal of Smart Tourism*, 1(4), 9-18. <https://doi.org/10.52255/smarttourism.2021.1.4.3>.
- Li, M., Yin, D., Qiu, H., & Bai, B. (2021). A systematic review of AI technology-based service encounters: Implications for hospitality and tourism operations. *International Journal of Hospitality Management*, 95. <https://doi.org/10.1016/j.ijhm.2021.102930>.
- Lider Media. (2023, July 5). *UI u hotelijerstvu: Može li umjetna inteligencija ispunjavati želje i potrebe gosta kao što to čini nasmiješeno osoblje?* Retrieved June 17, 2024, from <https://lidermedia.hr/sto-i-kako/ui-u-hotelijerstvu-moze-li-umjetna-inteligencija-ispunjavati-zelje-i-potrebe-gosta-kao-sto-to-cini-nasmijeseno-osoblje-151803>.

- MINT — Ministry of Tourism and Sport. (2023, November 10). *Sustainable travel, AI increasingly in demand in tourism*. Retrieved June 11, 2024, from <https://mint.gov.hr/news-11455/sustainable-travel-ai-increasingly-in-demand-in-tourism/23639>.
- NN — Narodne novine. (2023, January 4). *Digital Croatia Strategy 2023*. Retrieved June 15, 2024, from https://narodne-novine.nn.hr/clanci/sluzbeni/2023_01_2_17.html.
- Pisker, B., Radman-Funarić, M., & Kukina, H. (2024). Artificial intelligence in tourism: Croatian consumers' perception and attitudes. In *Economic and Social Development (Book of Proceedings), 112th International Scientific Conference on Economic and Social Development* (pp. 117-125). Varaždin, Croatia. <https://urn.nsk.hr/urn:nbn:hr:277:037421>.
- Samala, N., Katkam, B. S., Bellamkonda, R. S., & Rodriguez, R. V. (2022). Impact of AI and robotics in the tourism sector: A critical insight. *Journal of Tourism Futures*, 8(1), 73-87. <https://doi.org/10.1108/JTF-07-2019-0065>.
- Suanpang, P., & Pothipassa, P. (2024). Integrating generative AI and IoT for sustainable smart tourism destinations. *Sustainability*, 16(7435), 1-34. <https://doi.org/10.3390/su16177435>.
- Tong, L., Yan, W., & Manta, O. (2022). Artificial intelligence influences intelligent automation in tourism: A mediating role of Internet of Things and environmental, social, and governance investment. *Frontiers in Environmental Science*, 10, Article 853302. <https://doi.org/10.3389/fenvs.2022.853302>.
- Total Croatia. (2023, April 20). *Croatian Company Develops Artificial Intelligence for Hotel Guests*. Retrieved June 18, 2024, from <https://total-croatia-news.com/news/business/croatian-company-4>.
- Trade.gov. (2024, November 20). *Croatia — Country Commercial Guide: Digital Economy*. Retrieved December 2, 2024, from <https://www.trade.gov/country-commercial-guides/croatia-digital-economy>.
- Tuo, Y., Ning, L., & Zhu, A. (2021). How artificial intelligence will change the future of the tourism industry: The practice in China. In *Information and Communication Technologies in Tourism 2021* (pp. 83-94). Springer. https://doi.org/10.1007/978-3-030-65785-7_7.

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THE FUTURE OF MEDITERRANEAN TOURISM IN A POST COVID WORLD — CASE STUDIES OF VIS AND MALTA

Abstract

While tourism has contributed significantly to economic development of the Mediterranean region, it has created major negative externalities — degradation of natural ecosystems, leakages of economic benefits, tourism income dependency as well as increasing climate warming. The negative environmental impacts of tourism on coastal and maritime areas originates mainly from the construction and operation of built infrastructure (resorts, residences, ports, marinas, etc.) and from maritime/coastal recreational activities (nautical tourism, golf courses, water sports, etc.). These negative externalities exacerbate water and energy consumption in water sensitive areas, leading to physical changes in the natural landscape and coastal artificialisation that inevitably generates pollution and biodiversity loss. Mediterranean tourism, severely impacted by COVID-19 pandemic travel restrictions is now at a crossroads. It has the opportunity to shift towards more sustainable tourism patterns or return to previous expansionary trends. Ambitious, green and inclusive recovery plans are urgently required to ensure a positive future for Mediterranean tourism and contribute towards a prosperous region. Small island economies have been traditionally popular tourist destinations; achieving sustainable tourism development is a major challenge for such economies. Faced with unique characteristics, they deserve special attention, thus raising concerns about whether existing models and solutions are applicable in understanding community responses to tourism in such economies. This paper develops research and case studies based on two examples, namely Vis in Croatia and Malta, for understanding small island community's attitudes to tourism.

Key words: Small economies, Mediterranean, Tourism development, Vis, Malta

INTRODUCTION

The Mediterranean region has unique natural ecosystems offering an amazing diversity of cultural and historical heritage. Benefitting from mild climatic conditions, (impacted by recent climate change) populated and well-connected locations that provide a sought-after travel spot. In 2019, the region was welcoming annually 400m plus international tourist arrivals (ITAs), being one of the most popular destinations in the world. Tourism generated up to 15% of regional GDP, a 75% growth since 1995 and expected to reach 626m ITAs by 2025 (UNWTO, 2017).

The Mediterranean Sea hosts up to 9% of global marine biodiversity with 30% as endemic species. However, 51% of native marine species are in danger of extinction and 4% are listed as near threatened (IUCN, 2021) due to habitat loss from unsustainable exploitation of resources, pollution, climate change, eutrophication and invasive marine species (Coll, 2010). Yet biodiversity is fundamental to the Mediterranean economy, with benefits derived from ecosystem services estimated over €26bn a year of which more than two-thirds derive from tourism (WWF, 2017).

The negative environmental impacts of tourism on coastal and maritime areas originate mainly from built infrastructures (resorts, residencies, ports and marinas etc.) and recreational activities (nautical tourism, golf courses, water sports, etc.). These negative externalities consist of water and energy consumption (Goessling, 2002), especially in water sensitive areas (Plan Bleu, 2010), where they lead to land change, artificialisation of the coast, pollution and biodiversity loss.

Marine litter is a critical issue; in some Mediterranean tourism areas, more than 75% of annual waste production is generated during the summer (Giulietti et al., 2018). Given tourism growth such environmental and social pressures are likely to increase unless adequate regulation of tourism flows is not implemented (UNWTO, 2020). These pressures also take a toll on the tourist industry as it lowers the attractiveness of tourist destinations (Drius et al., 2018). This loss of competitiveness due to pressures from coastal tourism is evident from waste pollution, including the presence of faecal water on beaches and the degradation of flora and fauna due to water scarcity derived from tourist infrastructure. The development of coastal tourism infrastructure, particularly dense from Southern Spain to Northern Italy, has eliminated entire ecosystems and resulted in highly vulnerable economies dependent on mass tourism (Greenpeace, 2018).

More so, the Mediterranean tourism sector is exposed to growing pressures linked to the effects of climate change. Coastal erosion, for example, is already evident throughout the Mediterranean coast, especially in the southern part, i.e. Spain-Sicily-Croatia-Greece. Lack of water, coastal erosion and rising sea levels are among the challenges that climate change poses to tourism operators and other stakeholders on the shores of the Mediterranean Sea (UFM, 2018).

Tourism is labour intensive, contributing an average 11.5% of total employment in Mediterranean countries (WTTC, 2017). It employs a high volume of both low and higher-skilled workers, with a heavy turnover from seasonal, part-time and temporary jobs. It provides employment opportunities for those usually ignored by the labour market — migrants, women, students, older workers and people in rural and coastal areas (often in remote locations dependent on these jobs to maintain their livelihoods).

Due to the available temporary workforce in touristic seasons and locations, tourism work is characterised by functional flexibility and low wages, translating into structural insecurity for workers. Jobs in social care, facilities cleaning, retail, transport, travel and tourism, leisure and hospitality suffer low pay, poor working conditions, little

advancement, lack of training and a highly gender-segregated workload (Obadić & Pe-har, 2016). The significant share of the informal sector (e.g. street vendors and the rise of online rental platforms) also hinders access to trades unions to improve working conditions of low-skilled tourism workers.

ISSUES AND TRENDS FOR THE MEDITERRANEAN TOURISM SECTOR IN THE POST COVID PERIOD

Economic development in the Mediterranean is dominated by three sectors with large-scale ecological footprints (IUCN 2021):

1. *primary sector* — natural resource-based activities including agriculture, forestry and fisheries;
2. *energy sector* — based on non-renewable resources (e.g. oil and gas), as well as renewable resources (wave, wind, hydro and solar energy);
3. *tertiary sector* — grouping services, primarily tourism and maritime transport.

Inevitably, the tourism sector pre-pandemic was highly unsustainable. Transport, including international travel, was the largest emitting sector across the EU, with 15%-40% of carbon emissions and total transport emissions accounting for about 30% of all EU emissions. Maritime transportation represents nearly 4% of this (EEA, 2018). Globally tourism's carbon emissions are estimated at 8% of total carbon emissions, mainly due to air transport's annual growth (Lenzen, Sun, & Faturay, 2018). Many countries currently offer incentives towards sustainable travel including renewed marketing campaigns for transport subsidies making travel more affordable for low to middle-class vacationers. The integration of the Social and Solidarity Economy (SSE) in blue economy sectors such as coastal and maritime tourism is a clear framework aligning socio-economic benefits and environmental protection, whilst increasing local community resilience and ensuring long-term sustainability (Eco-union, 2020).

Sustainable tourism in the Mediterranean generally lacks a structured and robust governance system at a regional level that ensures the necessary socio-environmental transformation of the tourism sector. Tourism is a globalised yet fragmented industry requiring to be monitored, managed and regulated in various space, time and geographic scales (Eco-union, 2019). The involvement of the private sector, financial actors, the academic world and civil society organisations is critical to implement significant change and take opportunity of recovery and resilience plans (UNWTO, 2020).

In a recent foresight study (High Level Panel for a Sustainable Ocean Economy, 2020), four scenarios (see below) were explored relating to the evolution of Global Tourism over 5-10 years, according to the national policies, business practices and citizens behaviours. Each of the scenarios results in different evolutions of the tourism sector — Overgrowth, Collapse, Long transition or Deep Transformation — providing diverse threats/opportunities for the tourism sector according to the sustainability cri-



Figure 1 — Four scenarios for post pandemic global tourism. Source: Fosse J. at al., 2021, p.11.

teria. The quality of Policies, Strategies and Recovery Plans designed and implemented by the countries as well as the consumer's behaviours, industry evolution and local community engagement will therefore be critical for the future of global tourism.

VIS CASE STUDY

Vis is located in the island area of the Split-Dalmatia County; precisely belonging to the island group of Palagruža, Biševo, Brusnik, Jabuka and Sv. Andrew, forming the central part of the Adriatic coast of the Republic of Croatia. Along the island of Vis, the islands of this group and some others are the most distant points of the Adriatic. Accordingly, their geographical position reduces their possibility of greater freedom of movement and traffic connections.

Vis, like all the Dalmatian islands and the coast, has a Mediterranean type of climate with hot summers. On average, Vis has 2,600 hours of sunshine per year constituting an "Adriatic type" climate. Winters are mild and humid whilst summers are hot and dry. A mild climate associates with less rainfall throughout the year with most precipitation occurring in winter when 2/3 of the total annual precipitation falls. Accordingly, there are frequent summer droughts causing damage to agricultural crops — one

of the primary economic activities of the island. Thanks to the unique microclimate, the rich and fertile Vis plateau and its numerous fields, as well as the strongest fishing zone in the central Adriatic, Vis is placed as a gastronomic and oenological tourist destination with hospitality establishments promoting the traditional and rich island cuisine.

The island has been expanding its range of products for several years mainly based on active vacations through diving centres, hiking trails and excursions, themed trails and routes. With the primary tourist infrastructure of nautical tourism, by increasing the quality of accommodation capacity and targeted tourist promotion, private sector capacity alongside public sector supports allows sustainable tourism throughout the year.

The tourism resource base of Vis is first and foremost a visual concept through a preserved cultural identity and an historical heritage with numerous other direct and indirect tourist resources. The island has a history of isolation and no tourist development. However, this isolation now presents an identity today that makes the island particularly attractive. As a result, the town of Vis has preserved its authenticity, natural beauty, ecology, agricultural specialties and accessibility. The natural and the cultural resources are actually distinctive in achieving competitive advantage.

The City of Vis does not have a developed system for valorisation of the cultural heritage that it is developing attraction products and thus the effect of year-round tourist development through interesting and different motives for arrivals. In addition to ecological content and regional peculiarities, it provides comparative advantages before competitors, nurturing the values of the local population. Attractions should be converted into year-round economic development by connecting tourism with lifelong education, health and sports-recreational interests, presentation of agricultural activities and cultures with the aim of participating in international trend indicators with a sustainable and responsible tourism approach. Tourism in the city is an advantage despite the island's economic developmental isolation, reflecting favourable potentials for active socio-economic needs. Nonetheless, the enormous potential of tourism development through establishing new tourist niches should be carefully balanced against the effect of mass and unsustainable tourism.

MALTA CASE STUDY

In 2024, Malta may be viewed as the quintessential tourism island. In 2023, tourism numbers had recovered significantly from COVID and at 2,975,670 were 8.1% above the 2019 level. Similarly total tourism expenditure in 2023, stood at EUR 2.7bn, 21.6% above the 2019 level and tourism per capita expenditure was at EUR 898, 11.4% above 2019. However, inflation of 16.7% (2019-2023) reduced tourist income growth in real terms to 4.9%.

In other words, Maltese tourism reverted to the pre-pandemic sun-sea-sand model, generating serious ongoing degradation of the eco-cultural heritage, which ignores the four main vulnerabilities Maltese tourism faces in terms of climate change and future sustainability (Climate Change Post, 2024):

- *Environmental change impacts* — water shortages, loss of agricultural production, erosion of landscape and the potential for higher levels of vector-borne diseases;
- *Impacts of adaptation on tourism* — lessening emissions will increase transport and air-conditioning costs stimulating conflict over scarce facilities between tourists and residents;
- *Socio-economic change impacts* — climate change is seen as an intensifying security risk with higher than predicted warming scenarios. Migration from nearby North Africa may accelerate.

The European Commission's Green Paper on Adapting Climate Change in Europe (EC, 2007) regarded Southern Europe and the entire Mediterranean Basin as one of the most vulnerable areas in Europe, due to the combined effect of high temperature increase and reduced precipitation, particularly in a region already coping with water scarcity. Given poor progress made in halting global emissions, updated warming scenarios for Europe (authors projections) would indicate that Malta will by 2100 suffer a 40C increase in average temperature increasing in the hottest periods to 470C and in the coolest to 200C. Associated with this would be an 18% decline in rainfall, 35% loss of soil moisture and a 16% loss of water runoff.

The critical consequences may be seen as:

- *Heat* — The increase in temperature implies that tourism activity would only be possible in the summer months if it was purely sedentary (sea and sand) or conducted indoors or at night. It would be impossible for any form of cultural tourism other than from October to March;
- *Reduction in water availability* — for drinking, swimming pools, showers and toilets would be inevitable due to greater desertification. General water production is from ground sources, or desalination plants; 66% of drinking water is imported;
- *Power implications* — increased demand for electricity is predicted yet adaptation of solar and wave power has been slow. Malta's share of renewables in final energy consumption is 13.4% against an EU average of 23.0%, (Eurostat, 2023). Malta has a high dependence on imported gas, reaching 97% s (Eurostat, 2023). Poor progress has been made in the 80 km subsea-power connector to Sicily (significantly shorter than the Ireland-UK connector at 180 km);
- *Geo-political pressures* — Climate warming will create an acute problem for human development and survival in supra-Saharan Africa, as the desert moves northwards. Hunger and conflict may dynamise existing migration flows.

It is obvious that the challenges for Malta are primarily:

- The need to re-assess the nature and concept of the tourism industry which is based on a mass-tourism flight+hotel demand driven model and towards a form of tourism which is sustainable and more protective of the rich and valuable heritage of the Maltese islands;
- The current model will also be unsustainable in the face of the climate warming disaster which we face; inevitably, tourists will move to less heat-intensive climates in the summer period;
- This implies that Malta has to evaluate and develop a sustainable and ethical tourism product for a new three-seasonal approach — October-November/December-January/February-March.

CONCLUSIONS

The coastal and island destinations all show biophysical fragility. This is especially true of beaches, dunes and places of biodiversity value. Collectively, island destinations have limited geographic space and share challenges with respect to further tourism growth. We believe that the following areas of activity should be the primary focus of tourism destination managers both on Vis and in Malta, namely:

- The coordination of the many constituent elements of the tourism sector (including local, political, civic, business, and visitor industry representatives), so as to achieve a single voice for tourism;
- The fulfilment of both a leadership and advocacy role for tourism within the local community that it services. The DMO should be a visible entity that draws attention to tourism so that residents of the destination understand the significance of the visitor industry;
- Helping to ensure the development of an attractive set of tourism facilities, events and programs — and an image that will help position and promote the destination as one that is competitive in the experiences it offers;
- Assisting visitors through the provision of visitor services such as pre-visit information, and additional information upon arrival;
- Finally, the DMO also has another important role, serving as a key liaison to assist external organisations, such as meeting planners, tour wholesalers and travel agents working to bring visitors to the destination.

In summary, the roles of the DMO, in the broadest of terms, are to work towards enhancing the well-being of destination residents, to do everything necessary to help ensure that visitors are offered visitation experiences. These should be at a minimum, highly satisfactory, and where possible, highly memorable; and while doing so, to ensure the provision of effective destination management and stewardship.

References

- Climate Change Post, (2024, February 22). <https://www.climatechangepost.com/malta>.
- Coll, M. et al., (2010). The biodiversity of the Mediterranean Sea: Estimates, patterns, and threats. *PLoS ONE*, 5(8): e11842. <https://doi.org/10.1371/journal.pone.0011842>.
- Drius, M., Bongiorno, L., Depellegrin, D., Menegon, S., Pugnetti, A., Stifter, (2019). Tackling challenges for Mediterranean sustainable coastal tourism: An ecosystem service perspective. *Science of The Total Environment*, 652, 1302-1317, <https://doi.org/10.1016/j.scitotenv.2018.10.121>.
- Eco-union, (2020, February, 2024). Towards a Blue Solidarity Economy. <https://www.ecounion.eu/en/conclusion-from-the-bef-2020-a-blue-solidarity-economy-for-a-sustainable-mediterranean-region>.
- Eco-union, (2019). Towards a Sustainable Blue Tourism. [www://EcAp_mediterranean_bluetourism02%20\(2\).pdf](http://www://EcAp_mediterranean_bluetourism02%20(2).pdf), retrieved 22. 2. 2024.
- European Environmental Agency, Transport emissions of greenhouse-gases, (2018). <https://www.eea.europa.eu/airs/2018/resource-efficiency-and-low-carbon-economy/transport-ghg-emissions>, retrieved 22. 4. 2024.
- Eurostat, Key Figures on Europe, (2023). Official Publication of the European Union, Luxembourg.
- Fosse J. et al., (2021). The future of Mediterranean tourism in a (post) Covid world. eco-med briefing 01/21. eco-union (2021).
- Giulietti et al., (2018). "Tourism and the environment Towards a reporting mechanism in Europe". EEA Report, ETC/ULS.
- Gössling, S., (2002). "Global environmental consequences of tourism". In Global Environmental Change; European Parliamentary Research Service (2017): "Sustainable tourism. The environmental dimension"; EEA (2017): "Climate change, impacts and vulnerability in Europe 2016".
- Green Paper from the Commission to the Council (2007), the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Adapting to climate change in Europe — options for EU action {SEC(2007) 849}/* COM/2007/0354 final */
- Greenpeace, (2018). A toda Costa. Available at: https://es.greenpeace.org/es/wp-content/uploads/sites/3/2018/07/A_Toda_Costa.pdf, retrieved 22. 2. 2024.
- High Level Panel for a Sustainable Ocean Economy, (2020). <https://oceanpanel.org/> retrieved 22. 2. 2024.
- Intergovernmental Panel on Climate Change (IPCC), (2022). Press conference to present the Summary for Policymakers of the report Climate Change, Impacts, Adaptation and Vulnerability on Monday, 28 February 2022.
- IUCN (2021): Mediterranean Programme of IUCN Centre for Mediterranean Cooperation, 2021—2024, Available at: <https://www.iucn.org/resources/grey-literature/mediterranean-programme-iucn-centre-mediterranean-cooperation-2021-2024>, retrieved: 22. 2. 2024.
- Lenzen, M., Sun, YY., Faturay, F. et al., (2018). The carbon footprint of global tourism. *Nature Climate Change*.
- Obadić, Alka & Pehar, Lorena., (2016). Employment, Capital and Seasonality in Selected Mediterranean Countries. *Zagreb International Review of Economics and Business*.
- Plan Bleu, (2010). "Management of energy air transport and tourism in the Mediterranean", Available at: https://planbleu.org/wp-content/uploads/2010/12/gestion_energie_transport_aerien_tourismeEN.pdf, retrieved 22. 2. 2014.

- Razvojna strategija grada Visa, Prius Consulting, (2020). Available at: <https://www.gradvis.hr/wp-content/uploads/2020/11/STRATEGIJA-GRADA-VISA.pdf>, retrieved 22. 2. 2024.
- UFM, (2018). Fosse J., Klarwein S., Kosmas I. & Gonzalez A. (2021). Ecosystem Approach for a sustainable coastal and maritime Tourism in the Mediterranean. eco-union. "Climate change impact on the tourism sector in the southern Mediterranean".
- UNWTO, International Tourism and covid-19, (2020). <https://www.unwto.org/covid-19-and-tourism-2020>, retrieved 22. 2. 2024.
- UNWTO tourism recovery tracker: <https://www.unwto.org/tourism-data/unwto-tourism-recovery-tracker> , retrieved 22. 2. 2024.
- World Travel & Tourism Council (WTTC), (2017). Direct and indirect contribution of tourism to GDP.
- WWF (2017). Reviving the Economy of the Mediterranean Sea: Actions for a sustainable future.

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WELLBEING AS NICHE TOURISM ON ISLAND OF VIS

Abstract

Wellbeing plays an important role in promoting tourism for both tourists and the local communities they visit. Niche tourism applies to a certain tourism product and service that can be developed and adapted to the needs of a particular tourism market segment. The concept of tourism wellbeing focuses on the positive impacts that tourism can have on the physical, mental, and emotional wellbeing of individuals, as well as the overall wellbeing of communities and destinations. Tourism can have a significant impact on the wellbeing of local communities. Tourism wellbeing acknowledges the positive impacts of tourism on the physical, mental, and emotional wellbeing of tourists, as well as the economic and cultural benefits it brings to local communities. By recognizing and promoting these positive effects, stakeholders in the tourism industry can ensure sustainable and responsible tourism practices that can prioritize the wellbeing of all involved parties. Wellbeing can become a tourist niche through which the island of Vis can establish and position itself with specific products and services as a tourist destination. This paper deals with the current development of the global tourism market towards niche tourism of wellbeing and focuses on a new potential form of tourism in this growing sector as wellbeing continues to expand and integrate into the global tourism market. The paper considers the possibility of a potential increase in the number of tourists for the benefit of the island's inhabitants and the further development of the tourism offer of the island of Vis through the wellbeing niche.

Key words: *wellbeing, niche tourism, experience*

INTRODUCTION

The complex and interconnected crises we face today affect us in different ways. They cause and expose fractures in society and highlight the ecological, political, commercial, digital and social determinants of health inequalities, within and between social groups and nations. Potentiated by climate change, loss of biological diversity, pollution, rapid urbanization, geopolitical conflicts and militarization, demographic changes, population displacement, poverty and widespread inequality create even more serious risks of future crises. Answers to these challenges require investments that integrate social and individual responsibility for health and wellbeing, as well as changes in

social structures by acting on the redirection of values as well as control over one's lives and health, and in accordance with the sustainable and balanced development of all components of societies.

The tourism industry is considered to be one of the fastest growing economic sources globally. Within the large market of tourism, niche sectors like wellbeing tourism aims to generate a healthier population where the healthier population could be turned into a productive source of economic development. Wellbeing is identified as a concept of balancing and spirituality associates mental and physical health with environmental and social fundamentals (Steiner & Reisinger, 2006). Along with the change in people's lifestyles, the growing demand for wellbeing tourism is based on the increasing focus on fulfilling and serving the demands of life and preserving people's health in relation to any type of disease.

This paper examines whether the island of Vis can offer the concept of a wellbeing niche to the tourism market and answers what the island of Vis should do in this context and what the perception of all existing tourism workers about their role is in facilitating tourists to experience the meaning of wellbeing.

TOURISAM WELLBEING

Wellbeing refers to a person's subjective wellbeing, balanced between external and internal factors that determine their level of satisfaction, growth and participation. The World Health Organization (2023) defines wellbeing in definition of health as an aspirational, positive state experienced by individuals: health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. Regardless of World Health Organization definition, wellbeing has been described in numerous ways such as an individual's optimistic assessment of their lives including contentment, positive emotion, engagement and purpose (Diener & Seligman, 2004). It has also been explained in terms of developing as a person, being fulfilled and contributing to the community (Stoll, Michaelson, & Seaford, 2012). Psychological wellbeing refers to a person's subjective experience of affirmative psychological states, such as leisure, life fulfilment, and a sense of purpose. It is a holistic theory that encompasses different traits of a person's mental and emotional health, including positive relationships, personal growth and development, positive self-esteem, self-acceptance, and a feeling of being in charge of one's life (Dhanabhakyaam & Sarath, 2023). In addition to relieving pressure and restoring people's physical and mental health, wellness tourism can also improve their sense of happiness. A happy travel experience contributes to the quality of life and tourism experiences, which are important sources of wellbeing for travellers (Liu, Zhou, & Sun, 2023).

Wellbeing is the main fundamental driver of the alignment of policies in all sectors of society and encourages their coordinated action. Improving social wellbeing

helps create active, resilient and sustainable communities at local, national and global levels, enabling them to respond to current and emerging health threats such as COVID-19, wars and environmental disasters. In promoting health as a social good, World Health Organization participants at the 10th Global Conference held in December 2021 endorsed the Geneva Charter on Wellbeing, which sets out five key areas for action: 1. Designing an equitable economy that serves human development within planetary boundaries; 2. Creating public policies for the common good; 3. Achieving universal health coverage; 4. Organizing and implementing digital transformation to reduce harm and deprivation and enhance benefits and 5. Valuing and preserving the planet.

Starting from these general areas of activity, tourism workers on the island of Vis need to define their goals and set a concept of wellbeing that allows them a better quality of life, safety and other benefits achievable through wellbeing. For the content of the wellbeing tourism offer to most effectively influence the achievement of wellbeing goals, which is the wellbeing of the person, it should include exogenous and endogenous factors. It is important to take these factors into account because in the tourism market there are tendencies and inclinations to identify and monopolize the elements of wellbeing as an ecosystem of wellbeing with wellness, which represents a contradiction in content and concept.

Wellbeing tourism offers are characterized by an emphasis on general aspects such as safety, learning, longer stays in the destination, healthy living and a slower pace of life, socializing and all other improvements in wellbeing activities. Wellbeing tourists are people who lead an active and healthy lifestyle, seek experiences in the culture and tradition of the destination, and prefer and show a preference for tourist packages that include a wide range of different wellbeing activities. From the perspective of tourists and tourism service providers, it can be said that the island of Vis can offer numerous different products focused on maintaining and developing a healthy mind in a healthy body, taking advantage of the clean and unique marine environment, green interior, cultural heritage and tradition, local food and fish. Wellbeing service providers recognize people's desire for a healthy and dynamic vacation and, through their future service offerings, make the travel experience unforgettable.

One of the goals of the wellbeing sector operating within the large tourism market is to achieve better health of the population, thus transforming it into a more productive factor of economic development. The primary goal of wellbeing is to prevent disease and maintain health and wellbeing. It is identified as a concept of balance, and spirituality connects mental and physical health with the environmental and social foundations of the community. Due to changes in lifestyle, the demand for wellbeing tends to grow significantly.

Wellbeing is also the way we work as individuals, communities and as a nation and how sustainable this is for the future. It encompasses the environmental factors that

affect us and the way we function in society, including the subjective experiences we have throughout our lives. It requires the mutual and joint functioning of emotions, bodies, social networks, purposes and society/community. Once a local community becomes a tourist destination, the lives of the population of that community change due to changes that occur through impacts on the economic, socio-cultural, environmental and other factors that are components of that community.

Wellbeing with the concept of focusing on good health, general wellbeing and its realization is not new, however its connections with practices offered by the tourism industry are more recent. Generally, wellbeing is considered a holistic concept that includes temporary feelings as well as long-term satisfaction (Smith & Puczkó, 2014). Psychological wellbeing, however, is considered not only the absence of mental disorder and ill health, but also the presence of positive psychological states, including both hedonistic and eudaimonic aspects (Sin & Lyubomirsky, 2009). Hedonistic wellbeing is defined as short-term and intense pleasures, while eudaimonic wellbeing is defined through personal growth and development. Personal growth is associated with self-fulfilment and self-development, full engagement and the ultimate overall performance of meaningful actions. Wellbeing trips focused on spiritual, physical, cognitive and psychological experiences influence the change in the individual's perception of themselves and their environment. Such journeys through new, unique and original experiences change lives and offer a path of new awareness, growth and development. The content of services can be linked and selected through models of tourist participation in the design of services, in which the skills and knowledge of tourists are strategically designed. The content of the services should be related to the acquisition of new tourist experiences, which can be a learning experience about the destination.

Wellbeing is often associated, and sometimes even identified, with wellness and health tourism, indicating that there is no significant difference between them. However, the context of the product wellbeing tourism includes activities that provide pleasure and a sense of fulfilment and are filled with active enjoyment and physical activity. It is a combination of factors such as quality of life, happiness and satisfaction, and are achieved through non-material means (distance from everyday life, relaxation and nature, etc.). The product of wellness tourism is often identified with a certain level of pleasure and luxury. It mainly refers to the enjoyment of spa and beauty treatments and is observed only in the environment of health resorts or other facilities where wellness services are offered. Wellbeing is associated with activity (training, physical activity, personal development). Wellbeing tourism products are related to external factors that influence a person's wellbeing, such as income, social environment, national attitude, religion, principles and general good health included in the tourism package. In addition to external factors, these products are related to internal factors such as personal development, physical activity, life satisfaction and the mental health of the person. Wellbeing tourists are considered to be people who strive for an active and

healthy lifestyle. They seek experiences that allow them to immerse themselves in the destination culture and tradition and prefer tourism packages with a wide range of wellbeing offers.

WELLBEING NICHE AND POSITIONING ON THE TOURIST MARKET

The niche tourism market, which is characterized by its name, targets a small number of consumers when compared to mass tourism, but, at the same time, it is a constant tourism market. Niche tourism is more identified with what tourists are doing than their number in a particular destination, at a particular time (Bunghez, 2021). Niche tourism is defined as a method of meeting customer needs by adapting commodity services to small markets, markets not served by competing products, or small, profitable homogeneous market segments that have been ignored or neglected by others.

A niche in tourism as a specialized segment within the tourism industry is an innovative segment of the market that responds to an increasing number of sophisticated, post-modern tourist demands for specialized products and services. It is about creating a recognizable space that meets the unique preferences, interests and needs of a certain demographic or market segment, and refers to products, services or interests that are shared by a small group of people, that is, they serve a specialized segment of the tourism industry. It is the opposite of large group tours, all-inclusive resorts and over-tourism. A tourism niche does not necessarily mean a small number of tourists who spend a lot (although this is mostly the case), although it results in an increase in the average spending of tourists.

The tourism niche develops product diversification, minimizes the effects of seasonality and reduces pressure on "honeypot" areas by distributing tourists to less visited places, especially island destinations. It is difficult and almost impossible to list all the advantages of the tourist niche. Some of them are: it harms the environment less, tourists come in smaller numbers and are usually kinder and more respectful towards others, niche tourists often pay more than mass tourists, there is a genuine interest in the local area and people. There are also disadvantages to niche tourism. The main problem is the small size of the business and the inherent over-reliance on tourism. Some of the main problems that are often noted are: lack of alternative sources of income for the entire population; it can attract too many visitors; niche businesses take business away from others; some niches are not environmentally friendly, such as golf tourism; limited economic benefits due to the small number of visitors; niche tourism activities can come and go out of 'fashion' or lose popularity.

Consumer experience in tourism is defined as a conglomeration of personal reactions and emotions associated with tourist activities (Sugathan & Ranjan, 2019). The focal point of the niche is focused on the demands and expectations of customers

depending on the supply and demand relationship and it is the subject of constant consideration and questioning in the endless search for a more satisfying experience during the vacation. An island or a regional area with all its available capacities such as resources, nature, habits, tradition and culture, the wellbeing tourism industry can be promoted as a well-targeted niche market. Positioning on new markets:

- branding the island as a well-known wellbeing tourism destination using a niche sector is a key part of positioning in new markets,
- positioning according to age group,
- positioning on quality, luxury, uniqueness of experience and safety means providing infrastructure and hospitality for a demanding market,
- the use of the wellbeing of modern medicine and traditional wellness.

FINDINGS & CONCLUSION

The main objective of the research was to determine the perception of tourists about the island of Vis as a wellbeing destination. The research method that was used is a survey. The questionnaire was filled out by tourists who visited the island of Vis. The research was conducted on a sample of a total of 104 respondents in the period from July to August 2024.

In Figure 1 and 2, we can see demographic characteristics of tourists as well as how many tourists have already visited the island of Vis, and how many of them are visiting for the first time (Figure 3).

	Count	%
Male	48	46,15
Female	56	53,85
Total	104	100

Figure 1 — Gender of tourists

	Count	%
18-25	18	17,31
25-34	22	21,15
35-44	23	22,12
45-54	21	20,19
55-64	12	11,54
65 and above	8	7,69
Total	104	100,00

Figure 2 — Age of tourists

	Count	%
First-time visit	65	62,5
Repeated visit	39	37,5
Total	104	100,00

Figure 3 — Past visit experience

Most responders were females. The respondents are from different age groups which shows that island of Vis is visited by all age groups. In this research responders were mostly tourists that came to Vis for the first time.

Figures 4 to 6 present the perception of tourist about push and pull motivations for visiting the island of Vis as well as the perception of the wellbeing experience and importance of wellbeing holiday attributes and services on offer.

Push factors	%	Pull factors	%
Escape from everyday life	81	Nightlife and local gastronomy	88
Viewing the scenery	71	The destination is child-friendly	87
Healthy life/reducing psychological tension	67	Natural sights	73
Prestige-reputation	52	Heritage and culture	59
Participating in physical activities	41	Easy access at the destination	41
Experiencing fashionable/trendy places	32	Wellness	38
Social status	23	Social interactions	33
Cultural education	18	Option for packaged services	23

Figure 4 — Push and pull motivation factors

	Yes (%)	No (%)
Is wellbeing built into your travel policy?	52	48
Do you book quality transportation and accommodation?	89	11
Were you surrounded by like-minded people?	65	25
Did you have spa or wellness programme available?	28	72
Did environment and accommodation influence relaxation and destress?	72	28
Do you think you become less stressed after your time at Vis?	67	33

Figure 5 — Perception of the wellbeing experience on Vis

Wellbeing statement	%
High hygiene level of the provided services	81
The possibility to get light and healthy food from the restaurant/s	79
The possibility to refresh physically and spiritually	72
Wellbeing holiday should automatically include additional services	64
The possibility to get local food made from ingredients that are organic or are produced locally	64
The possibility to practice healthy lifestyle or special diets	63
The possibility to take part in active wellbeing services (e.g. sport, fitness)	59
The possibility to go to sauna and have sauna treatments	23
The possibility to take part in fitness and wellbeing seminars	19
The possibility to enjoy health/recreational spas	19
The possibility to get treatments that promote health (e.g. acupuncture)	11
The possibility to get physical examination/test	8

Figure 6 — Importance of wellbeing attributes and services

Research shows that tourists do wish to achieve wellbeing during their stay on the island of Vis. Therefore, the local community should try to brand itself in this niche tourism position. Tourists staying in the destination feel that they are surrounded by people who share their lifestyles which makes their stay more satisfying. Due to the specificity of the destination's location, most respondents organized travel and accommodation in advance. Although respondents experienced the island of Vis as a wellbeing destination, we see that respondents do not have access to certain relaxing activities. Based on the collected answers, we can conclude that tourists perceive the destination as a place that is different from their everyday life, which leads to their relaxation and enjoyment. The offer of the destination is emphasized through gastronomy, nearby sights and child-friendly activities. The destination should continue to develop a healthy lifestyle offering, which is currently the most developed through sports tourism. It has been noticed that the destination lacks wellness and fitness offers, which the destination should actively develop if it wants to establish itself as a destination for complete wellbeing.

It is recommended that all local community stakeholders jointly orient themselves in the niche of wellbeing tourism. Some of the identified shortcomings should be eliminated as soon as possible. Once the shortcomings are compensated, Vis' wellbeing tourism offer will be complete. The development of wellbeing tourism can additionally lead to the economic sustainability of the island and creates awareness of wellbeing as a basis in the everyday life of the local population, which can also result in personal satisfaction. A satisfied individual makes a satisfied community, on which general wellbeing and the basis for sustainability are built.

References

- Bunghez, C. L. (2021). The emerging trend of niche tourism: Impact analysis. *Journal of Marketing Research and Case Studies*. <https://doi.org/10.5171/2021.134710>.
- Buzinde, C. N. (2021). Theoretical linkages between well-being and tourism: The case of self-determination theory and spiritual tourism. *Annals of Tourism Research*, 83. <https://doi.org/10.1016/j.annals.2020.102920>.
- Dhanabhakym, M., & Sarath, M. (2023). Psychological wellbeing: Asystematic literature review. *International Journal of Advanced Research in Science, Communication and Technology*, 603-607. <https://doi.org/10.48175/ijarsct-8345>.
- Diener, E., & Seligman, M. E. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, 5(1), 1-31. <https://doi.org/10.1111/j.0963-7214.2004.00501001.x>.
- DSouza, K., & Shetty, A. (2024). Tourism and wellbeing: Curating a new dimension for future research. *Cogent Social Sciences*, 10(1). <https://doi.org/10.1080/23311886.2024.2319705>.
- Liu, L., Zhou, Y., & Sun, X. (2023). The impact of the wellness tourism experience on tourist well-being: The mediating role of tourist satisfaction. *Sustainability*, 15(3), 1872. <https://doi.org/10.3390/su15031872>.
- Nguyen, H. T., Anh, D. B., Ngoc, P. B., Trang, T. T., & Duc, L. D. (2021). Subjective well-being in tourism research. *Psychology and Education*, 58(5), 3317-3325.
- Saari, S. (2023). In search for new urban tourism niche. Could european cities be destinations for urban wellness providing food for body, mind and spirit? *Tourism and Hospitality Research*, 23(2), 226-238. <https://doi.org/10.1177/14673584221086888>.
- Sin, N. L., & Lyubomirsky, S. (2009). Enhancing well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *Journal of Clinical Psychology*, 65(5), 467-487. <https://doi.org/10.1002/jclp.20593>.
- Smith, M., & Puczkó, L. (2014). *Health, tourism and hospitality: Spas, wellness and medical travel* (2nd ed.). Routledge.
- Steiner, C. J., & Reisinger, Y. (2006). Ringing the fourfold: A philosophical framework for thinking about wellness tourism. *Tourism Recreation Research*, 31(1), 5-14. <https://doi.org/10.1080/02508281.2006.11081242>.
- Sugathan, P., & Ranjan, K. (2019). Praveen Sugathan. *Journal of Business Research*, 207-217. <https://doi.org/10.1016/j.jbusres.2019.03.032>.
- Tsartsara, S. (2018). Definition of a new type of tourism niche-The geriatric tourism. The *International Journal of Tourism Research*, 20(6), 796-799. <https://doi.org/10.1002/jtr.2232>.
- Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management*, 53, 1-18. <https://doi.org/10.1016/j.tourman.2015.07.013>.
- World Health Organization. (2003). *Achieving well-being: A global framework for integrating well-being into public health utilizing a health promotion approach*. World Health Organization. Retrieved from World Health Organization: <https://www.who.int/publications/m/item/wha-76---achieving-well-being--a-global-framework-for-integrating-well-being-into-public-health-utilizing-a-health-promotion-approach>.
- World Health Organization. (2021). *The Geneva charter for well-being*. Retrieved from World Health Organization: <https://www.who.int/publications/m/item/the-geneva-charter-for-well-being>.

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INNOVATIVE METHODOLOGICAL APPROACH FOR ASSESSING THE IMPACT OF DIGITALIZATION ON THE ESG FRAMEWORK IN THE DOMAIN OF NAUTICAL TOURISM

Abstract

This paper reviews the impact of digitalization on the Environmental, Social, and Governance (ESG) framework within nautical tourism. The study aims to evaluate how digital tools influence the implementation of ESG principles and identify opportunities and challenges arising from digitalization in promoting sustainable practices. The integration of digital technologies has led to significant transformations in the tourism sector, especially in sustainability. This research explores how digital platforms contribute to a green shift in nautical tourism. A systematic literature review (SLR) methodology was employed, focusing on peer-reviewed studies from 2019 to 2024, retrieved from the Web of Science (WoS) and Scopus databases. Keywords related to "digital," "sustainability," and "tourism" were used to identify relevant articles. This approach allows for a comprehensive overview and highlights key findings, while also identifying research gaps. The paper provides insights into the role of digital tools in advancing ESG outcomes, offering recommendations for industry stakeholders to enhance sustainability practices. The study contributes to the growing body of knowledge on digitalized ESG initiatives, emphasizing the strategic importance of integrating digital technologies to meet sustainability goals in nautical tourism.

Key words: digitalization, ESG, innovative, literature review, methodology, nautical tourism

INTRODUCTION

Global marine tourism, including cruising, yachting, and marine wildlife tours, is growing rapidly, valued at approximately USD 81.5 billion in 2023 and projected to reach USD 146.2 billion by 2032, with a 6.7% CAGR (Business Research Insights, 2023). This

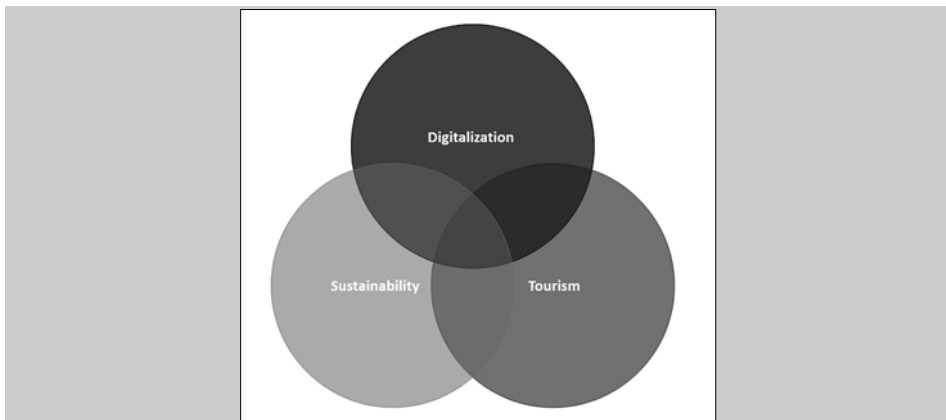


Figure 1 — Overlapping body of literature. Source: Authors.

growth is driven by technological advancements, increasing disposable incomes, and a focus on sustainability (Custom Market Insights, 2024). Innovations in the cruise industry and investments in tourism infrastructure have enhanced travel experiences, while digital transformation supports personalized travel options. Croatia, with its strategic location and developed marinas, remains a leading destination for nautical tourism (Ivanić, Perić Hadžić & Mohović, 2018).

Digital technologies, including IoT, AI, and blockchain, are transforming nautical tourism, enhancing resource management, sustainability, and governance. IoT enables real-time monitoring of environmental parameters, AI optimizes energy consumption and logistics, and blockchain enhances transparency and accountability (Xu et al., 2019; Hidalgo et al., 2023; Dalenogare et al., 2020). These tools align with the ESG framework, promoting sustainable practices, social equity, and ethical governance (Vukčević & Ljubić, 2016; Agarwala et al., 2021; Rončević, 2024).

Despite their potential, adoption of digital technologies faces barriers such as high costs, infrastructure adaptation, and the need for technical expertise (Vimal et al., 2023). Research on their broader social and governance impacts, particularly in labor conditions and community engagement, is limited. Addressing these gaps is crucial to leveraging digitalization for sustainable transformation in nautical tourism.

Addressing this research gap, the current study aims to investigate how digital technologies influence ESG outcomes in nautical tourism (Figure 1). The research seeks to answer key questions: Do the digital tools contribute to sustainable practices in nautical tourism? How can they optimize environmental, social, and governance aspects of operations?

This research provides a comprehensive overview of current trends and challenges related to digitalization and ESG in nautical tourism. Through a systematic literature review, this study synthesizes existing findings and identifies opportunities for fur-

her exploration, offering practical insights for industry stakeholders, policymakers, and academics (Chen & Wu, 2023). Ultimately, the study will contribute to filling the existing knowledge gap between digital innovation and sustainability by exploring the untapped potential of digital tools to advance sustainability efforts within the unique context of nautical tourism.

INTEGRATION OF DIGITAL TECHNOLOGIES IN NAUTICAL TOURISM TO ADVANCE ESG OBJECTIVES

Digital technologies are transforming nautical tourism by enhancing resource management, streamlining operations, and aligning the sector with global sustainability standards. Innovations such as blockchain, artificial intelligence (AI), and the Internet of Things (IoT) have become pivotal in the development, promotion, and delivery of tourism services, positioning digitalization as a strategic priority for nautical enterprises. These advancements have proven to reduce operational costs and improve business practices, fostering more sustainable operations (Manojlović, Stanovčić & Perović, 2024). In this context, the digital economy, fueled by advancements such as blockchain technology, artificial intelligence, and the Internet of Things (IoT), is significantly influencing the pace at which tourism services are developed, promoted, and ultimately delivered to consumers (Parlov, Bašić, & Botunac, 2024). As OECD (2020) highlights, adopting such technologies is essential for competitiveness, innovation, and value creation in the sector.

Despite the clear advantages, challenges remain, including high implementation costs, the need for specialized expertise, and necessary infrastructure adaptations (Dredge et al., 2018). However, the potential of digital technologies to improve environmental, social, and governance (ESG) outcomes creates valuable opportunities for embedding sustainable practices within nautical tourism. IoT and AI, for instance, enable real-time resource management, significantly reducing CO₂ emissions and waste while supporting global sustainability goals (Addas, Khan & Naseer, 2024; INCE, 2024). Blockchain technologies enhance supply chain transparency and ensure ecological integrity by enabling traceability of resources (Liu, Zhang & Zhen, 2021).

Digital tools also strengthen social and governance aspects by improving workplace safety, fostering transparency, and enhancing community relations. AI-powered safety systems predict hazards, contributing to safer working environments, while transparent digital platforms facilitate trust and collaboration with local communities (Minoia & Jokela, 2021; El Archi et al., 2023). Blockchain further bolsters governance by maintaining tamper-proof records, ensuring regulatory compliance, and enhancing accountability, which aligns nautical tourism with international sustainability standards (Nurzyńska, Kubiak & Woźniak, 2024; Sarnacchiaro et al., 2024).

The integration of digital technologies in nautical tourism not only advances operational efficiency but also embeds responsible practices that meet growing demands for sustainable resource management. This transformative impact positions the sector to adapt effectively to global ESG goals, fostering a foundation for long-term sustainable growth.

RESEARCH METHODOLOGY

This research examines the role of digitalization in advancing sustainability goals within nautical tourism. Through a systematic review of academic and professional literature, it identifies key digital technologies that enhance environmental, social, and governance (ESG) objectives, while addressing opportunities and challenges in their integration. Strategic recommendations are proposed to foster sustainable practices in the sector.

The study focuses on (1) analyzing how digitalization influences ESG implementation in nautical tourism, (2) identifying opportunities and challenges posed by digital technologies, and (3) exploring emerging tools' contributions to ESG outcomes. A systematic literature review (SLR) method ensures a comprehensive and unbiased analysis, synthesizing findings to guide future research.

Search strategy	Hits	Time frame	Index
("digitalization") AND ("sustainability") AND ("tourism")	113	All years	SSCI, SCI-EXPANDED, ESCI, CPCI-S, CPCI-SSH, BKCI-SSH, A&HCI, BKSI-S
Refined search: DOCUMENT TYPES: (ARTICLE) AND PUBLICATION YEARS (2024 OR 2023 OR 2022 OR 2021 OR 2020 OR 2019) AND WEB OF SCIENCE CATEGORIES: (ECONOMICS, MANAGEMENT, BUSINESS FINANCE, HOSPITALITY LEISURE SPORT TOURISM)	8	2019 — August 2024	SSCI, ESCI

Table 1 — WoS (SSCI, ESCI and SCI-EXPANDED) search strategy (2019—2024). Source: Authors.

Search strategy	Hits	Time frame	Index
(TITLE-ABS-KEY ("digitalization") AND ("sustainability") AND ("tourism"))	121	All years	Scopus
Refined search: AND PUBYEAR > 2019 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA,"BUSI") OR LIMIT-TO (SUBJAREA,"ECON")) AND (LIMIT-TO (LANGUAGE,"English")) AND (LIMIT-TO (DOCTYPE,"ar"))	16	2019 — August 2024	Scopus

Table 2 — Scopus search strategy (2019—2024). Source: Authors.

Targeting publications from 2019 to 2024, a structured search in Web of Science (WoS) and Scopus databases used keywords like "digital," "sustainability," and "tourism." This yielded 234 results (113 from WoS, 121 from Scopus), offering a robust foundation for analyzing the intersection of digital technologies and sustainability in nautical tourism.

In the subsequent step, the search strategy was refined. Given that digitalization (encompassing IoT, AI, and blockchain), sustainability, and tourism (including nautical tourism) are applied across various scientific disciplines, we decided to focus our research on papers within the fields of economics, business, and hospitality.

This selection was based on Scopus subject areas and WoS categories (as shown in Tables 1 and 2). The following WoS categories were considered: Economics, Management, Business Finance, and Hospitality Leisure Sport Tourism (SSCI, SCI-EXPANDED, ESCI, CPCI-SSH, CPCI-S, A&HCI). The corresponding Scopus categories/areas included Business, Management, and Accounting and Economics, Econometrics and Finance. This method yielded 24 results (8 from WoS and 16 from Scopus), as shown in Tables 1 and 2.

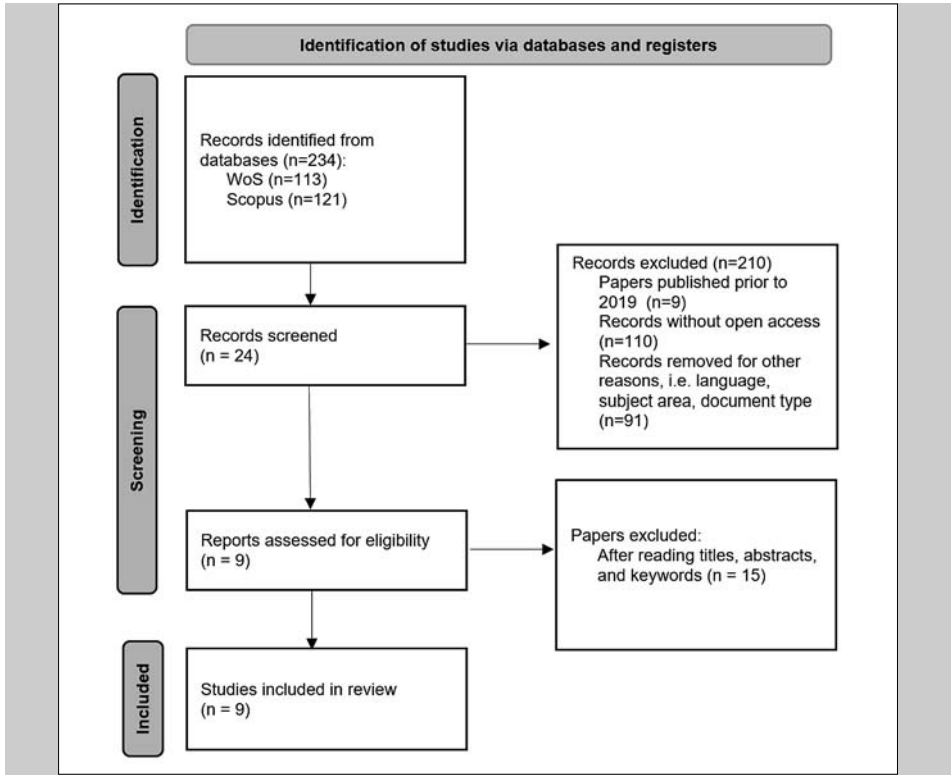


Figure 2 — PRISMA flow diagram of the literature review paper selection process. Source: Authors.

We identified and excluded 15 papers from both databases, after merging all the papers, resulting in 9 papers for analysis. By reviewing the abstracts and keywords, we filtered out those that did not offer a comprehensive description of the digitalization process, sustainability, and tourism. Papers were deemed relevant if they specifically focused on the application of digital tools, sustainability, and tourism.

After applying these exclusion criteria (Figure 2), 9 publications remained, forming the basis for further analysis. We then extracted and coded essential data from these studies (e.g., authors, title, journal, year of publication, digitalization, sustainability, tourism) to support our analysis.

RESULTS AND DISCUSSION

This study presents a systematic review of the existing literature to explore the impact of digitalization on the implementation of Environmental, Social, and Governance (ESG) principles in nautical tourism, identify opportunities and challenges posed by digital technologies, and assess their contribution to ESG outcomes. A review of nine articles published between 2019 and 2024 highlights a growing interest in the intersection of digitalization and sustainability, particularly in 2024 when five articles were published. However, the limited volume of research underscores a significant gap in the application of digital tools to promote sustainability within the tourism sector (Franz & Cruz, 2024; Korc et al., 2024).

The integration of digital technologies has emerged as a critical enabler of ESG implementation. Digital tools enhance data collection and analysis, enabling businesses to monitor and optimize their ESG performance, while also fostering better stakeholder engagement and alignment with regulatory expectations (Korc et al., 2024; Nikipova et al., 2023). These tools also promote sustainability-oriented behaviors through employee education and consumer engagement, leveraging digital platforms to raise awareness and encourage responsible tourism practices (Putzer & Posza, 2024).

Digital technologies offer significant opportunities to advance sustainable practices by improving operational efficiency and resource management. For example, tools like big data and artificial intelligence (AI) facilitate real-time decision-making and environmental impact monitoring, while renewable energy solutions help reduce carbon emissions (Peng, Chen & Li, 2023; León-Gómez et al., 2023). Digital finance further supports the sector by enhancing access to financial resources, promoting the adoption of sustainable practices (Wang, Li & He, 2024).

Despite these advantages, challenges persist. High costs of implementation, skill shortages, and difficulties integrating new technologies with existing systems present barriers to widespread adoption (Correia Cardoso et al., 2024; León-Gómez et al., 2023). Additionally, the absence of standardized metrics for evaluating the impact of digitalization on sustainability and limited stakeholder inclusivity hinder the effective utilization of digital tools (Franz & Cruz, 2024; Lundh Snis, Olsson & Bernhard, 2021). Ad-

addressing these issues requires a comprehensive strategy that combines technological advancements with sustainability goals, enhances stakeholder collaboration, and provides solutions to financial and expertise-related constraints.

Emerging digital tools significantly enhance ESG outcomes in nautical tourism. They contribute to environmental sustainability by optimizing resource use and reducing waste, promote social responsibility through improved stakeholder engagement and employee welfare, and strengthen governance by increasing transparency and accountability through data visualization and regulatory compliance (Peng, Chen & Li, 2023; Wang, Li & He, 2024). These insights offer a pathway for stakeholders to leverage digital technologies, driving sustainable growth and resilience in the nautical tourism sector.

CONCLUSIONS AND RECOMMENDATIONS

This study investigates the role of digital technologies in implementing and enhancing ESG frameworks within nautical tourism, identifying opportunities, challenges, and contributions of emerging tools to ESG outcomes. A systematic review of existing literature highlights the integration of digital tools as essential for ESG adoption. These technologies improve management practices, enhance stakeholder engagement, and enable effective ESG performance monitoring while promoting transparency and sustainable tourism efforts.

Despite their potential, digital tools pose challenges, including high implementation costs, system integration issues, and a shortage of skilled personnel. Current sustainability models often fail to incorporate these technologies, limiting their impact. Addressing these challenges requires strategic planning, stakeholder collaboration, and enhanced assessment frameworks.

Emerging technologies offer substantial ESG benefits, optimizing resources, reducing carbon emissions, fostering innovation, and improving stakeholder engagement and governance through transparency and compliance. However, the limited focus in existing literature on the impact of digital transformation in nautical tourism underscores the need for further research. Future work should develop solutions to these challenges and explore the continued integration of digital tools to advance sustainability.

The study highlights a significant research gap and offers strategic insights to stakeholders, emphasizing that adopting digital technologies is vital for achieving long-term ESG goals in the nautical tourism sector.

References

- 1NCE. (2024). Smart sustainability: IoT leading the way. 1NCE. Retrieved November 5, 2024, from <https://1nce.com/en-eu/resources/news-insights/blog/iot-sustainability>.
- Addas, A., Khan, M.N., & Naseer, F. (2024). Waste management 2.0 leveraging internet of things for an efficient and eco-friendly smart city solution. *PLoS ONE*, 19(7), e0307608. <https://doi.org/10.1371/journal.pone.0307608>.

- Agarwala, P., Chhabra, S., & Agarwala, N. (2021). Using digitalisation to achieve decarbonisation in the shipping industry", *Journal of International Maritime Safety, Environmental Affairs, and Shipping*, 5(4), 161-174.
- Business Research Insights. (2023). *Marine tourism market size, share, growth, and industry analysis, by type (cruise tourism yachting and sailing tourism and others), by service (passenger tickets service onboard and other service), regional forecast to 2032*. Available at: <https://www.businessresearchinsights.com/market-reports/marine-tourism-market-104647> (Accessed: 30 October 2024).
- Correia Cardoso, R., Lisboa Sohn, A. P., Ferasso, M., & Pereira Júnior, S. (2024). Open innovation in the tourism field: A systematic literature review. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(3), 100359. <https://doi.org/10.1016/j.joitmc.2024.100359>.
- Custom Market Insights. (2024). *Global maritime tourism market 2024—2033*. Available at: <https://www.custommarketinsights.com/report/maritime-tourism-market/> (Accessed: 30 October 2024).
- Dalenogare, L. S., Benitez, G. B., Ayala, N. F., & Frank, A. G. (2020). The expected contribution of Industry 4.0 technologies for industrial performance. *International Journal of Production Economics*, 223, 107727. <https://doi.org/10.1016/j.ijpe.2018.08.019>.
- Dredge, D., Phi, G., Mahadevan, R., Meehan, E. & Popescu, E.S. (2018). Digitalisation in tourism: Indepth analysis of challenges and opportunities. Low value procedure GRO-SME-17-C-091-A for Executive Agency for Small and Medium-sized Enterprises (EASME) Virtual Tourism Observatory. Aalborg University, Copenhagen. <https://ec.europa.eu/docsroom/documents/33163/attachments/1/translations/en/renditions/native>.
- El Archi, Y., Benbba, B., Kabil, M., & Dávid, L.D. (2023). Digital technologies for sustainable tourism destinations: State of the art and research agenda. *Adm. Sci.* 13, 184. <https://doi.org/10.3390/admsci13080184>.
- Franz, H. C., & Cruz, A. R. (2024). *Development of a maturity assessment model for sustainable tourism*. <https://doi.org/10.1080/13683500.2024.2354531>.
- Hidalgo, I., Fenández-de Vega, F., Ceberio, J., Garnica, O., Velasco, J.M., Cortés, J.C., Villanueva, R. and Díaz, J. (2023). Sustainable artificial intelligence systems: An energy efficiency approach. *TechRxiv*. Available at: <https://www.techrxiv.org> (Accessed: 19 October 2024).
- Ivanić, K., Perić Hadžić, A., & Mohović, Đ. (2018). Nautical tourism: Generator of Croatian economy development. *Pomorstvo*. 32. 59-66. <https://doi.org/10.31217/p.32.1.7>.
- Korcz, N., Ciesielski, M., Kamińska, A., Choromański, K., Gotlib, D., Stefan, F., & Taczanowska, K. (2024). *The use of digital tools in forest tourism and recreation - Experiences from Warsaw agglomeration in Poland*. <https://doi.org/10.1016/j.tfp.2024.100697>.
- León-Gómez, A., Santos-Jaén, J. M., Palacios-Manzano, M., & Garza-Sánchez, H. H. (2023). *Unlocking sustainable competitive advantage: exploring the impact of technological innovations on performance in Mexican SMEs within the tourism sector*. <https://doi.org/10.1007/s10668-023-04025-y>.
- Liu, J., Zhang, H., & Zhen, L. (2021). Blockchain technology in maritime supply chains: applications, architecture and challenges. *International Journal of Production Research*, 61(11), 3547-3563. <https://doi.org/10.1080/00207543.2021.1930239>.
- Lundh Snis, U., Olsson, A. K., & Bernhard, I. (2021). *Becoming a smart old town - How to manage stakeholder collaboration and cultural heritage*. <https://doi.org/10.1108/JCHMSD-10-2020-0148>.

- Manojlović, M., Stanovčić, T., & Perović, Đ. (2024). Digital transformation in nautical tourism. *Časopis Pomorskog fakulteta Kotor — Journal of Maritime Sciences* 25(1/2024), 98-110. <https://doi.org/10.56080/jms240507>.
- Minoia, P., & Jokela, S. (2021). Platform-mediated tourism: social justice and urban governance before and during Covid-19. *Journal of Sustainable Tourism*, 30(5), 951-965. <https://doi.org/10.1080/09669582.2021.1922426>.
- Nakipova, G., Mazhitova, S., Gelmanova, Z., Kudaibergenova, S., Saparova, B., & Kuatova, A. (2023). *Competitiveness of the regional economy on the example of ESG technologies and their impact on the tourism industry*. <https://doi.org/10.14254/1800-5845/2023.19-4.17>.
- Nurzyńska, M., Kubiak, B., & Woźniak, M. (2024). Impact of blockchain technology on the governance of the tourism and hospitality industry. *Scientific Papers of Silesian University of Technology Organization and Management Series*. <https://doi.org/10.29119/1641-3466.2024.203.21>.
- OECD (2020). Preparing tourism businesses for the digital future, in OECD Tourism Trends and Policies 2020, OECD Publishing, Paris. <https://doi.org/10.1787/f528d444-en>.
- Parlov, M., Bašić, J., & Botunac, A. (2024). Umjetna inteligencija, ESG inovacije u turizmu i upravljanje osobnim podacima: Kako digitalna ekonomija, adaptabilnost i održivost oblikuju budućnost (Artificial intelligence, ESG innovation in tourism and personal data management: how the digital economy, adaptability and sustainability are shaping the future). *Acta Economica Et Turistica*, 10(1), 3-30. <https://hrcak.srce.hr/319571>.
- Peng, Y., Chen, H., & Li, T. (2023). *The impact of digital transformation on ESG: A case study of Chinese-listed companies*. <https://doi.org/10.3390/su152015072>.
- Putzer, P., & Posza, A. (2024). *Transition from CSR to ESG in tourism: A bibliometric analysis*. <https://doi.org/10.2478/orga-2024-0018>.
- Rončević, A. (2024). Digitalizacija i nove tehnologije u nautičkom turizmu (Digitalization and new technologies in nautical tourism). In T. Luković (Ed.), *Nautički turizam Hrvatske*. Redak. 317-327.
- Sarnacchiaro, P., Luongo, S., & Sepe, F. (2024). *The role of blockchain technology in the tourism industry: analyzing the factors affecting its adoption*. *Qual Quant*. <https://doi.org/10.1007/s11135-024-01836-7>.
- Vimal, K.E.K., Sivakumar, K., Kandasamy, J., Venkat, V., & Mani, R. S. (2023). Barriers to the adoption of digital technologies in a functional circular economy network. *Journal of Global Business Insights*, 16, 1541-1561. <https://doi.org/10.1007/s12063-023-00375-y>.
- Vukčević, N., & Ljubić, M. (2016). An empirical analysis on level of e-business application in ports of nautical tourism in Montenegro. *International Journal for Traffic and Transport Engineering*, 6(3).
- Wang, H., Li, Y., & He, B. (2024). *Spatial spillover effects of digital finance on corporate ESG performance*. <https://doi.org/10.3390/su16166987>.
- Xu, G., Shi, Y., Sun, X. & Shen, W. (2019). Internet of things in marine environment monitoring: A review. *Sensors* 19, 7, 1711. <https://doi.org/10.3390/s19071711>.

OTHER ISSUES



VIDEO GAME LITERACY IN EDUCATION: A FRAMEWORK FOR USING GAMES IN SCHOOL

Abstract

Video games are increasingly recognized as a powerful learning tool and as a medium that needs to be understood as part of a broader media culture. However, there are many doubts about how to use the educational potential of video games and how to approach learning about video games as a medium in general. This paper proposes a concept of video game literacy as a starting point in learning about games and learning through games in schools. Using Bill Green's three dimensional model of literacy, which was originally designed to support the integration of ICTs in literacy education, and comparing it with James Paul Gee's ideas of video game literacy, this paper outlines a framework for learning about games in school. It focuses on the cultural literacy, especially on the placement of video games in broader human culture and on their wider significance in the general media landscape. The framework aims to help educators integrate video games into the curriculum, across different subjects and levels, and foster students' critical and creative engagement with games, as well as their digital and media competencies.

Key words: video game literacy, cultural literacy, education, games, media

INTRODUCTION

Video games can be used in education in two primary ways. On one hand, they can serve as an auxiliary teaching tool, a medium that facilitates learning across various subjects and curriculum content. As a dynamic and engaging teaching resource, video games can aid in the transfer of knowledge and skills. Numerous studies confirm the advantages of game-based learning in education (Backlund & Hendrix, 2013; Connolly et al., 2012; Prensky, 2001; Young et al., 2012). Additionally, some research focuses on developing practical solutions for more successful integration of games into teaching, as well as designing more effective and purposeful educational games (Egenfeldt-Nielsen, 2010; Linehan et al., 2011).

On the other hand, video games can be used in education as a medium that needs to be studied independently, as a separate subject and as a part of broader media literacy. Video games have emerged as a significant part of contemporary culture and as such deserve more attention and should be taught about in schools. However, there is relatively little research dedicated to incorporating video games into education as a means to study the games themselves.

The concept of literacy offers a promising starting point for both learning through games and learning about games in schools. It addresses key challenges that may arise in the educational process, such as whether it is feasible to implement this approach in the classroom and whether students will be able to engage effectively. This paper will explore various literacy models and examine how the concept of literacy can be applied to video games. Particular emphasis will be placed on cultural literacy, specifically the teaching of cultural literacy related to video games in schools.

MODELS OF VIDEO GAME LITERACY

Expanding the concept of literacy to other, non-linguistic areas is common in the modern world where language has long ceased to be the only important communication system (see, Gee, p. 13). Literacies vary not only across different communication domains and media (such as print, film, images, etc.) but also within specific areas, where distinct types of literacy can be identified. One of the most influential studies dealing with different types of literacy in an educational context is that of Bill Green (1988), originally aimed at supporting the integration of ICTs into literacy education. Green's 3D model of literacy provides a framework for understanding literacy in a complex and multifaceted world. It conceptualizes literacy as a dynamic, interconnected process comprising three overlapping dimensions: the operational, the cultural, and the critical.

Operational literacy refers to the ability to decode and produce text. In the traditional context of language that would be the ability to read and write. In context of video games, that would be the ability to play games and to design games.

Cultural literacy involves recognizing the social and cultural contexts of texts. A reader who understands the context in which a particular text exists and is familiar with the texts it references is better equipped to grasp its full range of meanings. To be culturally literate in this sense means to derive understanding from intertextual knowledge. In video games, cultural literacy often depends on familiarity with other games, movies, or literature, as well as recognizing genre conventions and patterns. For instance, a player gains a much deeper understanding of the *Blade Runner* video game (Westwood Studios, 1997) if they recognize how it expands on the world of Ridley Scott's 1982 film.

Critical literacy involves the ability to identify and interrogate underlying assumptions, perspectives, and values in texts. It requires analyzing, questioning, and evaluating texts to uncover rhetorical strategies, manipulation, bias, hidden messages, power dynamics, and ideology. In the context of the *Blade Runner* video game (Westwood Studios, 1997), critical literacy includes examining how the game frames the player's agency through its branching narrative paths and how these choices engage with ethical dilemmas within the story.

Although Beavis (1998) was among the first to apply Green's model of literacy to video games, the significance of literacy in this context gained greater prominence after James Paul Gee's seminal book *What Video Games Have to Teach Us About Learning and Literacy* (2003). In this work, Gee demonstrates how video games can serve as powerful learning tools. He argues that well-designed video games embody effective learning principles, offering valuable insights for improving educational practices.

Gee's broader claim is that video games exemplify effective learning principles not because they are created as educational tools, but because they must engage and challenge players to be successful. These principles, Gee suggests, can be adapted to formal education to create more engaging, context-rich, and effective learning experiences.

Gee's concepts of semiotic domains and multimodal literacy align closely with Green's 3D model of literacy. At the core of Gee's argument about multimodal literacy is the idea that video games teach players to interpret and navigate semiotic domains — systems of signs and symbols unique to specific contexts. When playing video games, players learn to decode visual, auditory, and textual cues in combination. Gee contends that literacy should encompass multimodal forms of communication, integrating visual, digital, and symbolic literacies alongside traditional reading and writing skills.

For instance, in the video game *Deus Ex* (Ion Storm, 2000), players engage with multiple overlapping semiotic domains. They must interpret visual, auditory, and textual cues simultaneously. The game incorporates complex systems, such as inventory management, augmentations, skill trees, and hacking interfaces. Its environments — ranging from dystopian cityscapes to corporate offices and secret laboratories — serve as narrative devices, conveying story and world-building elements. Players interpret visual signs like graffiti, computer terminals, and NPC behaviour to uncover hidden layers of the narrative. Additionally, emails, notes, and reports scattered throughout the game provide critical narrative context. To uncover conspiracies and make informed decisions, players must skilfully analyse these textual elements.

Many scholars writing about video game literacy have referenced either Green (1998) or Gee (2003) in their works (e.g., Bacalja, 2018; Bourgonjon, 2014; Sanford & Madill, 2007; Squire, 2008; Zagal, 2008). A significant emphasis has been placed on the need to consider students' operational literacy, particularly their ability to play games and derive meaning from them (e.g., Zagal, 2009). To some extent, scholars have also explored critical literacy in the context of video games (e.g., Bacalja, 2018; Sanford & Madill, 2007). However, the importance of cultural literacy in video games has received comparatively less attention. This paper, therefore, focuses primarily on that specific dimension of literacy.

CULTURAL LITERACY EDUCATION

Certain arts and media have traditionally been supported in cultural literacy education. For example, teaching cultural literacy in literature is an integral part of educational programs and curricula in almost every country. This is typically accomplished by integrating the history and theory of literature into national language subjects (such as English, German, Spanish, etc.). Although less common, film history and theory are also occasionally included in school curricula. However, teaching about video games remains rare.

Given that school curricula in most countries are already heavily loaded with various subjects and educational objectives, it is unlikely that comprehensive cultural literacy education focusing on video games could be implemented to the same extent as the study of literature's history and theory.

However, one aspect of cultural literacy that could still be incorporated into education is the categorization of basic game types, as outlined by cultural anthropologist Roger Caillois (2001). In his seminal book *Man, Play and Games* (2001) Caillois categorizes games into four main types:

- *Agon* (competition) — Games that involve contests and challenges, where players compete against each other to win.
- *Alea* (chance) — Games of luck or chance, where outcomes are determined by random factors rather than skill or strategy.
- *Mimicry* (role-playing) — Play that involves imitation, such as acting or pretending, where players adopt roles and create fictional scenarios.
- *Ilinx* (vertigo or sensory experiences) — Play that involves altering one's perception, such as in games that induce dizziness or thrill through rapid movement or other disorienting experiences.

All games, including video games, can be placed into one of these categories, though many incorporate elements from multiple categories. These categories are neither strict nor fixed; they often overlap and combine in specific instances. For example, poker, while primarily a game of *alea* (chance), also features significant *agon* (competition) elements, where skill and knowledge can mitigate the role of chance over time. In its purest form, *alea* relies entirely on luck and probability, disregarding knowledge, skill, and effort.

Caillois also explores how these forms of play can intersect and reflect various facets of human life and culture. He highlights play as a social activity that transcends mere entertainment, contributing to cultural development and the establishment of social norms.

Each type of game conveys meaning uniquely and leverages different psychological mechanisms to attract players. In competitive games (*agon*), enjoyment stems from developing skills to outmatch opponents. Players experience a simulated, illusory sen-

se of achievement, triumph, or competence upon completing tasks. Since the affirmation of worth and competence is a fundamental human need, these games can be more addictive than other forms of media. In real life, we often lack clear feedback on what to do, face ambiguous goals, and endure long waits for positive results — if they come at all, and even then, they may not be fairly rewarded. Competitive games, however, stand apart. They consistently and fairly reward effort, providing immediate, flattering validation of our competence — a deeply craved experience. This consistent reinforcement of our sense of ability and success makes competitive games particularly appealing.

In games of chance (*alea*), success depends entirely on fate and randomness. Factors that are crucial in competitive games — effort, patience, agility, and skill — become irrelevant in pure games of chance. However, many games combine elements of *agon* and *alea*, offering enjoyment through strategies that reduce the impact of chaotic and unpredictable forces. Such games create an illusory sense of control, allowing players to feel as though they can predict or influence future.

In games of vertigo (*ilinx*), such as roller coasters, carousels, swings, or high-speed sports, enjoyment arises from disrupting sensory stability and creating a pleasurable confusion of perception. These experiences often evoke a sense of expanded consciousness, though this sensation stems from a loss of control over one's senses.

In games of make-believe (*mimicry*), where players adopt roles or inhabit fictional worlds, the appeal lies in exploring characteristics and abilities beyond their everyday lives. Immersion in a world of imagination allows players to experiment with different identities and scenarios, fostering creativity and escapism.

This classification not only elucidates the nature of games and provides cultural insights for students but also highlights their rhetorical techniques and psychological effects. Understanding these fundamental aspects of games offers valuable knowledge for developing critical literacy skills, enabling students to analyse and critique video games effectively. Moreover, learning about these four types of games situates them within a broader cultural context. Games are ubiquitous, woven into daily life and many aspects of reality, from social institutions to personal interactions.

How can this be applied in schools?

On one hand, a dedicated lesson could be created to introduce the different categories of games and the various ways they operate through a series of activities. However, not all subjects include outcomes related to media literacy, and there may not always be enough time to explain the principles of games during a class.

On the other hand, and perhaps more effectively, whenever a game is used in a lesson, its mechanisms and the way it influences players can be explored and explained in greater detail. In other words, a game used in an educational context to teach specific content can also be analyzed as a game, not merely as a tool for delivering content from (e.g., chemistry).

In this sense, this approach can be applied across various subjects. Every time a game is used in an educational context, it can also be analysed to investigate its game-play mechanisms and categorized, at the very least, into one or more of Caillois' categories.

CONCLUSION

As video games continue to permeate various aspects of modern life, it is crucial to understand their broader implications, both as a medium and as an educational tool. By fostering video game literacy, particularly cultural literacy, students can develop a deeper understanding of role of games in society and their potential to influence both personal and collective narratives. This paper has presented a framework for integrating video game literacy into education, drawing upon Bill Green's and James Paul Gee's models to highlight the importance of operational, cultural, and critical literacies in understanding video games. The categorization of games, as proposed by Roger Caillois, provides a useful tool for students to recognize and analyse the diverse forms of play embedded in games, allowing them to engage more critically with the medium.

Incorporating video games into the curriculum offers valuable opportunities for enhancing students' digital competencies and critical thinking skills. Whether used as a direct teaching tool or as an object of analysis, video games provide a unique context in which students can explore complex cultural, psychological, and rhetorical dimensions. This approach not only supports the development of critical and creative thinking but also encourages students to engage meaningfully with games as a significant form of media and cultural expression. By applying these principles, educators can equip students with the skills needed to navigate and understand the evolving landscape of digital media, preparing them for a future in which video games play an increasingly influential role.

References

- Bacalja, A. (2018) What critical literacy has to offer the study of video games. *AJLL*, 41, 155-165. <https://doi.org/10.1007/BF03652016>.
- Backlund, P., & Hendrix, M. (2013). Educational games — Are they worth the effort? A literature survey of the effectiveness of serious games. *Games and Virtual Worlds for Serious Applications (VS-GAMES)*, 2013 5th International Conference on, 11-13 Sept. 2013, 1-8.
- Beavis, C. (1998). Computer games, culture and curriculum. In I. Snyder (Ed.), *Page to screen: Taking literacy into the electronic era*, Allan and Unwin, 234-55.
- Bourgonjon, J. (2014). The meaning and relevance of video game literacy. *CLCWeb: Comparative Literature and Culture* 16.5. <https://doi.org/10.7771/1481-4374.2510>.
- Caillois, R. (2001). *Man, play, and games*. University of Illinois Press.
- Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers & Education*, 59(2), 661-686.

- Egenfeldt-Nielsen, S. (2010). The challenges to diffusion of educational computer games. *The European Conference on Games Based Learning*, Copenhagen, Denmark.
- Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. Palgrave-McMillan.
- Green, B. (1988). Subject-specific literacy and school learning: A focus on writing. *Australian journal of education* 1988/8, 32(2), 156-179.
- Linehan, C., Kirman, B., Lawson, S., & Chan, G. (2011). Practical, appropriate, empirically-validated guidelines for designing educational games. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, Vancouver, BC, Canada, 1979—1988.
- Prensky, M. (2001) *Digital game-based learning*, McGraw-Hill.
- Sanford, K., & Madill, L. (2007). Critical literacy learning through video games: Adolescent boys' perspectives. *E-Learning and Digital Media*, 4(3), 285-296.
<https://doi.org/10.2304/elea.2007.4.3.285>.
- Squire, K. (2008). Video-game literacy: A literacy of expertise. In J. Coiro, M. Knobel, C. Lankshear, & D. J. Leu. *Handbook of Research on New Literacies*, pp. 635-700. Mahwah: Lawrence Erlbaum.
- Young, M. F., Slota, S., Cutter, A. B., Jalette, G., Mullin, G., Lai, B., Simeoni, Z., Tran, M, & Yukhymenko, M. (2012). Our princess is in another castle: A review of trends in serious gaming for education, *Review of Educational Research*, 82(1), 61-89.
- Zagal, J. P. (2008). A framework for games literacy and understanding games. *Conference: Proceedings of the 2008 Conference on Future Play: Research, Play, Share, Future Play 2008*, Toronto, Ontario, Canada, November 3-5, 33-40.

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CRISIS COMMUNICATION OF HEALTH INSTITUTIONS DURING THE COVID-19 PANDEMIC: WHAT COULD HAVE ARTIFICIAL INTELLIGENCE IMPROVED?

Abstract

Similar to other management systems, organizations are not immune to crises, regardless of their size, life cycle stage, ownership, or area of activity. Crisis situations that arise from poor organizational management and communication, or because of the actions of forces from its environment, are usually atypical and happen unexpectedly, that is to say, crisis situations are events that organizations are often not prepared for. Consequently, one of the most challenging areas of their communication activity is crisis communication. A company that has already adopted strategic preparation and a management plan holds best prospects for its success, which are reflected in complete prevention or minimization of negative consequences. The level of preparedness of an organization that faces a crisis is proportional to the success of crisis management and crisis communication processes. The speed of information collection, processing, and dissemination play an important role in these situations, while the general impression is that artificial intelligence (AI) could improve the efficiency of organizational efforts in solving the abovementioned issues. AI algorithms can help in collecting, classifying and aggregating data in accordance to the degree of importance, as well as in resource allocation with the aim of timely placement of relevant information. These algorithms represent an appropriate platform to support crisis management and crisis communication.

Key words: *crisis management, crisis communication, artificial intelligence, corporate communication, public relations*

INTRODUCTION

Everyday life witnesses numerous crisis situations, and there is hardly any organization that has not been faced with some form of crisis. In most cases, crises occur unexpec-

tedly, catching organizations unprepared and causing disruptions in their normal activities. According to Barton (2001, p. 2), a crisis is "an unexpected, negative, and catastrophic event". Crisis communication is based on a dialogue between the crisis-affected organization and its stakeholders. However, crisis management and crisis communication often do not proceed as desired, they even cause additional damage. The main reason for this is usually inadequate or insufficient quality of organizational activities in the pre-crisis phase. Research confirms that organizations using artificial intelligence in their operations can more easily predict and overcome crises. The main advantages of using artificial intelligence include autonomy in monitoring the environment, structuring the data, analyzing important factors, and predicting events to enable timely reactions and decision-making.

CRISIS, CRISIS MANAGEMENT, CRISIS LIFECYCLE AND CRISIS COMMUNICATION

The concept of crisis (Gr. *krisis*) primarily denotes differentiation or the ability to differentiate, choice, judgment, decision, solution to conflict, and clarification (Krummehner, 1981, as cited in Osmanagić Bedenik, 2010, p. 103). There is no single definition of crisis, Fearn-Banks (2009, p. 6) considers a crisis to be "an event with possible negative consequences for the organization, the public, products, services, and the organization's reputation," while according to Holsti (1990, p. 75), crises denote "serious threats to important values and limited time to take action".

Definitions of crisis management describe it as an effort to prevent or mitigate the negative consequences of a crisis and thereby protect the organization and all its stakeholders, as well as the environment in which it operates (Coombs, 2012, p. 5). "Every crisis is actually an information crisis, and failure to control information related to the crisis is actually a failure in overall crisis management." Scalconova's thesis is the basis for Jugo's conclusion that crisis management and crisis communication are "intricately connected" (Jugo, 2017, p. 14). Coombs has outlined a simple and widely accepted model of the crisis lifecycle consisting of three phases: pre-crisis, crisis, and post-crisis (2012, p. 11). The pre-crisis phase involves a series of activities aimed at identifying, reducing, or eliminating possible risks that may lead to a crisis, with organizations having to prepare for worst-case scenarios because it is impossible to prevent every crisis (Luecke, 2005, p. 68). Jugo (2017, p. 15) emphasizes: "The rapid development of technology, the outbreak of new communication platforms and social networks have further accelerated communication during crises and thus posed new challenges for organizations." In the post-crisis phase, communication from previous phases is chronologically reviewed and evaluated, and the financial and reputational consequences are assessed. The results of the analyses are used to improve the management of new crises and to update the crisis communication plan (Ćorić, 2019, p. 155). Crisis com-

munication represents a dialogue between the organization and its public before, during, and after a crisis, involving the development and implementation of strategies aimed at minimizing damage to the corporate reputation that it may cause.

ARTIFICIAL INTELLIGENCE AND CRISIS COMMUNICATION

McCarthy coined the term artificial intelligence (AI) in 1956 in an application for a conference on the possibility of reproducing human intelligence through machines (Russell & Norvig, 2010, p. 17) and a great contribution to its development was made by Turing by designing simple abstract devices for the manipulation of signs and symbols that explored the limits of the possibilities of calculation by a computer algorithm. Research in OECD countries indicates that by 2018, on average, 14% of jobs were automated using artificial intelligence (OECD, 2018), and predictions suggest that in 120 years it will automate all human work (Grace et al., 2018).

The application of artificial intelligence also affects and changes the work environment in public relations. The growth of its development from 2015 to 2019 by 270% led Gartner (2019) to conclude that artificial intelligence, along with additional innovations, brings fear to public relations professionals about its impact on the industry, thus confirming Johnson and Verdicchio's concept of "AI anxiety" (2017). Such trends should prompt public relations professionals to seriously consider the risks and opportunities that artificial intelligence brings, such as the lack of emotions and empathy in decision-making and creativity, which are crucial in the communication industry. According to Ristić (2017), public relations is primarily an emotional discipline that cares about reputation and is associated with trust, raising the question of whether machines or robots are capable of replacing humans. Scott (2018) believes that the use of AI in public relations leads to the absence of personal interaction between the brand and stakeholders, which can result in lower perception and transparency in message delivery. Research by Panda et al. (2019) indicates a positive attitude of public relations professionals towards artificial intelligence, primarily through quick and appropriate decision-making based on data collection and analysis, as well as development and distribution of the content.

Predicting in crisis management is an important part of organizational operations, a premise that was fully affirmed during the COVID-19 pandemic. The role of artificial intelligence during that period was manifested through quick decision making based on large amounts of data that the algorithm sublimates, accurately classifies, and predicts, allowing policymakers to adapt more quickly to existing crises and to be better prepared to face future crises (Surianarayanan & Chelliah, 2021). This is the fundamental reason why researchers believe that the combination of human and artificial intelligence is beneficial in "medical" crises. Since humans require much more time to collect

and process data (Essien, 2022), the use of artificial intelligence can improve timeliness of the response (Jarrahi, 2018).

3. CRISIS COMMUNICATION DURING THE COVID-19 PANDEMIC: THE CASE OF THE PUBLIC INSTITUTION HEALTH CENTRE OF THE SARAJEVO CANTON

The quality of crisis communication by the competent institutions in Bosnia and Herzegovina during the COVID-19 pandemic is best illustrated by the results of a survey conducted by the Association of BH Journalists, which involved 36 representatives from electronic, print, and online media from across the country. When asked whether the current method of informing the media through press conferences about the pandemic enables professional reporting in the interest of citizens, most of respondents (58.3%) answered negatively, stating that the information provided was generalized and did not contain all the necessary data (BH journalists, 2020). The researched institution, the Public Institution Health Center of the Sarajevo Canton (JUDZKS), is part of the healthcare system of Bosnia and Herzegovina, and the research was conducted through in-depth interviews with the public relations advisor and analysis of media articles' content. The research analyzes the communication activities of this institution in various phases of the crisis.

Like any other healthcare institution worldwide, JUDZKS was not prepared for the crisis caused by the COVID-19 pandemic, both in terms of scope and duration. As early as February 2020, with indications of the spread of the coronavirus in Europe, representatives of this institution became aware that the virus would not bypass our country. They formed the Coordination Body to monitor the COVID-19 situation, which acted in accordance with the recommendations of the World Health Organization (WHO) and consisted of representatives from nine primary healthcare centers (with 84 family medicine clinics) operating in the Sarajevo Canton. The respondent states:

The revision of communication plans for crisis communication, which existed from before, and which were a good basis for upgrading with new communication messages, was immediately started. Subsequently, a unified crisis communication plan was developed, a crisis management team was appointed with clearly defined tasks and roles, and clear steps and procedures were defined.

Therefore, in the pre-crisis phase of crisis communication, this institution undertook a series of activities aimed at identifying, reducing, or eliminating possible risks that could lead to a crisis, and they were prepared for its consequences. The Coordination Body was renamed the Crisis Headquarters, which held regular daily meetings and immediately started internal communication with employees, for which 16 new work procedures were created focusing on the prevention of the spread of the SARS-CoV-2 virus among patients and healthcare workers.

Simultaneously, the media were regularly informed through press releases about every step taken by primary healthcare centers so that citizens were informed about the organization of healthcare institutions' work, not only for COVID-19 testing purposes but also for maintaining the provision of regular healthcare services to citizens.

In accordance with the recommendations of crisis headquarters at the cantonal and federal levels, as well as the WHO to minimize personal contacts, all media representatives were informed that communication would take place exclusively via email or phone. However, journalists were not deprived of personal contacts, and they could obtain statements from the JUDZKS representatives on a daily basis with prior notice and agreement. Ad hoc calls and requests were postponed to the next available term. The Government of the Federation of Bosnia and Herzegovina declared a disaster caused by the coronavirus on the territory of the Federation of Bosnia and Herzegovina on March 16, 2020. From that day until the declaration of the cessation of this state on May 31, 2020, the media were daily informed about the number of examinations conducted, tests performed, and the number of people testing positive for COVID-19:

We received between 25 and 35 media inquiries daily, including weekends. Not a single media inquiry was left unanswered, regardless of the time or day. In addition to direct communication with the media on behalf of JUDZKS, as the public relations advisor, I participated every day in the creation of part of the messages disseminated through various channels on behalf of the Ministry of Health of the Sarajevo Canton, the competent body for healthcare institutions in this region. The role of the public relations advisor involved gathering information from the field, from all primary healthcare centers and associated clinics, processing information, aligning key messages with the JUDZKS Crisis Headquarters, and then distributing information to the relevant ministry for media placement purposes.

In parallel with the crisis caused by the COVID-19 pandemic, to which the JUDZKS Crisis Headquarters responded admirably, this institution was also faced with several additional crisis cases that required separate but daily communication and responses to media inquiries.

One of these crises was prompted by the sudden increase in JUDZKS employees who were directly or indirectly in contact with infected individuals. The Crisis Headquarters decided to transparently inform the public about the number of infected employees, the steps taken to prevent further spread of the virus among them, and they also published a plan for the reorganization of certain healthcare units. The population was informed about changes in working hours and where to obtain regular medical services outside the new clinic hours. Additionally, all employees were internally informed about the changes resulting from the crisis and the shortage of medical staff. It

turned out that internal communication, which was filled with empathetic and encouraging messages, had a motivating effect on them. Not a single media outlet was deprived of a response regarding this crisis situation.

The additional crisis was caused by the dismissal of the director of JUDZKS, which happened on April 8, 2020, and had been announced days earlier. Although this was the result of the dismissal of the entire Government of the Sarajevo Canton, media inquiries were mostly directed to the JUDZKS address with the aim of informing the public about the reasons for the dismissal, the future director and how this institution, which was extremely important, would function during the crisis phase until the new director integrates into the system. In consultation with the Crisis Management Team, the newly appointed director decided not to turn his appointment into a new media story but to immediately focus on the job, while the public relations advisor informed the public about the new director and the unhindered functioning of JUDZKS through a press release. During the crisis phase of crisis communication, the crisis management team managed to analyze the previous communication and evaluate their own work to determine what worked and where improvement was needed, to get better prepared for the upcoming period when there was an increased number of COVID-19 patients and seasonal flu patients, which media and citizens were particularly interested in every year.

This analysis confirms the commitment of this institution to transparent, proactive, and timely informing of the public during the pandemic, as well as a self-critical attitude that enables improvement of crisis communication during the crisis. The biggest consequences of the crisis situation on JUDZKS affected the employees of this institution in the form of health problems, from sick medical staff to the stress they were exposed to daily. Therefore, the Crisis Management Team intensified internal communication and organized workshops for employees on successfully coping with stressful situations, emphasizing the importance of internal communication.

Researchers agree that establishing a dialogue between an organization and its public during and after a crisis, along with an appropriate communication strategy, minimizes damages that affect reputation, as evidenced by the analyzed case. As Ćorić et al. (2022, p. 197) claim the IT revolution has implied numerous changes in business, which, among other things, relate to the ways of communication of business entities, as well as to the channels and techniques they use to deliver their messages to those they are intended for. In doing so, they encounter numerous challenges and the biggest one is how to win the *war for talent* and to attract qualified, *digitally literate*, potential employees, as well as to improve knowledge and skills of current employees and to retain them. Therefore, despite artificial intelligence, which can positively impact the speed and transparency of information dissemination, without human intervention to make valid decisions, the desired results will not be achieved, as confirmed in this case study. However, the use of AI in the work of this institution would further

enhance the flow of information both within the institution and towards external target audiences.

CONCLUSION

Research worldwide indicates that AI significantly improved crisis management and crisis communication in healthcare institutions during the pandemic. It's known that AI was used for predictions regarding the spread of the pandemic, and precise diagnostic tools were developed to assist in diagnosing the severity and prognosis of the disease. From a communication standpoint, the use of AI was significant in real-time data analysis (e.g., the number of cases, hospital capacities, equipment availability for medical staff, etc.), which facilitated work processes. JUDZKS, an extremely complex system and the largest of its kind in Bosnia and Herzegovina, is a positive example of an institution whose crisis management team had successful communication with various target groups during the crisis phase of crisis communication: regular and COVID patients, media, relevant ministries, and other government institutions and crisis teams. The importance of timely and transparent information to the public was understood in-time. The findings of the case study confirm the importance of the communicator's role in crisis situations, but also identify the potential for the use of artificial intelligence in such situations with the aim of improving its efficiency, suggesting that a combination of human and artificial intelligence, with clearly defined rules and control of their roles, can achieve a synergistic effect. Finally, it can be concluded that the analyzed organization successfully communicated during both the pre-crisis and crisis periods, without deviating from professional standards, with the assumption of increased communication efficiency using artificial intelligence in all three phases of the analyzed crisis life cycle and therefore the results of the survey of BH journalists might be different.

References

- Barton, L. (2001). *Crisis in organizations II*.
- BH journalists. (2020). *Survey on press conferences without or with limited media presence*. Retrieved February 19, 2024, from <https://bhnovinari.ba/wp-content/uploads/2020/08/Anketa-o-konferencijama-za-%C5%A1tampu-bez-ili-uz-ograni%C4%8Deno-prisustvo-medija-compressed.pdf>.
- Coombs, T. (2012). *Ongoing crisis communications*. Los Angeles: Sage Publications.
- Ćorić, N. (2019). *Korporativna komunikacija*. Zagreb/Sarajevo/Mostar: Synopsis, Filozofski fakultet.
- Ćorić, N., Bašić, I., Sulić Filipović, M. (2022). Employer branding as an innovative element of organizational communication. *40th Symposium on Novel Technologies in Postal and Telecommunications Traffic — PosTel 2022*, Belgrade, 191-202.
- Essien, A. (2022). An artificial intelligence (AI)-based decision-making framework for crisis management. In *Future Role of Sustainable Innovative Technologies in Crisis Management* (pp. 84-98). IGI Global.
- Fearn Banks, K. (2009). *Crisis communications: A casebook approach*. Erlbaum.

- Gartner, Inc. (2019). *Gartner research shows that 37 percent of organizations have implemented AI in some form*. Retrieved February 19, 2024 from <https://www.gartner.com/en/newsroom/press-releases/2019-01-21-gartner-survey-shows-37-percent-of-organization-have>.
- Grace, K., Salvatier, J., Dafoe, J., Zhang, B., & Evans, O. (2018). Viewpoint: When will AI exceed human performance? Evidence from AI experts. *Journal of Artificial Intelligence Research*, 62, 729-754. <https://doi.org/10.1613/jair.1.11222>.
- Holsti, O. R. (1990). Crisis management. In B. Glad (Ed.). *Psychological Dimensions of War*, Sage Publications.
- Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *Business Horizons*, 61(4), 577-586, <https://doi.org/10.1016/j.bushor.2018.03.007>.
- Johnson, D. G., & Verdicchio, M. (2017). AI anxiety. *Journal Of The Association For Information Science & Technology*, 68(9), 2267-2270. <https://doi.org/10.1002/asi.23867>.
- Jugo, D. (2017). *Menadžment kriznog komuniciranja (Crisis communication management)*. Školska knjiga.
- Luecke, R. (2005). *Upravljanje kriznim situacijama (Crisis management)*. Harvard Business Essentials and Zgombić i partneri.
- OECD, (2018). Putting faces to the jobs at risk of automation. *Policy Brief on the Future of Work*. Retrieved February 19, 2024 from <https://www.oecd.org/employment/Automation-policy-brief-2018.pdf>.
- Osmanagić Bedenik, N. (2007). *Kriza kao šansa: Kroz poslovnu krizu do poslovnog uspjeha*. Školska knjiga.
- Ristić, D. (2017). *PR in 2018: Dominated by technology, mired by inauthenticity*. PR week. Retrieved February 19, 2024 from <https://www.prweek.com/article/1453426/pr-2018-dominated-technology-mired-inauthenticity>.
- Russel, J. S., & Norvig, P. (2010). *Artificial intelligence: A modern approach* (3rd ed.). Pearson Education.
- Scott, A. (2018). *How artificial intelligence and intergenerational diversity are creating anxiety in the workplace*. Retrieved February 19, 2024 from <https://instituteforpr.org/how-artificial-intelligence-and-intergenerational-diversity-is-creating-anxiety-in-the-workplace>.
- Surianarayanan, C., & Chelliah, P. R. (2021). Leveraging artificial intelligence (AI) capabilities for COVID-19 containment. *New Generations of Computing*, 39, 717-741. <https://doi.org/10.1007/s00354-021-00128-0>.

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GUSTAV MODRUŠAN AND PHARMACY IN KARLOVAC AT THE BEGINNING OF THE 20th CENTURY

Abstract

The late 19th and early 20th centuries marked a golden era for pharmacy in Karlovac, characterized by the operation of four pharmacies: *Krnom orlu*, *K sv. Ćirilu i Metodu*, *K zlatnom lavu*, and *Spasitelju*. Gustav Modrušan (Karlovac, May 23, 1859 — Karlovac, November 28, 1930) was a prominent figure who strongly influenced the pharmacy in Karlovac at the time. Relying on available literature and contemporary publications, this article aims to provide a biographical overview of Gustav Modrušan, emphasizing his multifaceted contributions to the fields of pharmacy, politics, and social development in Karlovac during the late 19th and early 20th centuries. Having completed his pharmacy studies in Graz, he purchased pharmacy *K sv. Ćirilu i Metodu* in the Banija district of Karlovac in 1898. He renovated it according to the stringent requirements of the Croatian pharmacopoeia set by professors Gustav Janeček and Julije Domac. The pharmacy was well-equipped with pharmaceutical preparations, *pharmacy specialties*, perfumes, and medical instruments. In 1912, Modrušan was elected as the mayor of Karlovac, leading him to sell the pharmacy *K sv. Ćirilu i Metodu* to Josip Matković. He served as the mayor for two terms, until 1919. He recorded the events that disturbed Karlovac during World War I in his handwritten memories in the book entitled *Memorial Book of the City of Karlovac*. In addition to successfully managing the pharmacy, Modrušan demonstrated entrepreneurial skills as the owner of a carbonated water factory and a shareholder in the company *First Croatian Mill on Blades*. At first politically aligned with the Party of Right (Stranka prava), he later joined the Yugoslav Democratic Party (Jugoslavenska demokratska stranka) and adopted the political concept of integral Yugoslavism. Modrušan was again appointed mayor in 1929, unfortunately his third term was interrupted by his death in 1930.

Key words: *history of pharmacy, Gustav Modrušan, Karlovac, Pharmacy „K sv. Ćirilu i Metodu“, World War I*

INTRODUCTION

In 1903, after the annexation of the municipalities of Banija and Švarča, Karlovac's population increased from 7,400 to 14,940, making it the third-largest city in Croatia and Slavonia (Kočevar, 2017). In contrast to the economic growth experienced in the second half of the 18th century and the first half of the 19th century, the city faced a significant economic downturn in the late 19th century. This decline was primarily due to



Figure 1 — Photography of Gustav Modrušan, second decade of 20th century.
Retrieved from <http://arhiva-web-karlovac.link2.hr/Predmet/8199>.

the modernization of railway infrastructure within the Austro-Hungarian Monarchy, which reduced Karlovac's importance as a key transportation and trade center. Nevertheless, the early 20th century brought a period driven by industrial production and modernization initiatives such as the establishment of a water supply system and public electric lighting. The city also saw cultural and recreational advancements, with the organization of cinematographic performances, the development of public parks, and the construction of bathing facilities (Ott, 2008, p. 281). During this period, the Seljan brothers, Mirko and Stjepan, conducted notable expeditions to remote regions of Africa and South America (Kočevár, 2012).

The early 20th century represents a golden era for pharmacy in Karlovac, with four pharmacies operating simultaneously: *K crnom orlu* (At the Black Eagle), *K sv. Ćirilu i Metodu* (At Saints Cyril and Methodius), *K zlatnom lavu* (At the Golden Lion), and *Spasitelju* (At the Savior). Among them, pharmacy *K crnom orlu* holds the distinction of being the oldest pharmacy in Karlovac, continuously operating for nearly three centuries, with its history meticulously documented (Bosiljevac & Inić, 2024). In 1862, Antonin Ernest Katkić founded a new pharmacy, *K sv. Ćirilu i Metodu*, in the Banija district of Karlovac (Strohal, 1906, p. 340). Gustav Modrušan, renowned pharmacist and a former mayor of Karlovac in three terms (1912–1919, 1929–1930), acquired this pharmacy from its previous owner Adolf Fodor on March 1, 1889 (Tartalja, 1979, p. 504).

Gustav Modrušan (Karlovac, May 23, 1859 — Karlovac, November 28, 1930) was the son of Petar Modrušan and Ivana Modrušan (née Lukačić) (Anonymous, 1930a; Anonymous, 1930b). It is presumed that the Modrušan family was of peasant origin and



Figure 2 — Photography of pharmacy *K sv. Ćirilu i Metodu* taken in 1906. Modrušan is standing in front of the pharmacy. (Kindly provided by Dinko Neskusil, KAFotka)

that they migrated to Karlovac from Modrušpotok near Netretić. Following the death of his father in 1861, when Gustav was only two years old, his upbringing was overseen by his uncle, Stjepan Lukačić. Modrušan completed his primary and secondary education in Karlovac, and subsequently pursued studies in pharmacy at the esteemed faculty in Graz, particularly favored by many Croatian candidates due to the lack of pharmacy study in Croatia at the time¹. As a Master of Pharmacy, Modrušan initially worked in Glina (Hrvatska sloboda, 1930b).

MODRUŠAN'S WORK IN PHARMACY

In 1889, after purchasing the pharmacy *K sv. Ćirilu i Metodu* in Karlovac, Modrušan immediately set about its refurbishment, transforming it into a modern and excellently equipped establishment by the standards of the time. Advertisements in the daily newspapers reveal that, in addition to pharmaceuticals, the pharmacy also offered surgical instruments, cosmetics, perfumes, medicinal soaps, and the ever-popular mineral water (soda water). As a man of remarkable entrepreneurial spirit, Modrušan established a soda water factory near his pharmacy, which supplied the city's cafés and could also be purchased in other local pharmacies (Vrbetić & Szabo, 1989, p. 39; Radovinović, 2010, p. 256).

¹ Pharmacy studies at University of Zagreb were established in 1882, within the Faculty of Philosophy (Inić & Kujundžić, 2011).

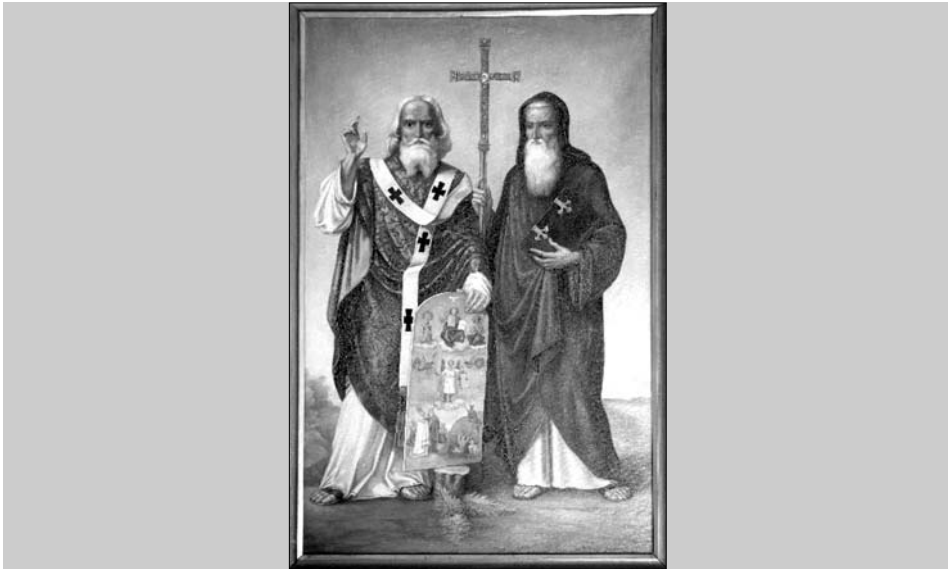


Figure 3 — Painting of saints Cyril and Methodius.
(Kindly provided by Croatian Museum of Medicine and Pharmacy).

In August 1901, the traveling painter Dragutin Inkiostri Medenjak created a painting of saints Cyril and Methodius, which Modrušan prominently displayed as the emblem at the entrance of his pharmacy. The impressive sign undoubtedly attracted the attention of passersby and rendered Modrušan's pharmacy distinctive; indeed, it became one of the hallmark features of vibrant and picturesque Banija street. The painting remained on the pharmacy's façade until the end of World War II, when it was removed due to damage caused by bombing and exposure to weather conditions (Ott, 1966). Currently housed in the Croatian Museum of Medicine and Pharmacy, the artwork is a replica of the original created by the Dubrovnik painter Atanasije Popović (Bosiljevac & Inić, 2023).

Following the publication of the first Croatian pharmacopoeia (1901) by professors Gustav Janeček and Julije Domac, the pharmacy was organized according to all the requirements of Pharmacopoeia. Professor Julije Domac, known for his strict and meticulous inspections, personally visited the pharmacy K sv. Ćirilu i Metodu in 1907. In February 1907, the pharmacist Josip Matković assumed the management of the pharmacy under a lease agreement. Matković maintained the pharmacy's operations and reputation at a high standard, extensively advertising its pharmaceutical products and specialties in daily newspapers. Upon becoming mayor in 1912, Modrušan sold the pharmacy to Josip Matković. After the death of his beloved colleague Josip Grahovac in 1922, Modrušan assumed the role of provisional manager of the pharmacy K crnom orlu, the oldest pharmacy in Karlovac (Bosiljevac & Inić, 2024). Pharmacy K sv. Ćirilu

i Metodu, which has been continuously operating for approximately 160 years, is known today as Ljekarna Banija.

Modrušan was an active member of pharmaceutical professional associations and, together with Josip Vrbanić, frequently attended meetings of the Main Croatian-Slavonian Pharmaceutical Association (Glavni hrvatsko-slavonski ljekarnički zbor)². The reputation and active participation of Karlovac pharmacists in this organization were instrumental in the decision to hold the Association's General Meeting in Karlovac on September 23, 1902. Josip Vrbanić, mayor of Karlovac at the time, made the city council chambers available to the meeting participants. Representing the pharmacists of Karlovac at the assembly were Josip Vrbanić and Ladislav Stepan, while Hinko Davila represented pharmacy associates from across Croatia. The agenda was extensive, with attendees discussing, among other topics, amendments and critiques of the Pharmacy Act of 1894 (Tartalja, 1979, p. 506).

MODRUŠAN'S POLITICAL AND SOCIAL ACTIVITIES

Throughout his life, in addition to his work as a pharmacist, Modrušan was deeply involved in politics. In terms of political affiliation, he was a supporter of the Party of Rights, and following the party's split in 1895, he aligned himself with the Homeland faction (Domovinaši) gathered around Fran Folnegović (Bogdanov, 1958, p. 761). In 1897, he was elected to the Croatian Parliament as a representative for the Draganić district. In his speeches in Parliament, he demonstrated social awareness, thorough documentation, agility and often wit (Hrvatska sloboda, 1930b). He was particularly vocal in opposing the marginalization of Croats and the Croatian language, as well as the imposition of the Hungarian language in the railways during the governorship of Khuen Hederváry (Ott, 2008, p. 402).

In 1903, the Homeland faction merged with the Independent People's Party (Neodvisna narodna stranka) to form the new Croatian Party of Rights (Hrvatska stranka prava, HSP). Karlovac's political landscape was predominantly aligned with the ideology of the newly established party, with most local politicians being members of the party by 1903 (Knezac, 2020). Following its entry into the Croat-Serb Coalition (Hrvatsko-srpska koalicija), many of these figures, including Gustav Modrušan, became part of the Coalition (Koalicionaši). The Coalition's guiding principle was the unification of all South Slavs into a single state, and it remained the dominant political force in Karlovac until the collapse of the Austro-Hungarian Monarchy in 1918. In 1907, supporters of the

² Main Croatian-Slavonian Pharmaceutical Association, established in 1858 and headquartered in Zagreb, played a pivotal role in the development of pharmacy in Croatia and Slavonia. With regional branches in Varaždin, Rijeka, Požega, and Osijek, the Association significantly influenced pharmacy practices and collaborated closely with state authorities, advancing the profession. It also played a crucial role in pharmaceutical education, overseeing registrations, apprenticeships, and examinations for trainees (Kujundžić & Inić, 2014).

Coalition reestablished the HSP Club in Karlovac, electing Gustav Modrušan as its first president. Modrušan initiated the publication of the Coalition's periodicals, *Narodni glas* (1906—1914) and *Karlovac* (1912—1914).

On June 3, 1912, Modrušan was elected mayor of Karlovac. Modrušan's handwritten memoirs³, created during World War I, are particularly fascinating, especially because they represent one of the few identified testimonies of that time written by a pharmacist (Fatović-Ferenčić & Ferber-Bogdan, 2016). These memoirs focus on the period of Modrušan's tenure as mayor of Karlovac, describing his governance of the city, detailing events that significantly impacted Karlovac during the war and the decisions he made for the benefit of Karlovac's citizens. In his memoir, he reflects: "That day was fateful for me. My freedom was lost, and no other mayor before me had been pursued by fate or faced such difficulties as I did." (Modrušan, 1919, p. 35) The outbreak of World War I disrupted the normal course of life in Karlovac. However, Modrušan demonstrated himself to be an enterprising leader with strong organizational skills, initiating the construction of a water supply system, a slaughterhouse, supporting the establishment of the Red Cross, and organizing public kitchens for the children of mobilized soldiers. He also insisted that the education and training of children continue, despite many schools being repurposed as hospitals (Kočevár, 2017; Knezac, 2020). The city's purveyance⁴ system, implemented several months after the outbreak of World War I, was characterized by inefficiency and poor organization, which, in turn, created opportunities for malversation and widespread corruption. However, despite these challenges, Gustav Modrušan managed to ensure relatively better food supply conditions for Karlovac compared to other cities of the Monarchy (Radovinović, 2020, p. 35).

Following the creation of the Kingdom of Serbs, Croats, and Slovenes in 1918, the Croat-Serb Coalition disbanded. In 1919, Modrušan joined the Yugoslav Democratic Party and continued to play a significant role in the post-war political developments. Modrušan's second mandate ended on November 29, 1919 (Hrvatska sloboda, 1930a). Modrušan's popularity was further evidenced by his re-election as mayor in 1929, although his third term was abruptly ended by his sudden death in 1930. In honor of Gustav Modrušan, the municipal authorities of Karlovac transformed a previously neglected area (formerly used as a waste disposal site) located behind the former Church of Saints Cyril and Methodius, between Edison Cinema and King Tomislav Street. Under

³ The handwritten manuscript, presented in the form of memoir prose, is included in the *Spomen knjiga slobodnog i kraljevskog grada Karlovca* (Memorial Book of the Free and Royal City of Karlovac), published in 1915. The book's cover and several pages were illustrated by the Zagreb-based painter August Posilović. The book is currently preserved in the City Museum, and the original text can be accessed on the Karlovac City Museums' website (<https://online-zbirke.mgk.hr>).

⁴ Rationed and guaranteed supply of foodstuffs for the population, e. g. during the war (Geiger & Fabry, 2014).



Figure 4 — Photography of *The first Croatian Mill on Blades (Prvi hrvatski mlin na čigre)* taken by Hinko Krapek in 1889. Retrieved from <https://online-zbirke.mgk.hr/hr/Predmet/33477/3>.

the supervision of the city gardener Josip Kopřiva, the space was redeveloped in 1931 into Modrušan Park, designed in the style of a French formal garden. Today, it stands as one of the finest examples of landscape architecture in the city of Karlovac (Radovinović, 2010, p. 138).

Modrušan was actively involved in a broad array of social organizations and economic associations. He was one of the founders and the president of the Gymnasium Support Society (*Gimnazijsko potporno društvo*), which provided financial aid to underprivileged gymnasium students. Additionally, he was the president of the Society for Supporting the Poor (*Društvo za potporu ubogih*), which sought to collect money and clothing for impoverished citizens and, during cold weather, provided hot meals (Vrbetić & Szabo, 1989, p. 211). Modrušan exhibited remarkable financial expertise, as reflected in his role as a shareholder in several prominent establishments in Karlovac, including the company *First Croatian Mill on Blades (Prvi hrvatski mlin na čigre)*, located on the Korana River (Vrbetić & Szabo, 1989, p. 37). The mill was powered by two turbines with a combined capacity of 240 horsepower, capable of grinding 700 wagons of wheat annually, making it, at one point, the second-largest mill in Croatia by capacity. It regularly employed up to 40 workers and exported flour, renowned for its exceptional quality, to England, Scotland, and Austrian territories. The mill earned numerous accolades at international industrial exhibitions in London, Paris, and Vienna. The mill ceased operations in 1920 (Ott, 2008, p. 283).

He was also a shareholder in the *Leather Factory (Tvornica kože)* (Vrbetić & Szabo, 1989, p. 39) and served as a member of the board of directors of the *People's Savings Bank (Pučka štedionica)* (Vrbetić & Szabo, 1989, p. 47). For a time, he served as president of the Karlovac Agricultural Society, a branch of the Croatian-Slavonic Agricultural Society headquartered in Zagreb. This society guided its members in adopting proper agricultural practices, provided seeds, fruit tree seedlings, premium breeding livestock, and tools, and organized agricultural exhibitions featuring grains, cattle, bees, and similar showcases (Vrbetić & Szabo, 1989, p. 15, 201).

CONCLUSION

Gustav Modrušan significantly influenced the pharmacy, politics, and social development of Karlovac in the late 19th and early 20th centuries. His contributions to the modernization of pharmacy, along with his entrepreneurial ventures and leadership as mayor, contributed to the city's progress through challenging times, including World War I. Despite his lasting impact, Modrušan's achievements and character remain underexplored. Further research is needed to fully understand his contributions and recognize his role as a dedicated and influential figure in Karlovac's history.

References

- Anonymous (1930a, December 5). *Hrvatska sloboda (Karlovac)* (Croatian Freedom, Karlovac), 10(48), 1-2.
- Anonymous (1930b, December 12). *Hrvatska sloboda (Karlovac)* (Croatian Freedom, Karlovac), 10(49), 1-2.
- Bogdanov, V. (1958). *Historija političkih stranaka u Hrvatskoj* (History of political parties in Croatia). Novinarsko izdavačko poduzeće.
- Bosiljevac, D., & Inić, S. (2023). A contribution to the study of the history of pharmacy in Karlovac. *Studia lexicographica*, 17(33), 11-36. <https://doi.org/10.33604/sl.17.33.1>.
- Bosiljevac, D., & Inić, S. (2024). Tracing the pharmacy of Karlovac: Chronology of the first pharmacy "to the black eagle". *Acta medico-historica Adriatica*, 22(1), 9-38. <https://doi.org/10.31952/amha.22.1.1>.
- Fatović-Ferenčić, S., & Ferber Bogdan, J. (2016). I keep books in the pharmacy. In the afternoon the "abschub" of the wounded in one "kranken zug" — A war diary from WW1, by pharmacist Vojko Arko. *Medicus*, 25(1), 107-116. Retrieved from <https://hrcak.srce.hr/161783>.
- Geiger, V., & Fabry, E. (2014). Rationed and Guaranteed Supply of the Population of Croatia during World War I. Purveyance, 1914—1918. *Numizmatičke Vijesti*, 56(67), 87-118. Retrieved from <https://hrcak.srce.hr/189724>.
- Inić, S., & Kujundžić, N. (2011). The first independent pharmacognosy institute in the world and its founder Julije Domac (1853—1928). *Die Pharmazie*, 66(9), 720-726. <https://doi.org/10.1691/ph.2011.1025>.
- Kočevar, S. (2012). About one's own — the newspapers of Karlovac on the travelers/researchers from Karlovac to Africa and South America in the second half of the 19th century and the first half of the twentieth century. *Časopis za suvremenu povijest*, 44(1), 93-109. Retrieved from <https://hrcak.srce.hr/83400>.

- Kočevar, S. (2017). The activities of the City Council and City Government of Karlovac during World War I. *Časopis za suvremenu povijest*, 49(3), 395-417. <https://doi.org/10.22586/csp.v49i3.36>
- Knezac, R. (2020). *Karlovačka svakodnevica početkom Prvog svjetskog rata* (Karlovac everyday life at the beginning of the First World War) (Master thesis). Zagreb: Sveučilište u Zagrebu, Filozofski fakultet. Retrieved from <https://urn.nsk.hr/urn:nbn:hr:131:686513>.
- Kujundžić, N., & Inić, S. (2014). The history of pharmacy studies in Croatia. *Die Pharmazie*, 69(2), 154-160. <https://doi.org/10.1691/ph.2014.3127>.
- Modrušan, G. (1919). *Memoari* (Memoirs). Unpublished manuscript. Available at: <https://online-zbirke.mgk.hr/hr/Predmet/15192/3>.
- Ott, I. (1966). Tragom jedne slike (On the trail of a painting). *Svjetlo: prilog za kulturu, nauku i umjetnost*, 2(6), 18.
- Ott, I. (Ed.). (2008). *Karlovački leksikon* (The Karlovac Lexicon). Školska knjiga.
- Radovinović, R. (2010). *Stari Karlovac — Ulice, kuće, ljudi* (Old Karlovac — Streets, houses, people). Associated Publishers.
- Radovinović, R. (2020). *Karlovački gradonačelnici i njihovo doba 1918.—1941.: pokušaj rekonstrukcije jednog razdoblja* (Karlovac Mayors and their era 1918—1941: An attempt to reconstruction of a period). Grad Karlovac i Ogranak Matice hrvatske u Karlovcu.
- Strohal, R. (1906). *Grad Karlovac opisan i orisan*. (The city of Karlovac is described and outlined.)
- Tartanja, H. (1979). Razvoj ljekarništva u Karlovcu (Development of pharmacy in Karlovac). In T. Majetić, K. Miholović & Đ. Zatezalo (Eds.), *Karlovac 1579—1979* (pp. 503-507). Historijski arhiv u Karlovcu.
- Vrbetić, M., & Szabo, A. (1989). *Karlovac na razmeđu stoljeća 1880-1914* (Karlovac at the turn of the century 1880—1914). Školska knjiga.

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A COMPARATIVE ANALYSIS OF 2 START-UPS: STEPS FOR SUCCESS

A b s t r a c t

A comparative analysis of 2 Swiss start-ups that survived the initial phase of development. Both firms were able to raise funds through crowdfunding and proposed innovative products disrupting the traditional markets for sport shoes and watches. The analysis shows how these start-ups overcame the typical obstacles most firms face in the early development thanks to effective leadership, attractive products, digital marketing and attracted investments from world celebrities giving them international visibility, credibility and brand awareness. Finally, both firms adopted circular processes that reduced carbon emissions to meet society's concern about climate change and revolutionize traditional methods while setting up new benchmarks for the industry.

Key words: *innovation, disruption, crowdfunding, digital marketing, intangible, trade secrets, leadership*

BRIEF BACKGROUND TO ON RUNNING

On Holding AG is a Swiss start-up set up in 2010 specializing in athletic shoes based on an innovative patented technology "CloudTec" that gives runners the impression of running on clouds. Mr Bernhard, a former world class athlete set up the company with David Allemann and Caspar Copetti. On running high-tech shoes have disrupted the traditional sport shoe market while creating a niche market. The shoes have a special sole designed to provide a cushion and comfort to the user. The company competitive advantage is its technology, innovation and continuous improvements in the products.

From the beginning, the firm adopted digital marketing and social media to reach potential consumers. In addition, it associates itself with elite athletes and coaches to enhance its brand reputation, visibility, and credibility in the world of sport (Lemme-
rer, 2023). The shoes designed in Switzerland are produced in Vietnam by independent suppliers. The production costs are around \$15 and retailed between \$130 to \$230. The company is responsible for product design, quality assurance, logistics including warehousing and marketing. On Running sell its shoes through key retail firms specializing in sport goods and in the company own stores situated in London, Los Angeles, Miami, New York, Paris and Tokyo and online. Although its main markets are Japan, Ger-

many, Switzerland, USA, and the UK, the shoes sell in over sixty countries. To maintain sales growth and gaining new customers, the firm has introduced a multi-segment marketing strategy by targeting different markets having the highest sales potential with a range of shoes for diverse types of customers from high performance athletes to shoes for non-athletes, for walking, hiking and for all-day activities. In addition, it has expanded its range of products by introducing training, hiking and travel shoes as well as lifestyle sportswear expected to account for 10% of its revenue by 2026.

On Running became listed on the New York Stock Exchange on September 14, 2021, as ONON raising \$746 million at \$20 per share. As of early October 2024, ONON shares were quoted around \$48. Roger Federer, the former number one tennis player owns 3% of the firm representing about \$180 million (Dawkins, 2021). Since the beginning, the firm has been financially sound, sales increased regularly, and the range of shoe models expanded at various price ranges. By December 31, 2023, net sales reached \$1.76 billion with a gross/margin of 58.5% gross profit adjusted EBITDA margins (On Holding Ag 2023 Annual Report Form 20-F). For 2026, the firm forecasts sales of 3,55 billion Swiss francs, with a 60% gross profit margins and an adjusted EBITDA margin of 18% (Ludmir, 2023).

ID GENEVE

This start-up was founded in December 2020 by three young men sharing a common passion for watch making. Each founder comes with diverse backgrounds with complementary skills. The Geneva-based firm differentiates itself from other watchmakers by producing a luxury watch made from recycled movements. The steel case is made by a solar-powered oven and the bracelet is made of “Vegea”, a vegan textile. The packaging is based on mycelium, which is both flexible, strong, and degradable without the use of chemicals. By producing a watch that uses renewable energy and relying on existing movements parts, the firm reduces the carbon footprint in the production process. This circular approach to watch making is not only innovative and environmentally friendly but can revolutionize traditional methods and set up new benchmarks for the industry. The principles of a circular economy consist of 10 key points namely: refuse, rethink, reuse, repair, refurbish, remanufacture, repurpose, recycle and recover. This is exactly the business model ID Genève applies in the manufacture of its watches.

ID Genève launched a crowdfunding campaign on the Wemakeit platform (<https://wemakeit.com/>) in December 2020 raising 315,000 Swiss francs and 146 watches were pre-ordered (Teisseire, 2023). Later it raised two million Swiss francs including an investment by Leonardo DiCaprio the Hollywood celebrity through his non-profit foundation devoted to promoting environmental awareness (D’Agostino, 2023). ID Genève circular economy of watch making coincides with the actor’s concern for climate change, protection of the environment and sustainability.

The total cost of the various components needed to produce a watch by ID Genève amount to 1,115 Swiss francs (Teisseire, 2023). A breakdown of the costs is the following:

— Design and development	.150
— Watch case	.600
— Circular movements	.120
— Dial	.80
— Circular coins	.50
— Straps	.50
— Encasing/quality control	.30
— Hands	.15
— Packaging	.20

Except for the straps, all other components come from the Geneva region and the Jura (Freudiger, 2023). Labor, rental, energy, promotion, product development and associated costs accounts for the remaining amount (3,300 Swiss francs). The firm employs six people including the three founders.

From the beginning, the firm relied on digital marketing and foreign markets. Since 80% of the watches sell via the Internet and direct sales in fifteen countries, ID Genève targeted is initial promotion in these premium markets. On March 10, 2024, ID Genève signed a partnership with Watches of Switzerland, one of the largest retailers in the world due to its innovative products that gives priority to environmental causes, social issues, and corporate governance (Europa Star, 2024). This partnership is likely to give the company a tremendous boost to access wealthy customers worldwide.

All the parts are assembled in Switzerland by six employees, including the three founders. By designing, producing, and assembling the watches in Switzerland, the firm benefits for the image of Swiss quality which is an asset in the world of watch making. To enhance its status as a firm relying on recycled or renewable components, it obtained the B Corp certification. The certification of ID Genève indicates that it is meeting standards of performance, accountability and transparency aimed at transforming the global economy to benefit all people, communities, and the planet. (ref). The company has adopted the circular economy model by changing the way watches are produced, using mostly recycled components requiring minimum of energy reducing the carbon impact by using a minimum of energy. Since its beginning, ID Genève has been able to make an impact by pioneering the production of watches made of recycled components that are durable, easily repairable and fully recyclable. Each movement is certified, reconditioned, disassembled, cleaned, reassembled and tested to perform like a new product. As a result of its ecofriendly production process ID Genève has created a niche for itself in the market for watches.

WHAT DO THESE FIRMS HAVE IN COMMON?

Both firms are start-ups by young entrepreneurs joined by two friends. Each person came from diverse backgrounds with complimentary skills. This is a key factor in the success of start-ups. Surveys have shown that when entrepreneurs have similar backgrounds, they tend to concentrate their time on a single issue while neglecting others. For example, if three engineers start a firm, they are likely to spend more energy on technical problems at the expense of marketing, finance, or management. To be successful, all operating functions of a firm need to be managed efficiently. They raised capital through crowdfunding and were successful in enlisting celebrities from sports and Hollywood as investors. Their products were innovative and ecofriendly disrupting the traditional market of producing sport shoes and watches. Both start-ups targeted selected markets with premium prices. From the beginning, both start-ups considered international markets and invested in digital marketing including an elaborate web page in English.

One aspect that they have in common is their association with Roger Federer (ON Running) the former number 1 tennis player and winner of 20 grand slams (Prakash, 2024) and Leonardo DiCaprio, the Hollywood actor for ID Genève (Kauzlarich, 2023). These two start-ups are no longer one of thousands of firms operating around the world but are among the few that are visible. They have gained world notoriety at no cost as both Roger Federer and Leonardo DiCaprio are both investors and ambassadors of the products they endorsed. For example, Roger Federer played in tennis tournaments wearing On Running shoes and Leonardo DiCaprio wears an ID Genève watch on his arm in the firm's advertisements.

Interestingly, after 25 years, all three founders of On Running are still in the company occupying key positions. Similarly, the three founders of ID Genève are working in their company. This shows continuity in management which is a key intangible asset particularly in the early phases of development.

HOW DO THEY DIFFER?

Although they share common characteristics, they do differ. For example, ON Running is listed on the New York Stock Exchange and has been operating since 2010, ID Genève is privately owned and is only three years old. On Running produces shoes in Asia, while the watches are produced and assembled in Switzerland. On Running offers a wide range of shoes at different prices and recently introduced sportswear accounting 10% of its sales while ID Genève's production is limited to a variety of watches at similar prices.

On Running has had a phenomenal growth over the past decade with sales reaching \$2.7 billion in 2023. It employs 2,350 persons worldwide including in its own retail stores. ID Genève employs six persons and reported sales of \$2 million in 2023.

WHAT ARE THE CHALLENGES THE FIRMS ARE LIKELY TO FACE IN THE FUTURE?

Concerning On Running, it could face negative publicity about the high mark up as well as the ecological aspects of its products. There is also the question of the shoes becoming biodegradable at the end of its use. The increase demand of its shoes may have put pressure on its suppliers to increase production. This may have had a negative impact on quality of the shoes produced. Greater attention to quality and tighter quality control procedures can overcoming this problem. A threat that could arise is the arrival of competition offering similar shoes at lower prices. Moreover, in view of the high markups, counterfeit products could appear in the market at much lower prices.

As far as ID Genève is concerned, how many consumers will be willing to pay for a watch at \$4,400? After reaching the type of consumers who are concerned with ecological products and respond positively to new ones, how many more consumers will purchase watches at a premium price. Another potential threat is competition. Major watch manufactures have access to substantial budgets for research and development to introduce new models and contract celebrities for promotion. Can ID Genève introduce new models and at lower prices to meet the demand of a larger market segment? Or will the firm maintain its current range of models to reach its sales goal of \$20 million in 2023?

WHAT LESSONS CAN WE LEARN?

The experience of these two startups provides 12 steps for success. Future entrepreneurs could benefit and improve their chances of success by considering the following:

- Be enthusiastic/passionate about his/her project,
- He/she must be working with a small group of trusted personnel who are enthusiastic about the project objectives,
- Members of the entrepreneurial group need to have diverse backgrounds and complementary skills,
- The product must be innovative that disrupts traditional markets,
- Able to raise capital including through crowdfunding,
- Develop multi market segments strategies,
- Considers international markets from the outset,
- Invest in digital marketing to promote the product from the beginning,
- Enlist the support of a well-known celebrity giving the startup international visibility and credibility,
- Ensure that the product is sustainable, ecofriendly and reduces the ecological footprint,
- Build intangible assets that include business models, trade secrets, brand identity, customer loyalty, trademarks and,

- Invest in human capital by introducing and applying collaborative team leadership (instead of working in silos) that energizes employees, encourages creativity and contributes to a work culture that is both productive and friendly.

IMPLICATIONS

Of course, these conclusions are based on two startups and do not reflect the experience of thousands of new enterprises operating in world markets. Nevertheless, the journey taken by these two startups in the past decade offer a window of opportunity to future entrepreneurs. As described in this paper, there is no shortcut to success only a well-designed product that is no threat to competition, meets customers' expectations and coincide with society concerns about sustainability and carbon emission are key factors for success. Furthermore, obtaining the endorsement of a celebrity who is associated with the product gives the firms an advantage over competition by gaining greater brand awareness, trustworthiness and higher visibility in world markets.

References

- Adams, A. (2024). *Watch Review: ID geneve circular S watch with sun-forged steel*, aBlogtoWatch. Available at: <https://www.ablogtowatch.com/watch-review-id-geneve-circular-s-watch-with-sun-forged-steel> (accessed: 27 November 2024).
- Aithor (2024). *The on Swiss-based running shoe company's analysis*, aithor.com. Available at: <https://aithor.com/essay-examples/the-on-swiss-based-running-shoe-companys-analysis> (accessed: 27 November 2024).
- Clara Ludmir (no date) *Forbes*. Available at: <https://www.forbes.com/sites/claraludmir/> (accessed: 26 November 2024).
- Danziger, P. N. (2023). *On, the \$1 billion Swiss running-shoe company, declares cyclon its sustainability incubator*, *Forbes*. Available at: <https://www.forbes.com/sites/pamdanziger/2023/04/04/on-the-1-billion-swiss-running-shoe-company-declares-cyclon-its-sustainability-incubator/> (accessed: 27 November 2024).
- Dawkins, D. (2021). *How this Swiss shoemaker convinced tennis legend Roger Federer to invest in its 'Frankenstein' sneakers*, *Forbes*. Available at: <https://www.forbes.com/sites/daviddawkins/2021/09/17/how-this-swiss-shoemaker-convinced-tennis-legend-roger-federer-to-invest-in-their-frankenstein-sneakers/> (accessed: 26 November 2024).
- D'Agostino, C. (2023). *How ID Genève won over Leonardo DiCaprio*, *Luxury Tribune*. Available at: <https://www.luxurytribune.com/en/how-id-geneve-won-over-leonardo-dicaprio> (accessed: 26 November 2024).
- Europa Star is an international watch magazine bringing news and business analysis on the Global Watch Industry, the latest timepieces, and luxury events in Switzerland and around the world.* (no date) *Europa Star*. Available at: <https://www.europastar.com> (accessed: 26 November 2024).
- Freudiger, N. (2023). *ID Genève - all you need to know about our launch?!*, *ID Genève Watches*. Available at: <https://www.idwatch.ch/stories/all-you-need-to-know-for-our-launch> (accessed: 26 November 2024).

- How ID Genève is transforming luxury watch-making by embracing the circular economy | lombard odier (2024). *Lombard Odier*. Available at: <https://www.lombardodier.com/contents/corporate-news/responsible-capital/2024/april/watches-that-last-how-id-geneve.html> (accessed: 27 November 2024).
- Kauzlarich, M. (2023). *Business news: Leonardo DiCaprio invests in young sustainability-focused watch brand ID Genève — hodinkee*. Available at: <https://www.hodinkee.com/articles/business-news-leonardo-dicaprio-invests-in-id-geneve> (accessed: 26 November 2024).
- Lemmerer, S. (2023). *On running: The rise of a global running brand, On Running: The Rise of a Global Running Brand | Business Model Ideas*. Available at: <https://www.businessmodelideas.com/blog/on-running-what-s-behind-the-global-running-brand> (accessed: 27 November 2024).
- On (2023) *On — on announces its three-year Financial Outlook, confirming its ongoing commitment to combine strong growth with increasing profitability*. Available at: <https://investors.on-running.com/financials-and-filings/financial-releases/news-details/2023/On-Announces-its-Three-Year-Financial-Outlook-Confirming-its-Ongoing-Commitment-to-Combine-Strong-Growth-with-Increasing-Profitability/default.aspx> (accessed: 26 November 2024).
- On Holding AG - cloudfront.net* (2024) *Cloudfront*. Available at: <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001858985/12b2a644-c7f2-422d-aca0-dbb45455a66d.pdf> (accessed: 27 November 2024).
- On running: The rise of a global running brand* (no date) *On Running: The Rise of a Global Running Brand | Business Model Ideas*. Available at: <https://www.businessmodelideas.com/blog/on-running-what-s-behind-the-global-running-brand> (accessed: 27 November 2024).
- Prakash, P. (2024) *The running market is hot-and it's driving sales of Roger Federer-backed on shoes, Fortune Europe*. Available at: <https://fortune.com/europe/2024/05/15/running-market-shoes-sales-roger-federer-backed-on-holdings> (accessed: 27 November 2024).
- Teisseire, B. (2023) *Id Genève, the circular challenge, Europa Star*. Available at: <https://www.europastar.com/the-watch-files/watchmaking-and-the-environment/1004093364-id-geneve-the-circular-challenge.html> (accessed: 26 November 2024).
- The business model of on* (no date) *Business Models Inc*. Available at: <https://www.businessmodelsinc.com/en/inspiration/blogs/the-business-model-of-on-running> (accessed: 27 November 2024).
- Unveiling the vision: The founder story and history of on: Full circle: Powered by rarecircles* (no date) *RareCircles*. Available at: <https://www.rarecircles.com/fullcircle/unveiling-the-vision-the-founder-story-and-history-of-on#> (accessed: 27 November 2024).

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OPPORTUNITIES TO BUILD A GREEN ECO-VILLAGE FOR THE ELDERLY IN BULGARIA

A b s t r a c t

The increasing human lifespan and aging populations worldwide highlight the growing importance of life quality and activity in old age. By 2050, 30% of the European population is projected to be over 65, and 13% over 80, driven by rising life expectancy and declining natural growth. In Bulgaria, life expectancy averages 74.9 years, with urban areas surpassing rural ones by three years (2017-2019). Women outlive men by seven years on average. These demographic shifts emphasize the need for policies supporting elderly care, societal involvement, and dignified living. Green eco-villages offer a promising solution, blending sustainable living with elderly care. A prototype village would house 100-150 people in eco-friendly buildings powered by renewable energy. Facilities include private rooms, shared spaces, a sports and rehabilitation center, and eco-tourism opportunities. Residents can engage in organic farming, workshops, and other activities, fostering social bonds and active lifestyles. A small hotel will accommodate visiting relatives. This model serves as an ecological, social, and health experiment, potentially replicable in other regions to promote longevity and environmental education.

Key words: ecological environment, elderly care, specialized ecovillages, selected activities, ecological economy

INTRODUCTION

In Bulgaria, various services for elderly care exist, including state-funded homes, private facilities, and municipal Home Social Patronage programs providing meal delivery, shopping, and medical assistance. The Bulgarian Red Cross supports over 3,000 isolated elderly individuals through its long-standing "Home Care" project. However, public perception often associates admission to social homes with social weakness or lack of alternatives (Lyubenova & Chikalanov, 2023).

The National Strategy for Active Life of Elderly People in Bulgaria (2019—2030) aims to ensure independent and dignified living for the elderly through sustainable, individualized care services and improved long-term care financing. Deinstitutionalization is a key focus, with reforms to close or upgrade homes for adults and elderly people by 2035 and 2025, respectively. The 2022—2027 Action Plan emphasizes home-based services, family support, integration of social and healthcare services, and innovative cross-sectoral approaches (Lyubenova & Chikalanov, 2023; Spasova et al., 2021).

An innovative model, the green eco-village, is proposed as a sustainable living solution for the elderly, adaptable for Bulgaria and beyond. It can be established on vacant land or in depopulated villages, prioritizing locations with water sources, good transport links, mineral springs, and solar energy potential. The village will promote eco-tourism, wellness activities, and agricultural engagement. Residents may include Bulgarian and foreign citizens, fostering cultural exchange. As a tourist destination (Tourism Act, 2013), Bulgaria may attract active foreigners to settle relatives in such eco-villages.

This project emphasizes improving elderly quality of life, encouraging social interaction, and creating a sense of purpose. Funding will align with social sector support and insurance mechanisms (Social Assistance Act, 1998).

METHODS

The green eco-village will utilize sustainable building techniques, energy-saving technologies, and eco-friendly agricultural methods. Feasibility studies will explore "passive house" technology, local materials (wood, stone, straw), local labor, and construction costs. Plans include establishing a small eco-production unit for packaging and selling farm products to support occupational therapy.

To raise public awareness, seminars will highlight the benefits of eco-villages, including ecological living, organic food, therapeutic nutrition, and physical activity. The village model will comply with European and Bulgarian regulations (Social Services Act, 2020; Environmental Protection Act, 2002) and feature renewable energy systems, eco-farms, and infrastructure like therapeutic facilities (e.g., balneotherapy, hippotherapy). Necessary medical and dietary data will be tailored to local resources, including proximity to mineral springs and air quality.

Upon completion, services will adhere to 17 standards outlined in the Regulation on the Quality of Social Services. Key standards include management, safety, confidentiality, staff qualifications and development, community engagement, health and nutrition, tailored programs, and user rights protection. Compliance with these standards will ensure effective residential care for the elderly, fostering a secure, engaging, and supportive environment in the eco-village.

The eco-village project comprises 14 key stages:

1. Concept Development and Preliminary Design — Establishing the initial framework.
2. Land Acquisition — Securing the site for development.
3. Funding Procurement — Obtaining financial resources for design and preparation.
4. Design Contractor Selection — Choosing a firm or individual for the design phase.
5. Design Phase and Permits — Finalizing designs and acquiring building permits.
6. Construction Contractor Selection — Conducting a public tender to choose a construction contractor.
7. Supervision Contractor Selection — Organizing a tender for construction and design supervisors.
8. Construction Execution — Carrying out the building process.
9. Construction Supervision — Monitoring to ensure compliance with project specifications.
10. Project Acceptance and Commissioning — Officially completing and operationalizing the project.
11. Service Launch — Initiating residential services in compliance with the Social Services Act.
12. Service Management — Administering residential services.
13. Activity Control and Quality Monitoring — Ensuring standards through control and monitoring.
14. Feedback Collection — Gathering feedback to enhance services and outcomes.

RESULTS AND DISCUSSION

Construction and structure of Green eco-village

The eco-village, located near Koprivshtitsa town (Fig. 1), will accommodate 100-150 elderly residents in approximately 30 eco-friendly residential buildings (2-3 floors each). Residents will have private rooms, shared spaces, and access to a sports and rehabilitation center. Higher accommodation options, such as private floors or houses, will be available for an additional fee. Annual fees, often covered by pensions or social income, will provide access to eco-living, social interaction, and work opportunities in bio-farms, workshops, or community activities.

Buildings will prioritize sustainable materials and renewable energy sources, including solar panels and processed manure. Residents can explore the region's cultural and historical heritage and contribute to its development. A small hotel will host visiting relatives and potential future residents (Fig. 2).

A multifunctional community center will centralize administrative services, health monitoring, and visitor engagement. It will host seminars on ecological living, longevi-

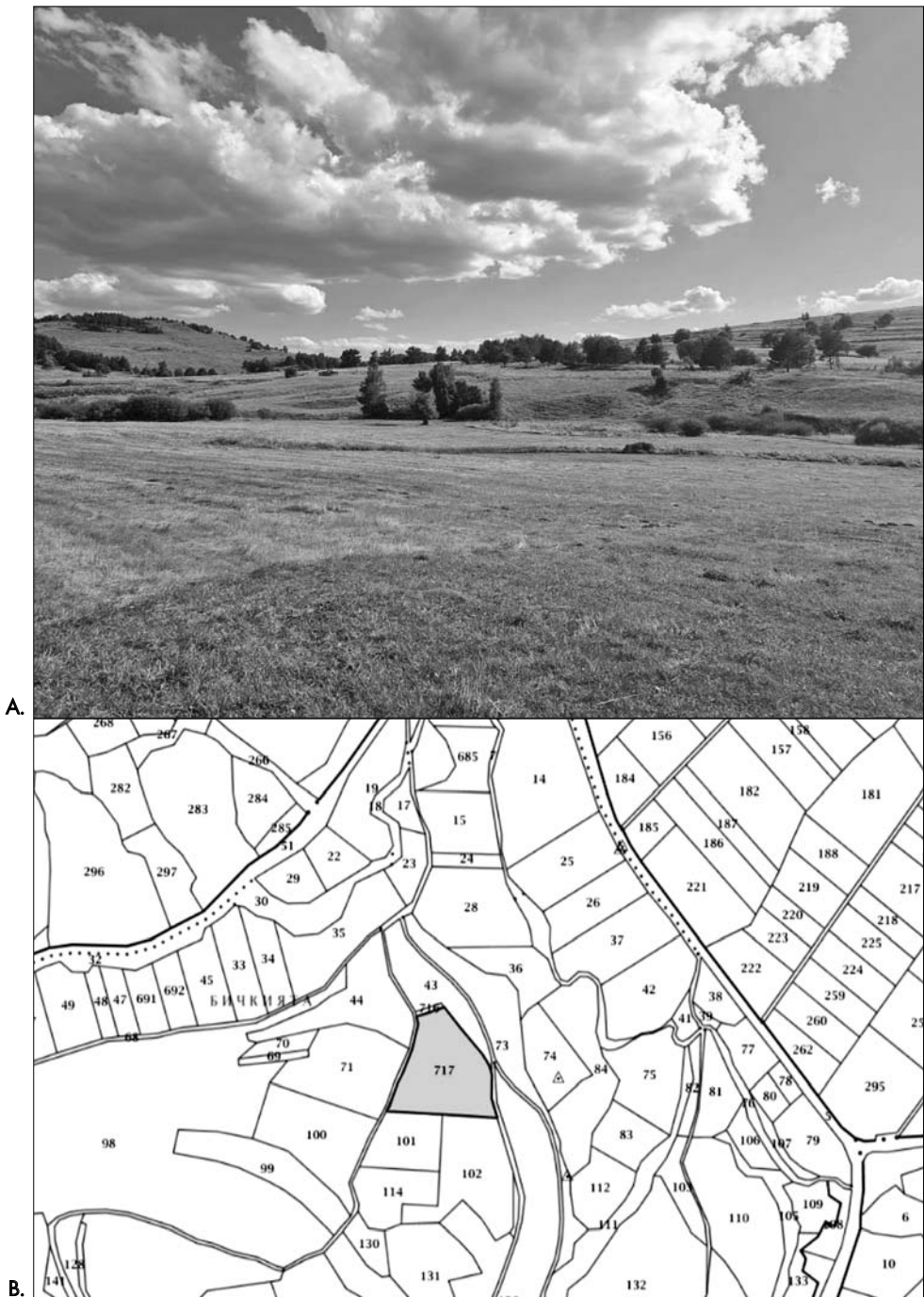


Fig. 1 — Location of the Land Near the Town of Koprivshitsitsa: **A.** General overview; **B.** According to the Cadastral Maps of the Agency for Geodesy, Cartography, and Cadastre.

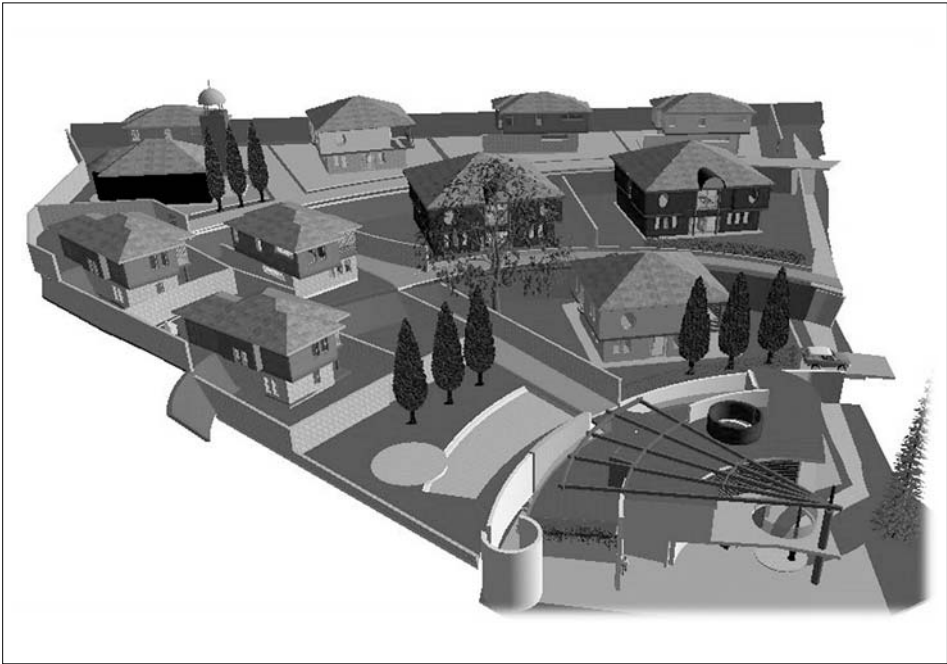


Fig. 2 — General overview of the eco-village
(G. Bakardjiev, 2016)

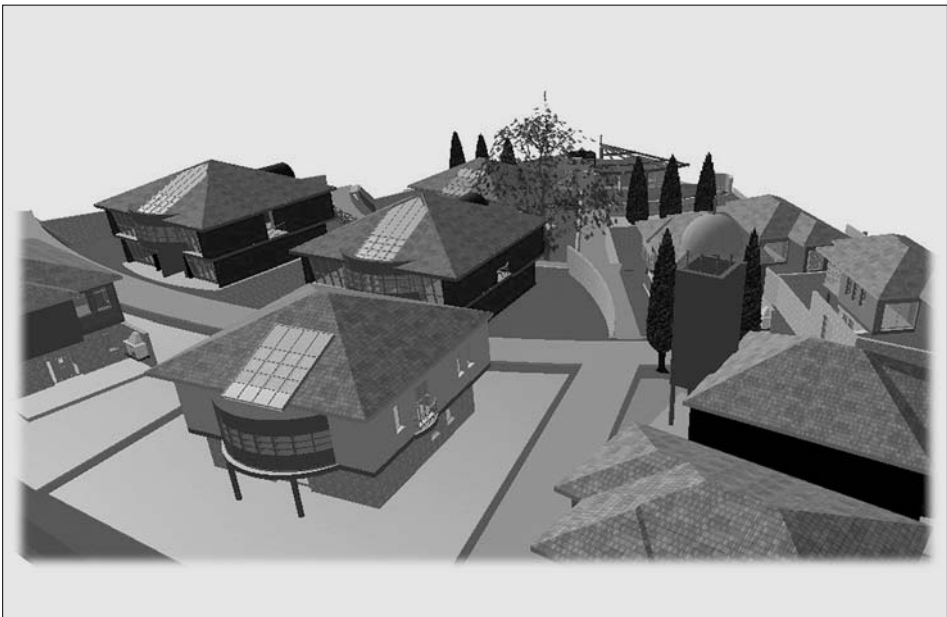


Fig. 3 — Use of Renewable energy sources
(G. Bakardjiev, 2016)

Bilding	BA*, m ²	DBA, m ²	Number of floors	Yard, m ²
HC+pool	260	600	2	1238
H1	108	158	2	550
H2*	200	430	2	720
H3*	200	430	2	550
H4	90	190	2	400
H5	80	150	2	320
H6	80	150	2	330
H7	90	190	2	435
H8	90	190	2	435
H9	108	158	2	453
H10	90	190	2	400
CURCH	125	125	1	345
	1525	2500		

Legend: Total area, RLP*** — 8123 m²; BIF**** 0,4 (max 1,2); Density — 20% (max 40%); Flooring — do 2 et. (max 3); *H2 i H3 are double (two-family) residential buildings — maisonettes: H2a, H2b, H3a i H3b; HC + pool — Health and SPA center + pool.
 *Built-up area; **Developed built-up area;
 Regularized landed property; *Building intensity factor.

Table 1 — Eco-village structure

ty, and cultural activities. Additionally, a rehabilitation center will provide services tailored to residents' health needs, including medical, dental, and preventative care (Table 1 and Fig. 3).

The eco-village aims to foster a sustainable, engaging, and health-conscious community for elderly residents while integrating ecological practices.

1. Personal Doctor Selection: Upon admission, each resident selects a personal doctor practicing locally. The doctor assesses health and prepares preventive and care plans, referring to specialists as needed based on disability type. Residents can independently choose their dentist.
2. Informed Consent: Written consent is obtained for medical interventions, unless the individual is under guardianship.
3. Medical and Rehabilitation Services: The eco-village utilizes all available resources, including local specialists, institutions, and services. Residents have access to balneotherapy, recreation, and sports.
4. Health Monitoring and Care:
 - The staff monitors health, maintains medical records, and collaborates with the personal doctor to create a health care plan, updated regularly.
 - Staff accompanies residents to medical appointments and helps prepare documentation for the Medical Expert Commission (TELK).

- Staff supports rehabilitation and exercises, monitors health, and ensures timely medical referrals and follow-up care.
- Medication prescribed by doctors is purchased and monitored by staff.
- 5. Dental Care: Residents select their own dentist and are referred for specialist care if needed.
- 6. Basic Medical Supplies: The eco-village keeps essential medications and supplies for first aid and treatment, stored securely. Medications are prescribed by a doctor and recorded in medical documentation.
- 7. Emergency and Health Situations:
 - The staff is trained to handle emergencies and provide first aid until professional medical help arrives.
 - If an infectious disease is suspected, the personal doctor is notified, and staff follows regulations to control the spread.

The AGE CARE platform (Lyubenova et al. 2023) can be used to monitor and maintain the health of residents in various settings, including eco-villages, private homes, and hospitals. It tracks vital signs like pulse, blood oxygen, blood pressure, and includes sensors for CO₂, fall detection, temperature, and air quality. The platform enables communication with healthcare teams via video calls and alarms for health issues or falls.

The eco-village will feature an eco-farm focused on organic agriculture and livestock. Research will guide the cultivation of crops such as spelt, fodder cereals, and Jerusalem artichokes, along with herbs, mushrooms, and other plants. Organic livestock will include sheep, cows, horses, and poultry, while a floral nectar conveyor will support beekeeping. The farm will produce honey, milk, dairy, and preserved wild products. A small commercial area will sell these goods.

To construct the eco-village, a team of specialists is required, including an architect, construction consultant, social expert, EU projects consultant, health and agriculture specialists, marketing experts, and more.

Functioning

Revenue for the eco-village's sustainable operation can come from: 1) Annual fees set by private providers or the state, as per the Social Services Fees Tariff (2019); 2) Production and sale of eco-products to local stores, visitors, and restaurants, including dishes served in an on-site restaurant; 3) External use of facilities like the hotel, sports areas, spa, and public spaces; 4) Hosting lectures, corporate seminars, and outreach events to promote the model nationally and internationally.

Unoccupied hotel rooms can be utilized for visitors, optimizing resources. Settlement activities, including services and eco-farming, will create jobs for locals and business opportunities for suppliers. Construction using eco-technologies, like wooden

and compressed straw houses, could scale to regional significance by utilizing local materials and on-site production.

The model aligns with municipal development plans and can expand through land acquisition for farm growth, individual housing, and infrastructure use by those embracing the eco-village lifestyle. Its success could lead to replication in other regions and abroad.

Organization and management

The eco-village for the elderly offers long-term residential care (1-3 years) for individuals unable to meet daily needs or access required health care, providing 24-hour support in a specialized, supportive environment. Services aim to preserve health, improve quality of life, facilitate social integration, and prevent exclusion. Residents may combine these services with other social, health, or educational offerings based on their needs.

The main activities are:

- Health and Lifestyle Support: Maintaining health, prolonging lifespan, and enhancing well-being.
- Medical Care: Providing medication, rehabilitation, and treatment for those in need.
- Social Inclusion: Supporting social integration and rehabilitation.

Each resident has a personal file maintained by the service provider, accessible under specific conditions. It contains:

- Personal data and admission documents.
- Social and specialized needs assessments.
- Individual support plan and progress reports.
- Documentation of medical, educational, and case history.
- Agreements, expense records, and other relevant documents.

Residents are informed and guided through the service upon admission:

- Access and introductions to team members, residents, and service areas.
- Clear information on rules, rights, and complaint procedures adapted to the individual's age and needs.
- Residents receive personal belongings, clothing, and a secure locker.
- Seasonal clothing is purchased with the resident's input, tailored to their preferences, age, and gender.

The Internal Regulations outline the residents' rights, responsibilities, and the organization of daily life. Residents are introduced to these in a way that matches their comprehension and individual characteristics.

Positive Aspects

- Family-Like Environment: The service offers a setting that closely resembles a family home.
- Eco-Friendly Living: Residents enjoy a lifestyle in harmony with nature.
- Community Building: The eco-village fosters inclusion and shared values.
- Emotional Well-Being: Care ensures security while preventing social exclusion, loneliness, and depression.
- Health and Social Needs: Health care, social interaction, cultural activities, and opportunities for personal growth are prioritized, regardless of age.
- Peace of Mind for Relatives: Families are reassured knowing their loved ones are safe and their essential needs are met.

Challenges in Implementing Eco-Village Projects in Bulgaria

- Administrative Obstacles: Complex, sometimes contradictory regulations hinder project progress.
- Financial Barriers: Limited investor interest in the sector.
- Logistical Issues: Difficulty finding suitable, non-protected land with pristine natural conditions.
- Personnel Shortages: Remote locations struggle to attract qualified staff due to distance from educational and training centers.

CONCLUSION

Humanity faces pressing challenges such as resource depletion, environmental degradation, urbanization, aging populations, and health issues. These interconnected problems require integrated solutions. Among the most vulnerable groups in Bulgaria are the elderly, who often face limited income, poor quality of life, and social isolation. Despite the increasing needs of this population, Bulgaria lacks accessible, diverse, and affordable healthcare and social services for long-term care, both in communities and at home.

Revitalizing abandoned villages with good ecological conditions could provide cost-effective solutions, offering elderly individuals suitable living environments. Restoring infrastructure — medical points, shops, and community centers — would not only support the elderly but also benefit society economically. These villages could become hubs of activity where residents engage in:

- Gardening and herb collection for physical activity and productivity.
- Raising small farm animals for self-sustenance and additional income.
- Joining interest groups for cultural and social enrichment.
- Learning about ecology and nature conservation.

Such activities promote mutual support, satisfaction, and community spirit, improving the well-being of elderly individuals. Their families could also reconnect with nature, spending time in these rejuvenated villages, which would simultaneously restore the connection between generations and the countryside.

The eco-village model presents a unique opportunity for Bulgaria, combining ecological, social, and economic benefits. It aligns with global trends toward sustainable living and longer, higher-quality lives. These settlements could also serve as therapeutic, tourist, and restorative centers, promoting health tourism, longevity, and ecological lifestyles.

Implementing this model could create jobs in eco-friendly activities, fostering an environment conducive to active and productive aging. It could also serve as a social and health experiment on longevity, with potential replication in other Eastern European countries like Romania. The lower property prices and favorable conditions in Romania offer opportunities for economic revitalization in underdeveloped regions.

Ultimately, eco-villages could transform small settlements into thriving communities, benefiting both the elderly and society as a whole, while promoting sustainable living practices and intergenerational connections.

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References

- Agency for Social Assistance (ASA): <https://asp.government.bg/#>.
- Chikalanov, A. 2023. Application of IoT and FIWARE for rapid development of aged adult's platforms. 3th International Conference on Applied Science, 24.
- Environmental Protection Act (ZOOS), 2002; last amended in State Gazette, issue 102 / 8. 12. 2023.
- Bakardjiev, G. 2016. Investment project "Eco Village for the Elderly according to the plan of the town of Koprivshitsa, Koprivshitsa Municipality, Puhovi Mogili area, Sofia Region.".
- Gazette, issue 39 of May 14, 2019. **Recovery and Resilience Plan, <https://www.mlsp.government.bg/uploads/35/sv/14rh002-pril-1-1.pdf>.
- Lyubenova, M., Chikalanov, A., & Petkov, Y. 2024. *Identifying the essential features of an eldercare software platform through analyzing caregiver surveys conducted in Bulgaria*. Magna Scientia Advanced Biology and Pharmacy. <https://doi.org/10.30574/msabp.2024.11.1.0006>.
- Lyubenova, M., Chikalanov S. 2023. Ecology and society in contemporary context. *Journal of Balkan Ecology*, 26(3), 305-325.
- National Strategy for Active Aging of Older Adults in Bulgaria (2019-2030)
- Social Assistance Act (SAA), 1998; last amended in State Gazette, issue 106 / 22. 12. 2023.
- Social Services Act (ZSU), 2020; last amended in State Gazette, issue 108 / 30. 12. 2023.

Spasova, T., Petkov, K., Kameneva, E. 2021. Promoting Active Life for Older Adults in Bulgaria. Collection of Best Practices. Association "Expert Pool - Civita Bulgaria" Ltd., 109 p.

Standards and Criteria for Quality of Specialized Social Service — "Residential Care for Older Adults of Retirement Age Without Disabilities"; Appendix 10 to Art. 11, para. 1 of the Regulation on the Quality of Social Services.

Tariff for Fees for Social Services Funded by the State Budget; in effect from January 1, 2003, published in State Gazette, issue 40 of April 29, 2003; last amendment and addition in State.

Tourism Act (ZT), 2013; last amended in State Gazette, issue 41 / 10. 05. 2024.

Regulation on the Quality of Social Services, adopted by Council of Ministers Decree No. 135 of June 22, 2022, published in State Gazette, issue 49 of June 30, 2022.

Regulation for the Implementation of the Social Services Act, 1998; in effect from November 17, 2020; last amendment and addition in State Gazette, issue 44 of May 19, 2023.

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A COMPARATIVE ANALYSIS OF PUBLIC RELATIONS IN THE MUSIC INDUSTRY

Abstract

The music industry is a rapidly growing sector of the entertainment world, gaining even more significance in today's era of advanced technology. With the rise of music streaming platforms, listeners can now access virtually any song with just a few clicks. Additionally, the Internet has empowered individuals to share their music independently and connect with audiences directly, leading to a significant increase in the number of musicians. Today, promoting music artists typically involves collaboration with record labels, personal branding managers, or a combination of both. Comparing their work and goals, the main goal of the study was to identify business models in the process of musician's personal branding in the music industry. From the main goal, three specific objectives emerged: (1) to analyze trend in the music industry in the Republic of Croatia and the world, (2) to define the scope of work and tools used by record companies and personal promotional managers, and (3) to determine new business models in the music industry arising as a result of media convergence and new digital music services. The research was conducted using qualitative research on respondents employed in record companies and personal promotion managers. The research should establish that there is room for progress in the case that all stakeholders in the music market are ready to cooperate and communicate with each other.

Key words: music industry, musician, personal branding, public relation, record labels

INTRODUCTION

Throughout history, music has undergone many changes, but today it is an indispensable part of popular culture, directly influencing trends. The possibilities for listening to, distributing, and enjoying music have evolved in accordance with changes and conveniences brought about by technological advancements, which have impacted the development of digital means for consuming music and popular culture in general. Popular culture is accessible and intended for everyone; every individual has the right and power to create certain cultural content and distribute it across various media, providing constant sensation and satisfaction to all (Labaš & Mihovilović, 2011). At the same time, media convergence in the digital environment has influenced the development of public relations in the music industry due to the increasing number of involved actors, performers, and overall competition. To create an image and brand presence in the media and among the public, a clearly defined goal for the performer and their personal

promotional manager is necessary. Just as brands that deal with the production of goods and services use public relations to effectively reach their target audience, so too do musicians and other public figures engage their own public relations agents with the aim of achieving quality media positioning and building their image. The work of public relations agents involves designing and creating effective campaigns using an integrated marketing and communication approach to build a better public image. Such campaigns, according to Tomić, are divided into three parts: campaign planning, tactics and channels, and evaluation (Tomić, 2016). The performer must be confident in the direction they want to take and the business approach that works best for them. Therefore, this paper focuses on the transition of the music industry in the modern digital environment and the new business models emerging as a result of this transition.

RESEARCH METHODOLOGY AND THE OBJECTIVES

To understand the problems, challenges, potentials, and tasks of promoting musicians in the market, two qualitative research methods were used - desk method to analyze the music market and music industry globally, with a special focus on the situation in the Republic of Croatia, and semi-structured in-depth interviews with music experts were conducted. The main goal of the study was to identify business models in the process of building musician's personal branding in the music industry. From the main goal, three specific objectives emerged: (1) to analyze trend in the music industry in the Republic of Croatia and the world, (2) to define the scope of work and tools used by record companies and personal promotional managers, and (3) to determine new business models in the music industry arising as a result of media convergence and new digital music services. Based on the set objectives, the following research questions were posed: (1) Has media convergence caused changes in the music industry? (2) Do changes in the music industry influence changes in business models? (3) Will there be a clearer division of roles between record companies and personal promotional managers in the future?

THE RESEARCH RESULTS

Analysis of the music industry in Croatia and globally

To gain insight into the state of the music industry in Croatia, desk research was initially conducted to analyze available literature and research, providing insight into the current state of the global and Croatian music industries.

The International Federation of the Phonographic Industry (IFPI), in its latest research, IFPI The *IFPI Global Music Report 2023*, states that global music sales have been growing for several consecutive years, primarily due to more affordable prices for legal music consumption and increased public awareness of copyright issues. The la-

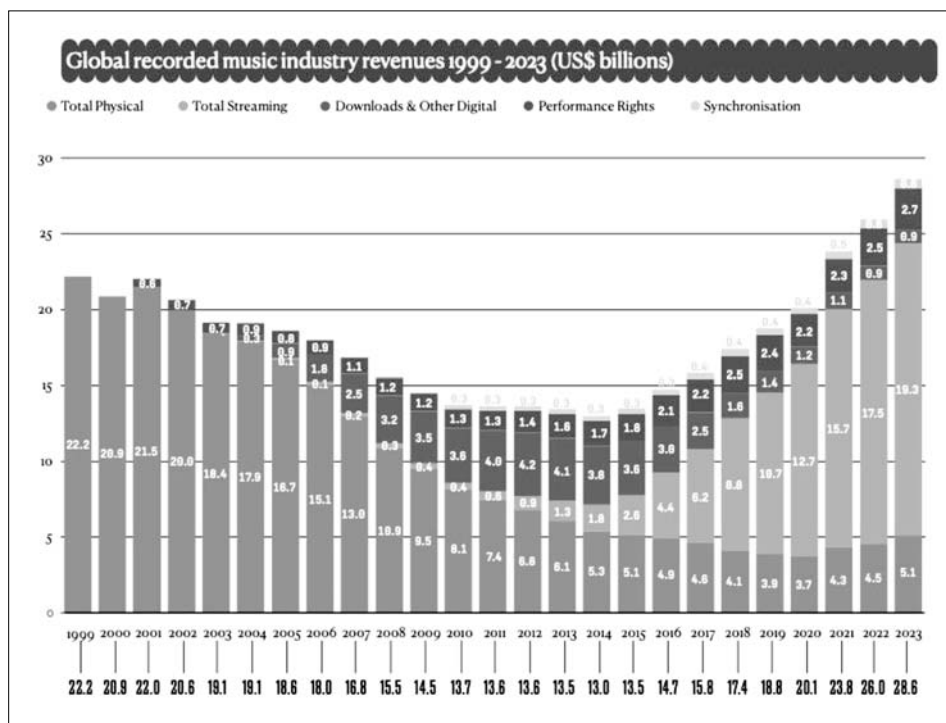


Figure 1 — Music Sales Revenue. Source: IFPI Global Music Report 2023¹

test results show that in 2023, global music sales generated a total revenue of \$28.6 billion, marking the ninth consecutive year of growth.

As shown in Figure 1, the music market is continuously growing, with new sales channels significantly contributing to overall revenue. Streaming revenue accounted for most of the growth in revenue and the overall market share. Subscription-based streaming revenue alone grew by 11.2% and represents nearly half (48.9%) of the global market. In 2023, for the first time, the number of paid subscriptions for music streaming services exceeded 500 million, with over 667 million users holding paid subscription accounts, although household penetration rates vary significantly from country to country.

Regarding the situation in Croatia, the Croatian Phonographic Association presented a study² on music listening habits in the Republic of Croatia, conducted by the Henda agency in June and July 2023. According to the published results, 90% of respondents in 2023 believed there were more ways to listen to music nowadays than ever

¹ https://www.ifpi.org/wp-content/uploads/2020/03/Global_Music_Report_2023_State_of_the_Industry.pdf.

² <https://hdu.hr/hrvati-sve-vise-slusaju-glazbu-putem-digitalnih-glazbenih-streaming-servisa>.

before, and on average, people listen to music through five different methods. A significant shift has occurred in the use of digital music streaming services, with 95% of respondents recognizing at least one streaming service.

Compared to 2018 (when the first such study was conducted), music consumption via streaming services has increased significantly, with 44% of respondents reporting that they listen to music on paid streaming platforms. Additionally, 85% of respondents confirmed that music positively affects their mental health. Among younger individuals aged 12 to 15, the dominant ways of listening to music included free YouTube streaming (80%), and 70% of young people also use paid services. New music is discovered through radio, free video streaming, TV, and social media, while younger respondents highlighted free streaming and short-form content on TikTok as their primary sources for discovering new music. This trend has led to an increase in overall music consumption, as well as new business opportunities in the music industry, especially for record labels whose scope of work has grown significantly. They now play a major role in the distribution of music and positioning of musicians in the market. Record labels discover talented musicians, work on their branding, distribute their music across various media platforms (radio, TV, physical media, streaming services), ensure compliance with copyright laws, and often organize concerts for their artists.

In Croatia, the most renowned record labels for domestic artists include Aquarius Records, Dallas Records, Dancing Bear, Menart, Hit Records, and Croatia Records. The most notable independent record labels in Croatia are Moonlee Records, Geenger Records, PDV Records and Slušaj najglasnije! Independent record labels often do not sign contracts with artists and operate exclusively based on verbal agreements. Their involvement primarily consists of promotional activities for artists or organizing concerts (Marušić, 2015).

In-depth semi-structured interviews with music experts

After analyzing the data collected through the desk research method on the state of the music industry, qualitative research³ was conducted via in-depth semi-structured interviews with stakeholders in the music industry to gain deeper insights, more precise information, and actual opinions from respondents about their experiences or views. The research involved representatives of record companies and personal promotional managers, i.e., public relations agents: three representatives from record companies, two personal PR agents, and one respondent employed in both roles. The respondents were selected from leading record companies, all with long-standing careers, and additional respondents were included using the snowball sampling method. The research con-

³ The present study extends the work initially conducted in Sven Hamzić master's thesis, completed at Edward Bernays University of Applied Sciences, <https://zir.nsk.hr/islandora/object/bernays%3A400>.

cluded when saturation was reached, i.e., when similar answers were being repeated by different respondents.

Changes in the music industry

Technological advancements, the increasing ability to brand artists and singles, the growing number of music performers, and the ease of listening to and distributing music have marked recent years in the music industry. This is supported by practical insights from Respondents 1: "The way of communication and distribution has changed; borders have opened. The internet has done its part and expanded the territory for operations. Music has never been more accessible; YouTube is just one example of this."

Respondent 5 also highlights an important fact that directly impacted promotional activities via social networks and traditional media:

"The difference lies in the fact that social networks provide a much more direct approach between the artist and their music to the audience. In this case, the intermediary—the media—is not necessary. However, practice shows that an artist needs to be active and present on social media but also in traditional media, which are still strong in Croatia."

Changes in business models

According to Tomić (2016), four interconnected elements make up the market for public figures: consultants, media, audience, and protagonists. For a successful outcome, it is necessary to define clear goals, align campaigns with various desires and plans, and carefully predict and plan the steps within the campaigns. Respondent 2 explains the starting point of the process, which determines the further course of collaboration: "Each collaboration agreement is different, specific, and tailored to each individual performer. After the agreement, goals are defined, and plans for implementing each project are made."

After the goals are set, Respondent 2 describes the subsequent steps:

"Following this, the selection of songs begins, searching for studios and producers for recording, agreeing on lead singles, addressing all aspects of the image: from photos, designing album covers, and creating music videos, to strategies and media partners for promotion across all formats; from traditional to digital. This includes servicing the media with all materials, activities aimed at ensuring better placement of songs on radio and television, and plans for digital and physical distribution of releases."

The most critical step is conducting successful promotion so that the song and other released content reach the audience and remain relevant across various media, as this is the primary method of revenue generation. Respondent 3 outlines the tasks that need to be done efficiently for successful promotion: "Today, the focus is on digital marketing and social networks for announcements and promoting the single, as well

as upcoming concerts." Respondent 1 supports the notion that digital marketing is currently the most important tool for connecting performers with their audience: "Marketing through the Internet has enabled much more personal communication between the artist and their audience, significantly facilitating the promotion of artists."

The small Croatian market, saturated with a large number of performers, publishers, and agents, is a significant reason for the limited opportunities for work and development. Respondent 5 highlights the major problem of market saturation and media space in Croatia: "There is intense competition and the biggest challenge is how to make the artist's story interesting to the media and how to present their release in a way that isn't just another generic PR text."

Respondent 2 notes that, in addition to the saturated market, the media space is also overcrowded: "Media space is limited, and there are fewer segments dedicated exclusively to music. Consequently, music competes with everything else that occupies media space at any given moment. Very often, music as a topic is less attractive to the media than other subjects."

Record companies, when it comes to the promotion of performers, differ from personal promotional managers in several aspects that can be considered either positive or negative for the performer. The positive aspects of record companies include, according to Respondent 3, "a well coordinated platform and potentially a larger number of people."

Respondent 2 also points out: "A publisher has long term contracts for multiple projects with performers, which often include collaboration across several areas of the music business. They have much more motivation, not just for promotion but also for investment in an individual performer and their project."

Respondent 5 highlights one of the most significant benefits: "The record label emphasizes the record release itself and focuses on the value of that release through radio broadcasting, digital streaming, and CD sales. Due to the promotional efforts of the record company, the performer will benefit the most in terms of the return on the value of that release through copyright royalties." However, although Respondent 5 mentioned that the greatest positive aspect of record companies is their focus on selling music releases, they noted that this comes at the expense of promoting the performer themselves: "The record label focuses solely on the record release and not necessarily on the overall branding of the performer through other aspects of their brand."

When discussing the positive aspects of personal promotional managers, Respondent 4 emphasizes the importance of proactivity: "Personal agents are educated, dedicated to the performer, and have time for creativity, establishing public relations, and are quick to respond." Respondent 5 compares the work of a personal promotional manager to that of a record company: "The advantage is that they will brand the broader image of the performer, presenting them to the public through other spheres, not just through musical activities."

The future of the music industry

The future of the music industry and the people employed in it largely depends on new trends, technological capabilities, and advertising methods audiences will find most acceptable and appealing. Respondents shared their predictions about their business operations in ten years. Respondent 2 stated: "It is very difficult to predict today. The development of technology, which is far more dynamic and faster than the development of the music industry, will continue to dictate the pace and influence how music is created, distributed, and promoted."

Respondent 6 sees the biggest change in a clear division of roles between record companies and personal promotional managers:

"I think performers will become increasingly independent, separate from record companies and even traditional media. Record companies will become just a basic channel for physical and digital music distribution. As for record company PR, the approach will either have to change or it will disappear from the record company entirely, with personal agents taking over that role."

Respondent 1 also believes that the biggest change will involve differentiating the roles of record companies for music distribution and personal promotional managers for all other tasks:

"I believe record companies and publishers will survive. I cannot think of a single serious performer/author who does not have a contract with some record company or publisher. However, every performer aiming for a successful and longer lasting career will have to have a team that includes a public relations agent."

CONCLUSION

According to the results of the conducted research, the Croatian music scene is highly saturated. It consists of a large number of performers, songs, albums, and generally young people striving to succeed and achieve desired popularity in the market. This necessitates continuous effort, designing campaigns, and strategies to help a specific performer stand out. The future of the music industry market, according to the respondents included in the research, depends on technological changes, which could influence distribution and promotion habits as well as listener preferences. Therefore, it is crucial to be prepared for changes and adjustments, with a specialization of roles where record companies will continue to handle music distribution, while personal promotional managers focus on promotional activities. However, it is evident that the need for personal public relations will certainly increase, and in such a case, record companies might shift their focus from conducting promotional activities to exclusively focusing on music distribution.

It is also essential to emphasize that there will be more and more music performers, and without quality branding, it will be very difficult for them to independently reach their target audience. The conducted research defined the scope of work and tools used by record companies and personal promotional managers, demonstrating that successful musician's branding requires better communication between all parties involved in the musician's promotion. Public relations in the music industry hold a promising future due to the constant growth of the industry as a whole. As in other areas, there is room for further research due to the unstoppable development of technology and adaptation to new trends, which will result in new challenges for all stakeholders in the music industry that need to be addressed and adjusted to as soon as possible.

R e f e r e n c e s

- Hrvatska diskografska udruga (HDU). (2018). *Istraživanje o navikama slušanja glazbe u Hrvatskoj* (Research on music listening habits in Croatia). <https://hdu.hr/download/istrazivanje-o-navikama-slusanja-glazbe-u-hrvatskoj-2023>.
- Hamzić, S. (2019). *A comparative analysis of public relations in the music industry* (Unpublished Master's thesis). Edward Bernays University of Applied Sciences, Zagreb.
- International Federation of the Phonographic Industry (IFPI). (2019). *Global music report 2019*. <https://www.ifpi.org/downloads/GMR2019.pdf>.
- Labaš, D., & Mihovilović, M. (2011). Masovni mediji i semiotika popularne kulture (Mass media and the semiotics of popular culture). *Kroatologija*, 2(1), 95-122.
- Marušić, A. (2015). *Muke po nezavisnom izdavaštvu* (Trouble with independent publishing). Kontrapunkt. <https://www.kulturpunkt.hr/content/o-nezavisnom-izdavastvu>.
- Tomić, Z. (2016). *Odnosi s javnošću: Teorija i praksa* (Public Relations: Theory and Practice). Sinopsis.

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THE IMPACT OF THE CROATIAN NATIONAL TOURIST BOARD'S PUBLIC RELATIONS ACTIVITIES ON MEDIA REPORTING — ADOPTION OF REPUTATIONAL (PR) NARRATIVES?

Abstract

This study examines how the Croatian National Tourist Board (CNTB) builds its reputation through PR activities and how domestic media respond to these efforts. Focusing on corporate narratives in online press releases, the research analyses their emphasis on past achievements, current activities, and future potential over a three-month period. Additionally, it evaluates media responses by analysing content from the most-read online news portals to determine whether the media adopt CNTB's narratives or prioritize their own dominant topics. The analysis of CNTB press releases revealed a predominant focus on present-oriented activities with limited use of emotional and future-oriented elements, reducing their potential to engage stakeholders and generate meaningful media coverage. Media content analysis showed a significant divergence from CNTB's intended narratives, with coverage emphasizing competition, pricing, and tourism offerings, often reflecting broader media agendas rather than the organization's strategic priorities.

Key words: *press releases, corporate story, national tourist organizations, media coverage, reputation.*

INTRODUCTION

Corporate storytelling has become a vital tool for managing organizational reputation and fostering a positive image. Through well-crafted narratives, organizations build trust and loyalty by effectively communicating their actions, values, and performance to stakeholders (Denning, 2004; Gardner, 2004; Dowling, 2006; Kurtić, 2016). Reputation reflects the success of an organization's communication efforts in presenting its achievements (Kurtić, 2016), requiring public relations practitioners to design content that connects the organization's past, present, and future (Fombrun, 1996; Dowling,

2006). Press releases serve as one of the key mediums for corporate storytelling, allowing organizations to influence media representations and secure visibility (Gilpin; 2010, Roper & Fill, 2012; Norlyik, Wolff Lundholt & Hansen, 2014) especially in the tourism sector (Woo, 2005; Huertas, 2008, Kanani 2020).

This study focuses on the Croatian National Tourist Board (CNTB) and its use of online press releases to construct reputation-building narratives. Over a three-month period, it analyses the themes in CNTB's media releases, examining the balance of past accomplishments, current activities, and future goals in its communication. Additionally, it assesses the response of domestic media, using content from leading online news portals to explore the alignment of CNTB's narratives with media agendas.

This study highlights the need to adapt corporate narratives to meet new public expectations, particularly in the context of the tourism sector, to enhance the relevance of content in domestic media. Considering the specific portrayal of the CNTB and Croatian tourism in an international context, as well as the often-limited media attention directed at domestic tourists, it is crucial to tailor communication strategies to the domestic market. This approach would address timely challenges such as pricing, service offerings, and the satisfaction of domestic tourists (Gertner & Kotler, 2004; Kotler & Gertner, 2011; Dinnie, 2008). The contribution of this study lies in its detailed understanding of the complex relationship between the organization and domestic media and the ways in which strategic adaptation of narratives can enhance the perception and recognition of the organization among domestic audiences.

LITERATURE REVIEW

In today's globalized world, the rapid dissemination of information has made public relations (PR) vital for success, particularly in the fast-growing tourism industry (L'Etang, Falkheimer & Lugo, 2007; Deuschl, 2005; Huertas, 2008; Petrovici, 2014; Kanani, 2020; Olimovich Radjabov & Fakhriddinova Dushanova, 2021). The application of PR strategies in tourism focuses on creating and maintaining a positive public image of destinations, attractions, and events (Senečić & Vukonić, 1997; Jakovljević, 2011; Fox, 2006; Petrovici, 2014; Kotler, Rackham & Krishnaswamy, 2006). While PR in tourism is often linked to the marketing mix (Kotler et al., 2006), it distinguishes itself by emphasizing two-way communication and relationship-building with various stakeholders (Huertas, 2008; Kanani, 2020). This facilitates not only image creation but also organizational adaptation to societal conditions (Fox, 2006) which extends beyond merely fostering a favourable climate within the tourism market. It aims to engage with the broader context, encompassing all internal and external stakeholders (Formica & Littlefield, 2000; Petrovici, 2014).

National tourism organizations, as public institutions, focus on promoting and building the image of entire destinations rather than specific products (Hall, 1994; Formi-

ca & Littlefield, 2000; Huertas, 2008; Mak, 2017; Hay, 2021). To complement reputation-building efforts, corporate storytelling has proven effective, offering believable and engaging narratives aligned with strategic communication goals (Dowling, 2006; Gardner, 2004; Denning, 2000). These narratives combine past achievements, current actions, and future aspirations, differentiating organizations from competitors (Fombrun, 1996; Dowling, 2006; Kurtić, 2016).

Media relations are central to shaping public perception and competitive positioning in tourism (Senečić & Vukonić, 1997; Kotler et al., 2006; Woo, 2005; Jakovljević, 2011; Abdallah & Saad, 2019; Kanani, 2020). Press releases remain a dominant tool, helping tourist organizations enhance visibility without appearing overtly promotional (Huertas, 2008; Kanani, 2020; Kan Sönmez & Özkan, 2022). However, while company statements can support corporate narratives (Gardner, 2004), these must align with media storytelling to achieve publicity. Recent studies in Croatia emphasize the need for PR practitioners to adapt to new media environments (Gregorić, Vrkljan & Haleuš, 2017; Kos Kavran, Radiković & Herman, 2020; Alkier & Perić, 2021), as outdated paradigms risk reducing digital platforms to mere archives for self-promoting messages (Grunig, 2009). This shift underscores the necessity for tourism organizations to effectively tailor their narratives to the evolving media landscape to optimize their engagement and enhance public perception.

METHODOLOGY

This research investigates how media respond to the reputation-building activities of the CNTB, Croatia's leading institution for tourism promotion. It focuses on the corporate narratives conveyed through CNTB's external communication, particularly press releases, as a medium for storytelling (Roper & Fill, 2012). Narratives, which can serve as tools of discourse and intentional storytelling (Vaara, Sonenshein & Boje, 2016), are central to organizational communication. Organizational stories, as defined by Collins (2013), are structured narratives within press releases, presenting events in a logical and chronological sequence, aligning with Forster's (1963) concept of a story (in Spear & Roper, 2013). Considering that recent and vivid information about corporate behaviour shapes public evaluations (Russo & Shoemaker, 1989), this study examines how CNTB constructs and communicates its reputation narratives and how domestic media reflect these efforts.

The first research phase employed a three-month content analysis (April-June 2024) of press releases published in the online press room of the CNTB's official website. Drawing on studies of organizational self-presentation (Gilpin, 2010; Mak, 2017), the analysis identified and categorized themes in CNTB's press releases. These themes were assessed against Van Riel and Fombrun's (2007) corporate story elements—acti-

vities, benefits, and emotions — and Dowling's (2006) framework for balancing past achievements, current activities, and future potential within a strategic narrative.

Given that media analysis is a common method to evaluate how effectively an organization communicates its reputation story (Dowling, 2006), the second phase of this study focused on media coverage from Croatia's top online news portals (Index.hr, 24sata, Dnevnik.hr, Jutarnji.hr, Net.hr, and Tportal.hr), identified as having the highest weekly reach according to Reuters Digital news report (2023). Using keyword searches ("Croatian National Tourist Board" and "tourism"), relevant articles were analysed to uncover dominant themes, assess the tone of coverage (positive, neutral, or negative), and evaluate the alignment with CNTB's narratives. The analysis explored whether the media replicated press releases directly, recontextualized their content, or deviated from CNTB's themes to address domestic audience expectations. This dual approach provided insights into the coherence between CNTB's corporate storytelling and its interpretation in domestic media.

RESULTS AND DISCUSSION

During the three-month period observed, the CNTB published 57 press releases in its online press room. The analysis focused on identifying key themes within these releases and their alignment with corporate reputation elements: activities, benefits, and emotions (Van Riel & Fombrun, 2007), as well as their consistency with the CNTB's mission to promote Croatia as an attractive tourist destination in domestic and international markets.

The 'activities' theme in a corporate story emphasizes an organization's core business functions, including its capabilities, competencies, and achievements (Van Riel & Fombrun, 2007). For the CNTB, this theme aligns closely with its primary mission of promoting Croatia as an attractive tourist destination. The analysis indicates that the core of CNTB's corporate narrative is centred on promotional activities, which constituted 49% (N=28) of all press releases (Table 1). These emphasized international marketing efforts, including participation in fairs, press conferences, and bilateral meetings in key markets such as the USA, Sweden, and Germany. Domestic activities were limited, featuring only four press releases targeting foreign representatives or journalists. This emphasis on international promotional efforts highlights the CNTB's strategic use of its corporate story to communicate core activities, aligning with the framework proposed by van Riel and Fombrun (2007). This is supported by data concerning the topic of publicity in foreign media (e.g., Reisemagazin, TV LA7, ORF, Wanderlust) which underscores the accomplishments of the CNTB, accounting for 12% (N=7) of press releases. While most were factual, and as such they correspond to the activities theme, only two—documentary series on Austrian television ORF and a feature on Italian TV LA7—successfully incorporated emotional storytelling to engage stakeholders, aligning with

	Press releases topics									
Press releases temporal focus	Statistical insights into tourism performance	Promotional activities and development of cooperation	Luxury tourism offerings	Development of Croatian tourism	Publicity in foreign media	Awards and recognitions	Sports and tourism	Administrative updates	Total	Total %
emphasis on past action and achievements	3	4			1	1			9	16%
emphasis on current actions and activities		21	5	5	6	0	2	1	40	70%
emphasis on the future/forecasts and predictions of future action	1	3		2			1	1	8	14%
Total	4	28	5	7	7	1	3	2	57	100%
Total %	7%	49%	9%	12%	12%	2%	5%	4%	100%	

Table 1 — Thematic analysis of CNTBs press releases

the 'emotional' theme (van Riel and Fombrun, 2007). Such stories are often the result of media study trips, a strategic tool for strengthening destination image, as emphasized in the CNTB's communication plan, supported by previous research on its PR activities (Jakovljević, 2011). Articles and reports produced from these trips, both in print and digital formats, offer substantial value that often exceeds the costs of their organization (Jakovljević, 2011). However, in the observed period, this practice wasn't reflected in the corporate narrative of CNTB's press releases, indicating a gap in leveraging this potential within its communication strategy.

The 'benefits' theme highlights the attractive outcomes or advantages that stakeholders can expect from an organisation's activities (van Riel & Fombrun, 2007) which is reflected in CNTB's press releases through topics related to the development of Croatian tourism, luxury tourism offerings, and statistical insights into tourism performance, albeit to varying extents. Topics related to Croatian tourism development appeared in 12% (N=7) of press releases, showcasing domestic initiatives such as funding for local projects and participation in national events (*Dani komunikacija*, *Pink Day Festival*). Luxury tourism, including Michelin-star promotions, was covered in 9% (N=5), while statistical data on tourism performance and administrative updates were the least represented (7% and 4%, respectively). These areas, though less frequently addressed and seemingly routine, offer significant potential for enhancing the corporate narrative (Gardner, 2004).

The thematic analysis of CNTB's press releases reveals that the organization 'activities' theme forms the cornerstone of its reputation platform and corporate story, aligning with its mission as a "leading organization for tourism promotion globally" (Croatian National Tourist Board, n.d.). While the press releases emphasize promotional activities on international markets, they lack a balanced representation of the past, present, and future dimensions necessary for effectively communicating the organization's mission (Fombrun, 1996; Dowling, 2006).

Analysis of 'temporal balance' (Table 1) revealed that press releases predominantly focused on the present (70%, N=40), reflecting current promotional activities which according to Dowling (2006) resembles more like a report card rather than a strategic

Connection between the article and the press release	Online news outlets						Total	%
	Index.hr	24 sata	dnevnik.hr	jutarnji.hr	net.hr	tportal.hr		
Reproduces the press release in its entirety	1						1	3%
Reproduces the press release with minimal changes	5	3		1		7	16	53%
Uses information from the press release, changing the context and/or expanding the story		3	1	4	2	2	12	40%
Completely alters the context suggested by the press release		1					1	3%
Total of published press releases	6	7	1	5	2	9	30	100%
Total % of published press releases	20%	23%	3%	17%	7%	30%	100%	

Table 2 — Degree of Alignment Between Media Articles and Press Releases

narrative. Despite the importance of the tourism sector to Croatia's economy — accounting for €14.6 billion in 2023, nearly 20% of GDP, and an 11.4% increase from the previous year (HNB, 2023) — past achievements were underrepresented (16%, N=9). This omission may stem from a strategic decision to avoid appearing overly self-congratulatory or boastful (Dowling, 2006). Future-oriented content accounted for only 14% (N=8), signalling a gap in addressing long-term strategic goals. Addressing how the organization aims to "build tomorrow" alongside past achievements could provide a stronger framework for emotional storytelling. As McKee advises, corporate narratives should avoid fact-based, predictable storytelling, instead presenting challenges and resolutions to engage stakeholders emotionally — a technique often employed by business journalists (Dowling, 2006).

The research identified an imbalance in the way online news portals reacted to the CNTB's press releases, with most largely ignoring them, potentially suggesting that the elements of the corporate story being communicated do not "fit" together as proposed by Dowling (2006). Of 360 articles, identified through key words search, during the three-month period, only 298 were tourism-related, and just 30 (10%) referenced CNTB's press releases. Among these, 56% reproduced the releases with minimal changes, while 40% reframed or expanded them, often presenting content in a positive tone (N=28) (Table 2).

The most frequently covered theme was 'benefits' (60%), focusing on luxury tourism offerings, with the award of Michelin stars to a Croatian restaurant standing out as a topic reported by five of six outlets exemplifying how a good corporate story can generate complementary follow-on stories about the company (Dowling, 2006:96). Other covered themes included 'statistical insights' (N=5) and 'development of Croatian tourism' (N=4). Media coverage, however, emphasized 'past achievements' over 'current activities', with the latter appearing in only 12 articles, primarily highlighting CNTB's promotional efforts, such as new transport routes or events like the Ultra music festival.

Articles themes	Article tone			Total themes	Themes %
	neutral	negative	positive		
Climate change	3	3		6	2%
Problems of the tourism sector	12	16	4	32	12%
Prices in the tourism sector	10	17	3	30	11%
Urbanization	6	6	6	18	7%
Strategies for tourism of the future	1		14	15	6%
Tourist offer	5		28	33	12%
Health	2			2	1%
Migrations	4		3	7	3%
Tourists	7	5	23	35	13%
Economic problems	1	1		2	1%
Foreign media about Croatia	1	4	5	10	4%
Ecology	2	2	2	6	2%
Security	2			2	1%
Awards	1		2	3	1%
Competition	67			67	25%
Total tone	124	54	90	268	
Total tone %	46%	20%	34%	100%	100%

Table 3 — Thematic and tone analysis of tourism media coverage

Media coverage largely diverged from CNTB's initial PR efforts (90%; N=268), thematically emphasizing on competition (25%, N=67), particularly foreign destinations, which were reported in a neutral tone (Table 3). Dominant themes within Croatian tourism, included negatively toned topics, such as 'problems' (N=32; 12%) and 'prices in the tourism sector' (N=30; 11%) contrasted with positive coverage of 'tourism offerings' (N=33; 12%) and 'tourists' (N=35; 13%).

This divergence highlights a paradox: while positive stories underscore tourism's economic significance, negative narratives about domestic issues persist. This disparity may stem from the absence of emotional themes and stakeholder-focused benefits in CNTB's corporate storytelling, as effective narratives should incorporate conflict and resolution to portray organizational struggles and achievements (Spear & Roper, 2013; McKee, 2003).

CONCLUSION

Adapting corporate narratives to evolving public expectations is crucial for enhancing content relevance in domestic media, particularly in tourism. The findings show that CNTB's communication strategy, focused on present-oriented activities, often lacks emotional and future-focused elements needed for deeper stakeholder engagement. Media coverage frequently diverges from CNTB's intended narratives, emphasizing themes like competition, pricing, and tourism offerings.

This study highlights a significant gap in research on PR activities in Croatia's tourism sector, particularly in narrative analysis of corporate stories conveyed through press releases and media responses, offering a novel contribution to understanding these dynamics. While the study provides valuable insights into the complex interplay between corporate storytelling and media interpretation, its focus on the pre-tourist season limits broader applicability. Future research covering a full annual cycle and exploring additional PR tools could offer a more comprehensive understanding of narrative adaptation and its impact on both domestic and international media.

References

- Abdallah, S. F., & Saad, S. G. (2019) The effectiveness of public relations activities in the Egyptian hotels: An exploratory study. *Research Journal of the Faculty of Tourism and Hotels Mansoura University*, 6(6), 108-139. <https://doi.org/10.21608/MKAF.2019.107054>.
- Alkier, R., & Perić, G. (2021). The influence of social networks on the choice of tourism destination: The case of Kvarner. *Bizinfo (Blace)*, 12(2), 215-229. <https://doi.org/10.5937/bizinfo2102215A>.
- Boje, D. (2008). *Storytelling organizations*. Sage.
- Collins, D. (2013). In search of popular management: sensemaking, sensegiving and storytelling in the excellence project. *Culture and Organization*, 19(1), 42-61. <https://doi.org/10.1080/14759551.2011.634198>.
- Croatian National Tourist Board. (n.d.). *About us*. <https://www.htz.hr/hr-HR/opce-informacije/o-nama>.
- Denning, S. (2004). *Squirrel Inc.: A fable of leadership through storytelling*. Jossey-Bass.
- Deuschl, E. (2005). *Travel and tourism public relations: An introductory guide for hospitality managers*. Elsevier Butterworth Heinemann.
- Dinnie, K. (2008). *Nation branding — concepts, issues, practice*. Butterworth-Heinemann.
- Dowling, G. (2006). Communicating corporate reputation through stories. *California Management Review*, 49(1), 82-100. <https://doi.org/10.2307/41166372>.
- Fombrun, C. (1996). *Reputation: Realizing value from the corporate image*. Harvard Business School Press.
- Formica, S., & Littlefield, J. (2000). National tourism organizations: A promotional plans framework. *Journal of Hospitality & Leisure Marketing*, 7(1), 103-119. Doi: https://doi.org/10.1300/J150v07n01_08.
- Fox, R. (2006). *Poslovna komunikacija, drugo dopunjeno izdanje*. Hrvatska sveučilišna naklada
- Gardner, H. (2004). *Changing inds*. Harvard Business School Press.
- Gertner, D., & Kotler, P. (2004). How can a place correct a negative image? *Place Branding and Public Diplomacy*, 1, 50-57. <https://doi.org/10.1057/palgrave.pb.5990004>.
- Gilpin, D. (2010). Organizational image construction in a fragmented online media environment. *Journal of Public Relations Research*, 22(3), 265-287. <https://doi.org/10.1080/10627261003614393>.
- Gregorić, M., Vrkljan Muraj, A., & Haleuš, J. (2017). Primjena suvremenih komunikacijskih tehnologija u promociji turističkih zajednica Republike Hrvatske. *Education for entrepreneurship*, 7(2), 119-134. Available at: <https://hrcak.srce.hr/file/282742>.

- Grunig, J. E. (2009). Paradigms of global public relations in an age of digitalisation. *PRism* 6 (2), 1-19. Available at: https://www.researchgate.net/publication/303153523_Paradigms_of_global_public_relations_in_an_age_of_digitalisation.
- Hall, C. M. (1994). *Tourism and politics. Policy, power and place*. John Wiley and Sons Ltd.
- Hay, B. (2021). The future of national tourism organisations marketing functions — there is no future? *Journal of Tourism Futures*, 7(2), 179-183. <https://doi.org/10.1108/JTF-08-2019-0075>.
- Huertas, A. (2008). Public relations and tourism: Fighting for the role of public relations in tourism'. *Public Relations Review*, 34(4), 406-408. <https://doi.org/10.1016/j.pubrev.2008.07.001>.
- Jakovljević, M. (2011). Odnosi s medijima u promociji nacionalne turističke organizacije (nto). *Informatologia*, 44(4), 347-352. Available at: <https://hrcak.srce.hr/76110>.
- Kotler, P., Rackham, N., & Krishnaswamy, S. (2006). Ending the war between sales & Marketing. *Harvard Business Review*, 84(7), 68-78. Available at: https://www.researchgate.net/publication/6939995_Ending_the_war_between_Sales_Marketing.
- Kotler, P., & Gertner, D. (2011). Nation branding: Yesterday, today, and tomorrow. In N. Morgan, A. Pritchard, & R. Pride (Ed.) *Destination Brands Managing Place Reputation*. Butterworth-Heinemann, Elsevier, 55-66. <https://doi.org/10.4324/9780080969312>.
- Kanani, N. (2020). Importance of public relation. *Tourism Sector. Vidhyayana - An International Multidisciplinary Peer-Reviewed E-Journal*, 5(5). 616-621. Available at: <https://www.vidhyayanaejournal.org/journal/article/view/1285>.
- Kos Kavran, A., Radiković, R., & Herman, D. (2020). Utjecaj medija na turizam (The impact of media on tourism). *Zbornik radova Međimurskog veleučilišta u Čakovcu*, 11(2), 23-31. Available at: <https://hrcak.srce.hr/252336>.
- Kurtić, N. (2016). Odnosi s javnostima (Public relations). University Press, Magistrat izdanja.
- L'Etang, J., Falkheimer, J., & Lugo, J. (2007). Public relations and tourism: Critical reflections and a research agenda. *Public Relations Review*, 33(1), 68-76. <https://doi.org/10.1016/j.pubrev.2006.11.008>.
- Mak, A.H.N. (2017). Online destination image: Comparing national tourism organisation's and tourists' perspectives. *Tourism Management*, 60, 280-297. <https://doi.org/10.1016/j.tourman.2016.12.012>.
- McKee, R. (1997). *Story: Substance, structure, style, and the principles of screenwriting*. Harper Collins.
- Newman, N., Fletcher, R., Eddy, K., Robertson, C. T., & Nielsen, R. K. (2023). *Digital news report 2023*. Reuters Institute, University of Oxford. Available at: https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2023-06/Digital_News_Report_2023.pdf.
- Norlyk, B., Wolff Lundholt, M., & Hansen, P. (2014). Corporate Storytelling. In P. Hühn, J. Meister, J. Pier, & W. Schmid (Eds.), *Handbook of Narratology*, 105-114. De Gruyter. <https://doi.org/10.1515/9783110316469.105>.
- Petrovici, A. (2014). Public relations in tourism. A research on the perception of the Romanian public upon responsible tourism! *Procedia — Social and Behavioral Sciences*, 163, 67-72. <https://doi.org/10.1016/j.sbspro.2014.12.287>.
- Olimovich Radjabov, O., & Fakhridinovna Dushanova, Y. (2021). Efficient ways of using public relations tools in tourism. *The American Journal of Management and Economics Innovations*, 3(05), 137-142. <https://doi.org/10.37547/tajmei/Volume03Issue05-21>.
- Roper, S., & Fill, C. (2012). *Corporate reputation, brand and communication*. Pearson.

- Russo, J.E., & Schoemaker, P.J.H. (1989). *Decision traps*. Simon & Schuster.
- Senečić, J., & Vukonić, B. (2007). *Marketing u turizmu* (Marketing in tourism). Mikrorad.
- Sönmez, K. N., & Özkan, C. (2022). An investigation on public relations activities of hotel enterprises. *Journal of Social and Economic Research*, 24 (42), 114-124. Available at: https://www.researchgate.net/publication/361518591_An_Investigation_on_Public_Relations_Activities_of_Hotel_Enterprises.
- Spear, S., & Roper, S. (2013). Using corporate stories to build the corporate brand: An impression management perspective. *Journal of Product and Brand Management*, 22(7), 491-501. <https://doi.org/10.1108/JPBM-09-2013-0387>.
- Vaara, E., Sonenshein, S., & Boje, D. (2016). Narratives as sources of stability and change in organizations: Approaches and directions for future research. *Academy of Management Annals*, 10(1), 495-560. <https://doi.org/10.5465/19416520.2016.1120963>.
- Van Riel, C.B.M., & Fombrun, C.J. (2007). *Essentials of corporate communication: implementing practices for effective reputation management* (1st ed.). Routledge. <https://doi.org/10.4324/9780203390931>.
- Woo, J.-K. (2005). Content analysis of hotel PR activities in newspaper articles. *International Journal of Tourism Sciences*, 5(1), 85-103. <https://doi.org/10.1080/15980634.2005.11434581>.

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PARENTS' SUBJECTIVE WELL-BEING DURING COVID-19 PANDEMIC

Abstract

The COVID-19 pandemic and its associated lockdown measures disrupted daily life for individuals and families worldwide. The aim of this study is to explore differences between parents who perceived worsening of their lives due to COVID-19 pandemic and those who did not perceive changes in their lives during the first pandemic year. The study was conducted as part of the CHILD-WELL project financed by the Croatian Science Foundation. Overall, 509 women and 444 men who are parents of school-aged children, were included in this study based on their ratings of COVID-19 pandemic with respect to their everyday lives. Only parents who perceived no changes and those who perceived big detriments in their everyday lives due to the COVID-19 pandemic were included. Parents gave data about their life satisfaction during the related two years, sociodemographic characteristics, and experienced stressors during the lockdown. Parents who perceived a worsening of their everyday lives had lower subjective income, worse health, higher neuroticism, and they experienced more stressful life events. Those parents also had lower life satisfaction during the pandemic, and two years later as well. These results show that those parents who perceived COVID-19 to be most harmful did not experience big changes in their life satisfaction two years later. Future differences in life satisfaction between the two groups of parents may be attributed to pre-existing sociodemographic disparities. This suggests that COVID-19 could have a varied impact on parents, influenced by their unique life circumstances.

Key words: subjective well-being; parents; COVID-19 pandemic; longitudinal

INTRODUCTION

Parents of school-aged children were especially vulnerable to the psychological burdens of the COVID-19 pandemic (El-Osta et al., 2021). Parents had to navigate their careers as well as many challenges related to homeschooling. However, these challenges did not affect all parents equally. Some parents perceived deteriorations in their quality of life during the COVID-19 pandemic, while others did not. The goal of this study was to compare life satisfaction (LS), one aspect of subjective well-being (Fujita & Diener, 2005), between the two groups of parents, those who perceived a worsening of

their everyday lives and those who did not perceive any changes due to the COVID-19 pandemic. It was examined what parents were most likely to perceive as a worsening of their lives and whether expected differences in life satisfaction remained during the two years of the pandemic.

So far studies have shown varying effects of COVID-19 on different groups of people. Some empirical studies report that mothers, fathers, and people without children need to be differentiated in this context. For example, Möhring et al. (2020) concluded that lockdown circumstances generally had a negative effect on one's work and family satisfaction, but effects differed between childless persons, mothers, and fathers with the latter being least negatively affected. Vicari et al. (2022) also confirmed a more pronounced decline in well-being for working mothers than fathers in Germany. Having young children in the household and more personal worries were factors associated with lowered well-being for both parents, based on a large, national database NEPS.

According to a large sample of parents in Australia (Westrupp et al., 2021), during the pandemic, parents reported significantly lower life satisfaction, measured as aggregate of satisfaction with different life domains, compared to pre-pandemic levels. Factors associated with reduced life satisfaction included lower education, single parenthood, reliance on government benefits, children with neurodevelopmental conditions, and experiencing physical or mental health challenges (Westrupp et al., 2021). Similarly, Huebener et al. (2021) also found that the crisis lowered the relative well-being of individuals with children, especially individuals with young children, for women, and for persons with lower education levels. These findings highlight the disproportionate impact of the pandemic on parents in socially and economically disadvantaged contexts. According to a study conducted in Italy, more than a third of the sample reported lowered well-being during lockdown (Biffi & Pepe, 2021). Parents with feelings of abandonment and inadequate living spaces had lower well-being, while partner support was a positive predictor of their well-being. A study conducted in United States revealed that parental well-being worsened after the lockdown restrictions were put in place, and the situation was harder for those who had more disease-related hardships in the family (Gassman-Pines et al., 2020).

While studies showed decreases in mental health in the first and second pandemic years (Bimonte & D'Agostino, 2023; Kapović et al., 2022; Neugebauer et al., 2024), long-term effects of COVID-19 pandemic for different groups of people are not thoroughly studied. In this study we will explore whether life satisfaction changes differently for these two groups of people and whether differences in their life satisfaction persist or decrease during time.

This study had three goals. First, we explored differences between the parents who are most affected by the COVID-19 pandemic and those who are unaffected in different sociodemographic variables. Second, we examined differences in life satisfaction between parents who are affected by COVID-19 and those who are not affected

by COVID-19 in 2021 and whether these differences persist after controlling for parent characteristics. And lastly, we explored how does life satisfaction change in the years after 2021 for two groups of parents.

METHOD

Participants

This study was based on data collected as part of the three-wave longitudinal project CHILD-WELL financed by Croatian Science Foundation. Parents or guardians of children (age range 9-12 years) participated in three waves from 2021 to 2023. In the first wave (2021) there were 1423 mothers/female guardians and 1196 fathers/male guardians. For this study, only a subset of participants was selected based on their ratings of COVID-19's impact on their own lives. The COVID-19 impact was assessed with the following question: When you take everything into account, how much has the situation caused by the COVID-19 pandemic worsened your daily life? The rating scale range was from 0 (not worse at all) to 10 (it worsened significantly). Those parents who scored 0,1 or 2 were categorized as unaffected by COVID-19, and those who chose 10, 9 or 8 were categorized as affected by COVID-19. There were 509 mothers, and 444 fathers selected for this study. Regarding their ratings, 179 mothers were unaffected by COVID-19, 330 mothers were affected by COVID-19, and 200 fathers were unaffected by COVID-19, and 244 were affected by COVID-19.

Mothers' and fathers' characteristics are shown and compared with respect to their belonging in the COVID-19 group in Table 1.

Instruments

Both mothers and fathers gave their data about their life satisfaction, personality, life events and sociodemographic variables.

Life satisfaction was measured with one item — how satisfied you are with your life as a whole? The scale ranged from 0 — not satisfied at all, to 10 — extremely satisfied.

Personality was measured with the short version of the International Personality Item Pool (IPIP) (Milas, 2007) of the Big-Five Personality Questionnaire that uses three items to address each of the Big-Five personality factors: Extraversion (example: I make friends easily), Agreeableness (example: I Sympathize with others' feelings), Conscientiousness (example: I like order), Neuroticism (example: I get upset easily), and Intellect (example: I can handle a lot of information). Participants rated items on a 5-point scale, ranging from 1 (very inaccurate) to 5 (very accurate).

Participants also indicated whether they have experienced some life events in the past year. Life events were categorized as COVID-19 related and other life events. COVID-19 related events were personal COVID-19 infection, child's COVID-19 infection,

and self-isolation. Other events were prohibition of work during past year, being fired, a decrease of income and death of a close person. Other life events may also have resulted from the COVID-19 pandemic; however, due to potential ambiguity, they were categorized as a distinct type of event.

Vast number of sociodemographic measures were included: parents' age, marital status (categorized as married or inhabiting, in a relationship, divorced, widowed, not in a relationship), education (from primary school to doctorate level education), income per capita, subjective income (Which of the following best describes your financial situation? 1 — I find it very difficult, 5 — I live comfortably), employment (categorized as employed and unemployed), subjective rating of health (How would you rate your health? 1 — very bad, 5 — very good), and number of children.

Procedure

The study was approved by Institute Ivo Pilar's Ethics Committee. Parents filled questionnaires at home and sent them back to school in sealed envelopes via children. The first wave took place in the spring of 2021 immediately after lockdown was lifted in Croatia. The second wave was conducted one year later, and the third wave took place 2 years later in the spring of 2023.

Data analysis

Analyses were run in SPSS and R software. First, we have compared differences between affected and unaffected parents in different sociodemographic variables. This was done by calculating independent t-test or chi square test. After that, differences in life satisfaction between affected and unaffected parents were calculated with t-tests and regression analysis. Regression analysis was employed to explore whether differences between two groups of parents persist after controlling for different parent characteristics. Lastly, with latent growth curve model, it was explored whether life satisfaction changes during two years for two groups of parents.

RESULTS

Compared to unaffected mothers, those who reported to be affected by the COVID-19 pandemic also stated lower subjective income, worse health, higher neuroticism, lower openness, and more COVID-19 and other life events. Affected mothers were also more likely to report to have obtained high school education and less likely to report as having obtained college education ($\chi^2=16.034$, $p=0.007$). No differences were found in age, number of children, income per capita, employment status, relationship status, and other personality traits between two groups of mothers.

For fathers a similar pattern was observed. Affected fathers, compared to unaffected fathers, were more likely to report more stressful other life events. Affected fathers were on average a year older than the unaffected fathers. They also reported worse

		Mothers				Fathers			
	Group	N	M	SD	t-test	N	M	SD	t-test
Income	U	174	6.09	2.09	1.74, p>.05	190	6.26	1.97	0.82, p>.05
	A	322	5.74	2.11		232	6.09	2.08	
Subjective income	U	179	3.65	0.80	5.61, p<.001	196	3.64	0.77	4.83, p<.001
	A	327	3.19	0.92		235	3.27	0.81	
Number of children	U	177	2.21	0.90	0.69, p>.05	192	2.23	0.94	0.846, p>.05
	A	325	2.15	0.91		237	2.16	0.83	
Health	U	179	4.39	0.77	6.52, p<.001	198	4.26	0.75	4.66, p<.001
	A	329	3.92	0.77		242	3.91	0.82	
Age	U	179	40.89	4.98	-0.75, p>.05	198	43.20	5.08	-2.00, p<.05
	A	329	41.24	5.07		243	44.19	5.32	
Extraversion	U	177	3.64	0.87	-0.20, p>.05	197	3.74	0.81	-0.51, p>.05
	A	322	3.66	0.77		234	3.78	0.75	
Neuroticism	U	176	2.69	0.94	-5.30, p<.001	196	2.29	0.91	-5.33, p<.001
	A	326	3.16	0.96		232	2.76	0.90	
Conscientiousness	U	175	4.12	0.78	1.07, p>.05	196	3.86	0.76	-0.49, p>.05
	A	326	4.19	0.72		234	3.89	0.74	
Agreeableness	U	175	4.52	0.55	1.16, p>.05	199	4.20	0.61	1.09, p>.05
	A	326	4.46	0.55		239	4.14	0.61	
Openness	U	178	3.89	0.78	2.66, p<.01	198	3.76	0.78	1.19, p>.05
	A	324	3.72	0.63		236	3.68	0.68	
Covid-19 related life events	U	179	0.60	0.90	-3.10, p<.01	199	0.69	1.00	-0.98, p>.05
	A	327	0.88	1.01		239	0.79	0.98	
Other life events	U	178	0.28	0.54	-9.71, p<.001	198	0.31	0.54	-7.17, <.001

Note: U — parents unaffected by COVID-19 pandemic;
A — parents affected by COVID-19 pandemic.

Table 1 — Comparison of COVID-19 affected and unaffected mothers and fathers in the first project wave

		Mothers				Fathers			
	Group	N	M	SD	t(df)	N	M	SD	t(df)
Life satisfaction W1	U	179	8.26	1.66	5.15, p<.001	200	8.22	1.46	4.40, p<.001
	A	330	7.42	1.90		241	7.57	1.62	
Life satisfaction W2	U	142	8.20	1.50	5.20, p<.001	153	8.09	1.66	2.84, p<.01
	A	281	7.33	1.84		190	7.54	1.87	
Life satisfaction W3	U	131	8.29	1.33	5.14, p<.001	132	8.17	1.32	2.97, p<.01
	A	239	7.32	1.93		172	7.63	1.88	

Note: U — parents unaffected by the COVID-19 pandemic;
A — parents affected by the COVID-19 pandemic.

Table 2 — Comparison of life satisfaction between COVID-19 affected and unaffected mothers and fathers in the three waves

	Mothers			Fathers		
	LS (W1)	LS (W2)	LS (W3)	LS (W1)	LS (W2)	LS (W3)
	β	β	β	β	β	β
COVID-19 impact	-.222***	-.261***	-.264***	-.226***	-.168**	-.188**
COVID-19 impact	-.036	-.071	-.063	-.069	-.003	-.061
Education	.027	.039	.046	.031	.022	.022
Income	.041	.021	.035	.119*	.052	.041
Subjective income	.228***	.243***	.156**	.212***	.261***	.165*
Number of children	.052	.002	.139**	.118*	.092	.075
Health	.235***	.230***	.147**	.162**	.128*	.044
Employment	.063	.035	.016	.114*	.041	-.008
Age	.014	-.027	-.079	-.037	-.050	-.138*
Unmarried	.014	-.017	.018	-.026	-	-
In a relationship	-.071	-.022	-.071	-.032	.025	.028
Widowed	-.095*	-.053	-.078	-	-	-
Divorced	-.009	-.100*	.014	-.156**	-.070	-.178**
Extraversion	.008	-.030	-.106	.080	.028	.031
Neuroticism	-.164***	-.195***	-.258***	-.145**	-.144	-.170*
Conscientiousness	.067	.056	.050	-.008	-.126	-.121
Agreeableness	-.023	.017	.079	.060	-.014	.087
Openness	.074	.072	.055	-.084	.008	.024
Covid related life events	.002	.078	.070	.012	.026	.025
Other life events	-.033	-.047	-.036	.000	-.051	-.086

Note: COVID-19 impact is binary variable, 0 — unaffected, 1 — affected by COVID-19; employment 0 — unemployed, 1 — employed; Being in marriage or cohabitation is a reference category; Unmarried and widowed fathers did not have data for all the waves; * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3 — Link between COVID-19 impact and life satisfaction for parents in three waves with inclusion of control variables.

health, lower subjective income and higher neuroticism compared to unaffected fathers. No differences in number of children, income per capita, employment status, relationship status, education, number of covid-related events, and other personality traits were observed for two groups of fathers.

Affected mothers and fathers reported lower life satisfaction compared to unaffected mothers and fathers at each project wave.

CHANGES IN LIFE SATISFACTION

Latent growth curve models were run to explore whether mothers' and fathers' LS change during the three project waves. First, we examined linear changes for mothers and fathers without differentiating parents who are affected or unaffected by the COVID-19 pandemic. After that we ran a multigroup analysis where we explored whether there are different patterns of change for affected or unaffected parents. For mothers overall, the linear model fit the data well (Scaled $\chi^2(1) = 0.742$, $p > .05$, CFI = 1, RMSEA = 0, SRMR = 0.008), but no change was detected (slope = -0.067, $p = .097$, variance =

0.067, $p = .704$). For fathers, the model fit well (Scaled $\chi^2(1) = 0.609$, $p > .05$, CFI = 1, RMSEA = 0, SRMR = 0.010), but there was no change (slope = -0.001, $p = .982$, variance = 0.62, $p = .00$).

Multigroup models also did not reveal any changes. For mothers, multigroup linear model fit the data well (Scaled $\chi^2(2) = 0.746$, $p > .05$, CFI = 1, RMSEA = 0, SRMR = 0.008), but there was no change for the affected mothers (slope = -0.082, $p = .127$, variance = 0.03, $p = .898$), nor for the unaffected mothers (slope = -0.030, $p = .618$, variance = 0.214, $p = .407$). For fathers, the model had a good fit (Scaled $\chi^2(2) = 2.096$, $p > .05$, CFI = 0.999, RMSEA = 0.015, SRMR = 0.013). No change is detected for affected fathers (slope = 0.014, $p = .854$, variance = 0.827, $p = .854$), nor for the unaffected fathers (slope = -0.029, $p = .645$, variance = 0.386, $p = .04$).

These results show that there were no significant mean level changes during the three project waves for any group of parents.

DISCUSSION

The goal of this study was to compare LS between the two groups of parents, those who perceived a worsening of their everyday lives and those who did not perceive any changes due to the COVID-19 pandemic. It was examined which parents were most likely to perceive a worsening of their lives, whether expected differences in LS remain after controlling parent characteristics and whether their LS changes during the duration of the study.

This study showed that approximately 23% of mothers and 20% of fathers in the initial sample perceived a huge deterioration in their lives due to the COVID-19 pandemic in 2021. At the same time, around 13% of mothers and 17% fathers did not perceive worsening of their life due to the pandemics. Further on, the study showed that parents who perceived worsening of their lives due to the pandemics differ significantly from parents who did not perceive COVID-19 related worsening in their lives. Affected parents reported higher neuroticism, lower subjective income, more stressful events, and worse health. Affected mothers also reported lower education, lower openness, and more COVID-19 related life events. Affected fathers on the other hand, were older compared to unaffected fathers. These results are in line with studies that show that people with worse health and lower income had more issues with adjusting to the pandemic (Gassman-Pines et al., 2020; Kapović et al., 2022; Westrupp et al., 2021). Our study, also suggests that personality traits might have also contributed to worse adjustment during the COVID-19 pandemic. Other studies also found neuroticism to be associated with worry and a more negative perception of COVID-19 effects on their lives (Schmiedeberg & Thönnissen, 2021, Sebri et al., 2021).

Parents who perceived themselves to be affected by COVID-19 reported lower life satisfaction compared to the unaffected parents. Surprisingly, this difference in their

LS was present during all three study waves. In addition to that, separate analyses showed there were no mean level changes in LS from 2021 to 2023 for either group of parents. Parents who perceived to be adversely affected by COVID-19 always reported lower LS, and its levels remained relatively stable throughout the study. To further explore the difference in LS between the two groups, we have examined whether LS differences persisted after controlling for different parent characteristics. These analyses showed that after controlling sociodemographic characteristics, personality and stress events, there were no differences in LS between the affected and unaffected parents.

Due to the lack of available data prior to 2021, our study does not provide a clear answer on whether COVID-19 had influenced LS worsening among the affected parents or they already had lower LS prior to the pandemic. COVID-19 could have contributed to LS decrease for some parents via long-term health impact or via increase in stressful life events. Also, some parents may perceive COVID-19 as more impactful due to negativity bias. Stability of LS in all waves may point to stable characteristics (i.e. personality) as foundation for some observed differences in this study.

The study had some limitations. Except for the lack of data prior to COVID-19 pandemic, the study was conducted on a convenient sample with relatively small number of parents who were adversely affected by COVID-19 pandemic. Some variables, such as health, were measured using a single item, which may result in less precise measurement.

To conclude, this study shows that some parents were more vulnerable to the effects of the COVID-19 pandemic. Parents with lower subjective income, worse health, higher neuroticism and more stressful life events had perceived worsening of their lives during the COVID-19 pandemic. Those parents also had a lower LS throughout the study. Differences in life satisfaction between parents affected and those unaffected by COVID-19 could be explained by their sociodemographic differences.

References

- Biffi, E., & Pepe, A. (2021). Parental subjective wellbeing during the COVID-19 lockdown: Evidence from the epicenter of a pandemic crisis. *European Psychiatry*, 64(S1), S662-S663, <https://doi.org/10.1192/j.eurpsy.2021.1759>.
- Bimonte, S., & D'Agostino, A. (2023). Life satisfaction in the time of COVID-19. The frog effect. *Cities*, 142, 104550.
- El-Osta, A., Alaa, A., Webber, I., Riboli Sasco, E., Bagkeris, E., Millar, H., Vidal-Hall, C., & Majeed, A. (2021). How is the COVID-19 lockdown impacting the mental health of parents of school-age children in the UK? A cross-sectional online survey. *BMJ open*, 11(5), e043397. <https://doi.org/10.1136/bmjopen-2020-043397>.
- Fujita, F., & Diener, E. (2005). Life satisfaction set point: stability and change. *Journal of personality and social psychology*, 88(1), 158. <https://doi.org/10.1037/0022-3514.88.1.158>.
- Gassman-Pines, A., Ananat, E. O., & Fitz-Henley, J. (2020). COVID-19 and parent-child psychological well-being. *Pediatrics*, 146(4). <https://doi.org/10.1542/peds.2020-007294>.

- Huebener, M., Waights, S., Spiess, C. K., Siegel, N. A., & Wagner, G. G. (2021). Parental well-being in times of Covid-19 in Germany. *Review of Economics of the Household*, 19(1), 91-122. <https://doi.org/10.1007/s11150-020-09529-4>.
- Kapović, I., Uzelac, E., Dumančić, F., & Čorkalo Biruški, D. (2022). We are (not) in the same boat: Sociodemographic differences in mental and social health during the first year of coronavirus pandemic. *Psihologijske teme*, 31(1), 27-57. <https://doi.org/10.31820/pt.31.1.2>.
- Milas, G. (2007). Basic Personality Traits and Some Aspects of Political Behaviour. *Društvena istraživanja*, 16(1-2), 27-49. <https://hrcak.srce.hr/18919>.
- Möhring, K., Naumann, E., Reifenscheid, M., Wenz, A., Rettig, T., Krieger, U., Friedel, S., Finkel, M., Cornesse, C., & Blom, A. G. (2020). The COVID-19 pandemic and subjective well-being: longitudinal evidence on satisfaction with work and family. *European Societies*, 23(1), 601-617. <https://doi.org/10.1080/14616696.2020.1833066>.
- Neugebauer, M., Patzina, A., Dietrich, H., & Sandner, M. (2024). Two pandemic years greatly reduced young people's life satisfaction: evidence from a comparison with pre-COVID-19 panel data. *European Sociological Review*, 40(5), 872-886. <https://doi.org/10.1093/esr/jcad077>.
- Schmiedeberg, C., & Thönnissen, C. (2021). Positive and negative perceptions of the COVID-19 pandemic: Does personality play a role? *Social Science & Medicine*, 276, 113859. <https://doi.org/10.1016/j.socscimed.2021.113859>.
- Sebri, V., Cincidda, C., Savioni, L., Ongaro, G., & Pravettoni, G. (2021). Worry during the initial height of the COVID-19 crisis in an Italian sample. *The Journal of general psychology*, 148(3), 327-359. <https://doi.org/10.1080/00221309.2021.1878485>.
- Vicari, B., Zoch, G., & Bächmann, A.-C. (2022). Childcare, work or worries? What explains the decline in parents' well-being at the beginning of the COVID-19 pandemic in Germany? *Journal of Family Research*, 34(1), 310-332. <https://doi.org/10.20377/jfr-707>.
- Westrupp, E. M., Stokes, M. A., Fuller-Tyszkiewicz, M., Berkowitz, T. S., Capic, T., Khor, S., Greenwood, C. J., Mikocka-Walus, A., Sciberras, E., Youssef, G. J., Olsson, C. A., & Hutchinson, D. (2021). Subjective wellbeing in parents during the COVID-19 pandemic in Australia. *Journal of Psychosomatic Research*, 145, 110482. <https://doi.org/10.1016/j.jpsychores.2021.110482>.

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"MUSEUMIZATION OF MIGRATION": STORIES OF ARRIVALS AND DEPARTURES

Abstract

New social landscapes and migrant flows influenced the redefinition of the role of museums (NEMO, 2016). Given the complexity and fragmentation of postmodern societies, the former role of museums is being critically questioned (Lanz, 2014). Museums are recognized as important actors in addressing social changes related to migration processes and different types of population movements (NEMO, 2016). In numerous European museums, exhibitions dedicated to migration and different migrant experiences (Whitehead et al., 2017) have been set up with the aim of promoting tolerance and diversity. In addition to emigration museums, immigration museums have also been established. Italy is a country with a long history of emigration (Cimoli, 2014). During the second half of the 20th century Italy has experienced intense immigration flows (IOM, 2012). For illustrative purposes, several museum projects from Italy are described in the paper. These cases indicate the complex social role of the museum in the representations of migration processes.

Key words: *migration, museum, diversity, social inclusion, Italy*

INTRODUCTION¹

Migrations are an historical fact and "the norm throughout history" (NEMO, 2016, p. 4). International migration has been "one of the most important and most contested issues of our times" for decades (Castles & Miller 2009, as cited in Amelina & Horvath, 2017, p. 465). Castles, de Haas and Miller (2014) point out several key characteristics of contemporary migrations: globality, acceleration, differentiation, politicization. Ten years ago, Grosfoguel, Le Bot and Poli (2011, p. 2) stated that on the one hand, there is a large number of publications on migration, and on the other, many published works on museums, but these two topics together were rarely the subject of systematic reflection. Migrations are multiple interesting and relevant processes, but also "a complex condi-

¹ This research was carried out as part of the project "Dynamics and challenges of migration, re-migration and immigration in the Republic of Croatia", funded by European Union programme NextGeneration EU (01/08-73/23-2519-18).

tion" (Lanz, 2014, p. 27) which deserves an important place in museums. In a hyperdynamic and digitalized globalization era shaped by intensified movements of people, goods, capital, ideas, and symbols, "museums are encouraged to reflect the socio-cultural implications of such changes and the increasingly plural face of the populations composing modern states" (Gouriévidis, 2014, p. 1, see also Lanz, 2014; NEMO, 2016).

"MUSEUMIZATION OF MIGRATION"

Museums are a Western institutional invention that appeared together with "the emergence of the nation-state" (Lanz, 2014, p. 28). In the past, museums represented "important symbols of power for monarchs, empires and nations" (Johansson, 2014, p. 122). In addition to legitimizing ruling order (Johansson, 2014), an important function of museums was related to the construction and maintenance of national identity. Given the complexity and fragmentation of postmodern societies, the former role of museums is being critically questioned and reimagined for identity and belonging (Lanz, 2014, p. 28). Johansson (2014, p. 122) points out that museums are becoming "post-museums" — places of questioning "the Enlightenment ideal of a single universal knowledge" and focusing on "hybridity, transnationalism and transition" (2014, p. 123). New social landscapes and migrant flows influenced the redefinition of the role of museums in societies "in transition, in motion, in perpetual transformation" (Korff 2005 cited in NEMO, 2016, p. 4). The conservative paradigm of the museum that "freezes the past into a 'state memorial'" (Prado, 2003, as cited in Grognet, 2007, p. 48) is slowly changing in the second half of the 20th century, and the change in approach is accompanied by new epistemologies, methodologies, and ways of representation.

During the 2000s, "migration museums" appeared as a "new museum type" (Lanz, 2014, p. 28). In their work, museums apply "new strategies" (NEMO, 2016, p. 4) and create spaces for encouraging and supporting dialogue, critical reflections, new readings and making it possible to hear the hitherto silent voices of migrants. Many exhibitions thematize important issues of migration, identity, heritage, places, cultural diversity, interculturality, etc. (Whitehead et al., 2017; NEMO, 2016). Baur (2009) introduces the concept of "the museumization of migration" (*Musealisierung der Migration*), which means the representation of migration, which in some countries represents the form "in their staging of 'multiculturalism' and thus reinforces national narratives which are grounded on diversity and migration processes" (Meza Torres, 2014, p. 8).

In the integration projects of "migration history in museum spaces and narratives" certain ambivalences are present, such as "museums' intimacy with processes of identity construction and memorialization of the past" (Gouriévidis, 2014, p. 1); "danger of a single story", "the risk of crystallizing past" (Cimoli, 2014, p. 97); "institutional resistance" (Lynch, 2014, p. 68), etc. Cimoli (2014, p. 83) makes a distinction between two areas of museum work — "about" migrations or museums dedicated to migration, and

"with migrants" or engagement and cooperation of migrant communities with the museum(s).

NEW PERSPECTIVES, NEW DISCOURSES

Gouriévidis (2014, p. 2) considers three topics related to museum representations of migration: 1) the influence of politics and public discourse on the ways in which museums deal with (recent/historical) migration; 2) museums as "agents of social change"; 3) "the memorial function of museums seen as mediators of recognition". Gouriévidis (2014) and Ashley (2014) take a constructivist position when considering heritage. From this perspective, "heritage is not an existing place, an artefact or an intangible element" but rather "a constitutive cultural process" (Smith 2006 as cited in Gouriévidis, 2014, p. 2). Recent interpretations of heritage open up space for different "claims, aspirations, histories, memories and expectations of diverse communities" (Gouriévidis, 2014, p. 3). New social realities encourage museums across Europe (and beyond) to revise "their narratives, interpretive tools and forms of mediation in order to embrace a wider and more diverse vision of the world" (Cimoli, 2014, p. 83). Kratz and Karp (2006 as cited in Gouriévidis, 2014, p. 3) point out that museums can be places of elitism, colonialism and discrimination, but also places of dialogue, discussion, exchange, negotiation, recognition, and empowerment (see also Message, 2014; Johansson, 2014; NEMO, 2016). The inclusion of everyday objects, documents and immigrant stories represents a "symbolic shift in the representation of a 'mono-cultural past'" (Gouriévidis, 2014, p. 4) and the opening of space for discourses of pluriperspectivity, social inclusion and cultural diversity in museum policies (Gouriévidis, 2014, p. 5; see NEMO, 2016). Migration topics include different types of migration and migrant experiences, and in some European countries with a long history of emigration, "emigration has been far less problematic and conflicting than immigration" (Gouriévidis, 2014, p. 5). New perspectives, discourses, narratives and policies that strengthen dialogue, multiplicity, transculturality are supported by supranational communities (e.g. EU), international institutions (e.g. UNESCO) and professional associations (e.g. NEMO). In such a context, museums are defined as "agents of social change" and "engines of social transformation" (Bennett, 2006 as cited in Gouriévidis, 2014, p. 9). A large part of the collections was created in the colonialist context and was influenced by colonialist and racist perspectives, so recent museum work includes "re-examining and re-exploring existing collections" in such a way that these collections are reconstructed and deconstructed (NEMO, 2016, p. 6). "Diversity discourses" in many European countries with a colonialist past influenced the reinterpretation of their national collections "in the light of postcolonial approaches and new conceptual models" (Gouriévidis, 2014, p. 6). New ideas of social responsible and inclusive museums inaugurate a "from below" perspective, enabling all interested individuals and social groups/ethnic communities to parti-

cipate in the museum space and its narratives (Gouriévidis, 2014, p. 9). Through organizing exhibitions, workshops, focus groups, education, and various forms of cooperation with ethnic communities, museums become "a place for intercultural dialogue" (Cimoli, 2014, p. 92) in which excluded individuals and groups find their voice (Gouriévidis, 2014, p. 10). This trend relies on the heritage of the invisible "history of the 'common people'" (Gouriévidis, 2014, p. 10; see also Johansson 2014; Grognet, 2007), their personal experiences and oral testimonies, where Bodo (2012 as cited in Cimoli, 2014, p. 92) highlighted the importance of intercultural methodologies, storytelling, theater techniques and in general mediation methodology that enables interaction, communication and sharing.

Museums are institutions that articulate and shape (collective) memory but also significant symbolic places for "the process of recognition" (Gouriévidis, 2014, p. 13) and including "migrant or minority memories in a master narrative" and "common national imaginary" (Gouriévidis, 2014, p. 14). By ensuring the visibility of distorted, forgotten or suppressed memory, certain social groups gain social valorization and recognition (Gouriévidis, 2014).

LESSONS FROM THE ITALIAN MUSEUMSCAPE

Italy is a country with a long history of emigration. However, Italy transformed from a country of emigration to a "major destination country for migrants" (IOM, 2012). During the 1980s, local museums in Italy began to deal with topics related to emigration, and despite increasingly intense immigration processes, topics related to immigration were "largely ignored by the museum community" (Cimoli, 2014, p. 83; Cimoli, 2017). In the new millennium, the number of foreigners in Italy has increased, and society has become "increasingly multicultural" (Cimoli, 2014, p. 85). "New 'diversity culture'" permeates all aspects of society, which has encouraged museums to become social agents in promoting interculturalism and social inclusion (Cimoli, 2014, p. 85). In the last two decades, the topic of emigration is an increasingly present topic in (large and small) Italian museums, but "the critical interpretation of immigration in museums was still in its infancy" (Cimoli, 2014, pp. 86-87; Cimoli, 2017).

With the support of the Ministry of Foreign Affairs and in cooperation with the Ministry of Heritage and Cultural Activities in 2009 in Rome, The Museo Nazionale dell'Emigrazione Italiana (National Museum of Italian Emigration) (MEI) was opened in Vittoriano Palace (Cimoli, 2014), but it was closed in 2016. The museum caused a lot of controversy, and critics called it "an experiment with some ridiculous aspects" (Calzolaio, 2023). The MEI was publicly funded, many scientists and associations of Italians from abroad worked on it, and it was the subject of political debates (Calzolaio, 2023). Cimoli (2014, p. 87) points out that the MEI was "designed in a traditional, chronological way, with the usual display cases", where video and audio materials were used. The

focus was on the themes of hunger and poverty, but also the great courage of people who sought a better life in richer countries (Cimoli, 2014). The last section was named "Italians in the World — the World in Italy, from 1977 to Today", where the emphasis was placed on "new forms of mobility" and the involvement of the Italian government in helping emigrants around the world (Cimoli, 2014, p. 87). Cimoli (2014, p. 88) points out the unquestionable quality of the content and scientific accuracy, but also mentions significant omissions: immigration topics were not given a significant place but were presented in a "neutral way" (2014, p. 87); representations of immigration were "far too simplistic" and "so peripheral"; controversial events and challenges related to immigration remained invisible (2014, p. 87); emigration and immigration were not connected with the universal theme of mobility; connections between past and present were unclear; texts in the museum and website were only in Italian (2014, p. 88). Calzolaio (2023) takes a critical look at the MEI project and its shortcomings: insistence on one-way stories, lack of inter-institutional communication, etc.

In 2021, work began on moving the MEI from Rome to Genoa in order to present "the narration of a vast and diversified heritage" to an inter/national audience in a participatory manner in 2022 through digital projections, interactive applications and primary sources organized around sixteen areas and displayed on three floors of Italian emigration and life stories of emigrants (Italiani, 2021; see MEI/Foundation, n.a.; Tsiotinou, 2023; Finestre sull'Arte, 2022). MEI was created through the continuous and networked work of various entities with the aim of presenting "the complex reality of national migration, considering that migration is a constant in the history of men and women, and also a distinctive feature of our country" (MEI/Our Partners, n.a.).

As a good example of creating a "genuine dialogue with the public", Cimoli (2014, p. 90) highlights the Memoria e Migrazioni (Memory and Migration) (MeM) in the pavilion in Galata-Museo del Mare e delle Migrazioni (Maritime and Migration Museum) (Genoa). Galata Museum was founded in 2004, and the MeM section was opened in November 2011. According to Cimola (2014, p. 90) MeM is "the first 'permanent' museum space in Italy to address the theme of immigration directly" with an emphasis on the present. In addition to telling the story of Italian emigration in a traditional way, the focus is on "real-life individual events", storytelling, personal identification and interactivity (Cimoli, 2014, p. 91). On the website of MeM it is pointed out that "the installation reconstructs the journey experienced by 29 million Italians between the end of the 19th and early 20th centuries", and visitors can "experience this history through reconstructions, testimonies and over forty multimedia installations, many of which are interactive" (Memory & Migration/MeM, n.a.). The photographs of Uliano Lucas introduce 1973 as a "turning point" because in that year more people immigrated to Italy than emigrated (Migration Museum, 2016; Cimoli, 2017, p. 297). According to Cimoli, MeM then begins to tell a complex story about multicultural society, its positive sides, contradictions and challenges that pervade everyday life (2014, p. 91). The exhibition

positions migrant issues by affirming a humanistic perspective — migrants are not numbers but real persons whose life stories and experiences matter (Cimoli, 2014, p. 91). Immigrants' stories are also told through their personal belongings, and the display of the refuge boat from Lampedusa symbolizes crossing the border, the "gateway to Europe" (Cimoli, 2014, p. 92) but also the suffering and mass death at the border (Horsti, 2019). Through the "reflection niches' question", visitors have the opportunity to determine what they have learned and how they have changed through this museum experience (Cimoli, 2014, p. 92; Cimoli, 2017, p. 299). Unlike MEI, which did not create and present connections between current and past migrant experiences, MeM successfully connected the experiences of Italian emigrants from the 19th century and today's immigrants from Africa through a poster with a black-and-white photo of Italian emigrants on a boat and a photo of a young migrant from Africa trying to find an opportunity for a better life in Europe (Cimoli, 2014, p. 92; see also Cimoli, 2017; Horsti, 2019).

CONCLUSION

According to Calzolaio (2023) "The term 'museum' is usually associated with the notions of preservation and the past, while migrations are dynamic phenomena projected towards the future. Museums of migration cannot limit themselves to keeping one-way stories, they must also listen to and encourage new narratives and multi-directional discussions, they must become 'dialogical museums', without stereotypes". As Italian cases show, in a globalized society, museums are opening up to new topics, new perspectives, new roles and new alliances. As meeting places of the past, present and future, museums should not be limited exclusively to narratives of departure and arrival, but also include narratives of return, thus opening a new space for presenting and communicating complex migrant realities and experiences.

References

- Amelina, A., & Horvath, K. (2017). Sociology of migration. In K. Odell Korgen (Ed.), *The Cambridge handbook of Sociology, volume 2: Specialty and interdisciplinary studies* (pp. 465-474). Cambridge University Press. <https://doi.org/10.1017/9781316418376.046>.
- Ashley, S. (2014). A museum of our own. In L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 153-163). Routledge.
- Baur, J. (2009). *Die Musealisierung der Migration. Einwanderungsmuseen und die Inszenierung der multikulturellen Nation*. Transcript Verlag. <https://doi.org/10.1515/9783839412640>.
- Calzolaio, V. (2023, March 22). Museo nazionale dell'emigrazione al Vittoriano di Roma: 2011-2016. *Il Bo Live*. Retrieved August 14, 2024 from <https://ilbolive.unipd.it/index.php/it/news/museo-nazionale-dellemigrazione-vittoriano-roma>.
- Castles, S., de Haas, H., & Miller, M. J. (2014). *The Age of Migration*. Palgrave.
- Cimoli, A. C. (2017). Identity, complexity, immigration: Staging the present in Italian migration museums. In C. Whitehead, K. Lloyd, S. Eckersley, & R. Mason (Eds.), *Museums, migration and identity in Europe. peoples, places and identities* (pp. 285-315). Routledge.

- Cimoli, A. C. (2014). Immigration: politics, rhetoric and participatory practices in Italian museums. In L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 83-102). Routledge.
- Finestre sull'Arte (2022, May 12). *MEI — National Museum of Italian Emigration inaugurated in Genoa*. Retrieved August 14, 2024 from <https://www.finestresullarte.info/en/museums/mei-national-museum-of-italian-emigration-inaugurated-in-genoa>.
- Gouriévidis, L. (2014). Representing migration in museums: History, diversity and the politics of memory. In L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 1-23). Routledge.
- Grognet, (2007). How to Reconcile the Irreconcilable: the place of ethnology in the Museum of the Cité nationale de l'histoire de l'immigration. *MUSEUM International*, 59(1-2), pp. 48-55.
- Grosfoguel, R., Le Bot, Y., & Poli, A. (2011). Museum and migration: An introduction. *Human Architecture: Journal of the Sociology of Self-Knowledge*, 9(4), 1-4.
- Horsti, K. (2019). Curating objects from the European border zone: The "Lampedusa Refugee Boat". In K. Horsti (Ed.), *The politics of public memories of forced migration and bordering in Europe* (pp. 53-70). Palgrave.
- IOM (2012, February 9). *Italian migration: Past, present and future*. Retrieved August 14, 2024 from <https://www.iom.int/news/italian-migration-past-present-and-future>.
- Italiani (2021, February 9). In Genoa, work begins on the National Museum of Italian Emigration (MEI). Retrieved August 14, 2024 from https://en.italiani.it/national-museum-of-italian-emigration-mei-in-genoa/#google_vignette.
- Johansson, C. (2014.) The museum in a multicultural setting: the case of Malmö Museums. In: L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 122-137). Routledge.
- Lanz, F. (2014). City museums in transcultural Europe. In L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 27-43). Routledge.
- Lynch, B. (2014). "Whose cake is it anyway?: museums, civil society and the changing reality of public engagement. In L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 67-80). Routledge.
- MEI (n.a.). *MEI foundation*. Retrieved August 14, 2024 from <https://www.museomei.it/en/mei-foundation>.
- MEI (n.a.). Our partners. Retrieved August 14, 2024 from <https://www.museomei.it/en/our-partners>.
- Memory & Migration (MeM) (n.a.). *Museum section MeM — Memory & migration*. Retrieved October 28, 2024 from <https://www.museidigenova.it/en/mem-memory-migration>.
- Message, K. (2014). Returning to racism: new challenges for museums citizenship. In L. Gouriévidis (Ed.), *Museums and migration: History, memory and politics* (pp. 44-66). Routledge.
- Meza Torres, A. (2014). *The museumization of migration in Paris and Berlin: An ethnography*. [Doctoral dissertation, Humboldt-Universität Berlin]. <https://edoc.hu-berlin.de/bitstream/handle/18452/17791/meza-torres.pdf?sequence=1&isAllowed=y>.
- Migration Museum (2016, March 28). *A whistle-stop tour of migration in museums and galleries across the world*. Retrieved August 14, 2024 from <https://www.migrationmuseum.org/tag/askavusa-collettivo-lampedusa>.
- NEMO (2016). *Museums, migration and cultural diversity. Recommendations for museum work*. NEMO.

- Tsiotinou, A. (2023). Museo Nazionale dell'Emigrazione Italiana (MEI). *Italian American Review*, 13(1), pp. 138-142.
- Whitehead, C., Mason, R., Eckersley, S., & Lloyd, K. (2017). Place, identity and migration and European museums. In C. Whitehead, K. Lloyd, S. Eckersley, & R. Mason (Eds.), *Museums, migration and identity in Europe. Peoples, places and identities* (pp. 7-59). Routledge.

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APPLICATION OF DATA MINING IN PREPARATIONS FOR A MARATHON

Abstract

Preparing for a marathon is a long-term process that does not only require persistence and hard work, but quality preparation with the possibility of the training process analysis. Using contemporary ICT tools and methods enable two-way communication among an athlete, their coach and the system for the training analysis. This paper describes how these methods evaluate the performed trainings and identify the inadequate trainings. Furthermore, the paper shows the possibility of application of data mining methods in the discrimination of particular microcycles in the preparation of marathon-runners. It also shows a graphical interpretation of input variables impact on marathon results and provides quality guidelines for training programming.

Keywords: data mining, evaluation, marathon, preparation, training

INTRODUCTION

Achieving satisfactory results in professional and amateur sports is no longer possible with traditional training methods and procedures. Sports systems are increasingly turning to software and hardware solutions to increase the likelihood of a good result (Havaš et al. 2013). Software analyses of sports activities are mainly aimed at predicting future performances, assessing progress and classifying athletes into the appropriate strength training group. Statistical analysis, heuristic algorithms and machine learning are most often used to achieve these goals (De Marchi, 2011). The first applications of the mentioned methods were in the most popular sports, such as football and basketball (Horvat et al., 2019; Horvat et al., 2020). Today, there is almost no field in which some form of software analysis is not used with the purpose of improving results and finding useful information (Horvat et al., 2015).

Using contemporary ICT tools and methods enables two-way communication among an athlete, their coach and the system for the training analysis. Application of the appropriate ICT solution enables monitoring athlete's trainings in real or near real time. Thereby, corrections of their training microcycles are possible in due time. Using

appropriate data mining tools and methods, it is possible to identify patterns that may lead to injuries, such as overtraining, inadequate recovery, or biomechanical imbalances. By monitoring training and health metrics, data mining can provide insights into risk factors, achieve better results or even help in adjusting training to prevent injuries. With the development of the appropriate data model and hardware-software platform, it is possible to store training data using mobile technologies.

ARTIFICIAL INTELLIGENCE IN SPORTS

Artificial intelligence is playing a significant role in modern sports, particularly in performance optimization, injury prevention and predictive analysis. Machine learning models can also recognize patterns in big data sets, enabling individualized preparation programs while improving results and reducing injury risk (Havaš et al., 2014; Musat et al., 2024).

In this paper, data mining techniques and neural networks were utilized to predict marathon runners' results. By processing large datasets from past races, the model identifies hidden patterns, correlations, and key performance indicators. This approach allows more accurate predictions of future race outcomes, helping coaches and athletes better understand factors influencing success and tailor training strategies accordingly (Cossich et al., 2023). The combination of data mining and AI provides a powerful tool for enhancing competitive performance in endurance sports like marathons.

CASE STUDY — NEURAL NETWORKS IN MARATHON OUTCOME PREDICTION

Artificial neural network (ANN) is a computational model inspired by the way the human brain works, designed to recognize patterns and learn from data. ANN is one of the data mining methods suitable for a large amount of data. It is a very complex method that finds hidden relationships between input and output data. One of the more frequently used types of neural networks, which were used during data analysis in the ORT system, are backpropagation neural networks. It consists of layers of "neurons" or nodes that process information (McCullagh, 2010). The first layer, known as the input layer, receives raw data. These data are then passed through one or more hidden layers, where each neuron processes the information and sends it forward (Rodrigues et al., 2020). Finally, the output layer provides the final result, such as a classification or prediction.

General mathematical definition of artificial neural network where g is activation function, (x) output axon, x is a neuron with n dendrites and $w_o \dots$ are weight factors:

$$y(x) = g\left(\sum_{i=0}^n w_i \cdot x_i\right)$$

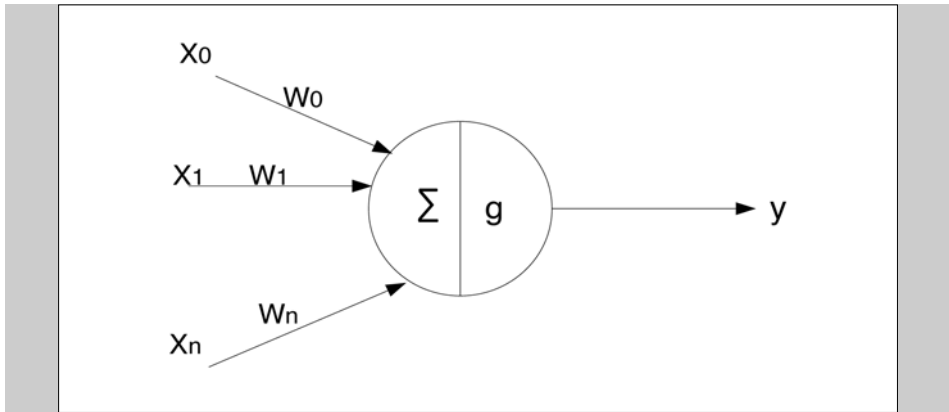


Figure 1 — Artificial neuron. Source: Author's illustration.

Sigmoidal activation function used:

$$g(x) = \frac{1}{1 + e^{-2s(x+t)}}$$

Where s is the slope parameter of the function and t is the sensitivity parameter of neuron activation. Figure 2 shows a sigmoid function with parameters: $s = 0.5$ and $t = 0$.

For deviations greater than $\pm 20\%$, the function $g(x)$, shown in Figure 2, takes on values greater than 0.88 or less than 0.12, which clearly distinguishes acceptable from unacceptable solutions.

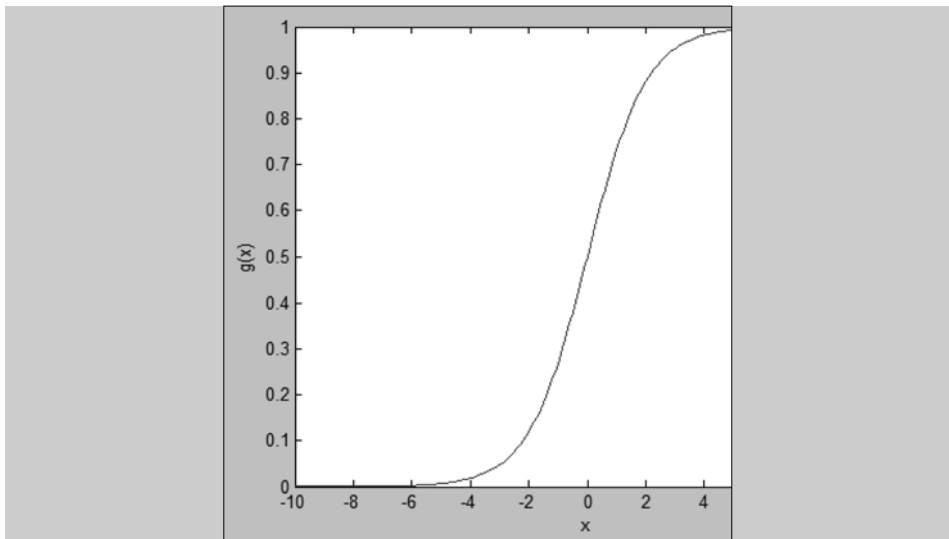


Figure 2 — Graph of a sigmoid function. Source: Author's illustration.

#	Gender	Year of birth	VO2max _p (ml/kg/min)	Target result (h/sec)	Achieved result (h/sec)	VO2max _z (ml/kg/min)
1	M	1966.	59,32	2:49:00 (10140)	2:55:21 (10521)	55,21
2	M	1987.	33,48	4:28:00 (16080)	4:31:22 (16282)	33,00
3	M	1970.	56,32	2:55:00 (10500)	3:02:12 (10932)	53,00
4	M	1994.	43,12	3:40:00 (13200)	3:38:19 (13099)	43,30
5	M	1983.	30,82	4:45:00 (17100)	4:52:11 (17531)	30,00
6	F	1982.	50,52	3:09:00 (11340)	3:07:20 (11240)	51,06
7	M	1978.	49,22	3:10:00 (11400)	3:08:40 (11320)	51,00
8	F	1983.	52,55	3:04:00 (11040)	3:02:39 (10959)	53,22
9	F	1982.	49,81	3:12:00 (11520)	3:12:42 (11562)	49,41
10	F	1975.	48,48	3:22:00 (12120)	3:27:14 (12434)	45,27
11	M	1977.	37,19	4:10:00 (15000)	4:03:22 (14602)	37,02
12	M	1984.	44,81	3:40:00 (13200)	3:34:56 (12896)	43,80
13	F	1969.	44,11	3:35:00 (12900)	3:32:11 (12731)	44,07
14	M	1994.	44,54	3:30:00 (12600)	3:36:21 (12981)	43,00
15	M	1978.	43,11	3:35:00 (12900)	3:37:12 (13032)	42,95

Table 1 — Results of participants

DATASET

System validation was performed on a representative sample of long-distance runners (marathoners). Only those respondents who actively participated in the entire preparation program and competed in their planned races were included in the verification process and analysis of results. A total of 58 participants, men and women aged 18 to 65, including beginners, average marathoners and top athletes, were included in the verification process and analysis of the results. They used the developed prototype of the expert system for the preparation of marathon runners (Online Running Training — ORT) system and performed in their planned races.

RESULTS

Table 1 shows the number of participants (15/58) in the verification process, along with their year of birth, target result in the future marathon (for which they are preparing), and the time they achieved in their marathon (for the sake of easier statistical processing of the results, converted into seconds).

In examining the relationship between the achieved and planned results, the Pearson correlation coefficient was calculated. Based on the value of the correlation coefficient and the p-value obtained when testing the hypothesis of statistical significance of the analysed variables ($r=0.9926$ and $p=0.0000$), it can be concluded that there is a statistically significant positive correlation between the observed variables.

Figure 3 shows graphic representation between achieved and target result.

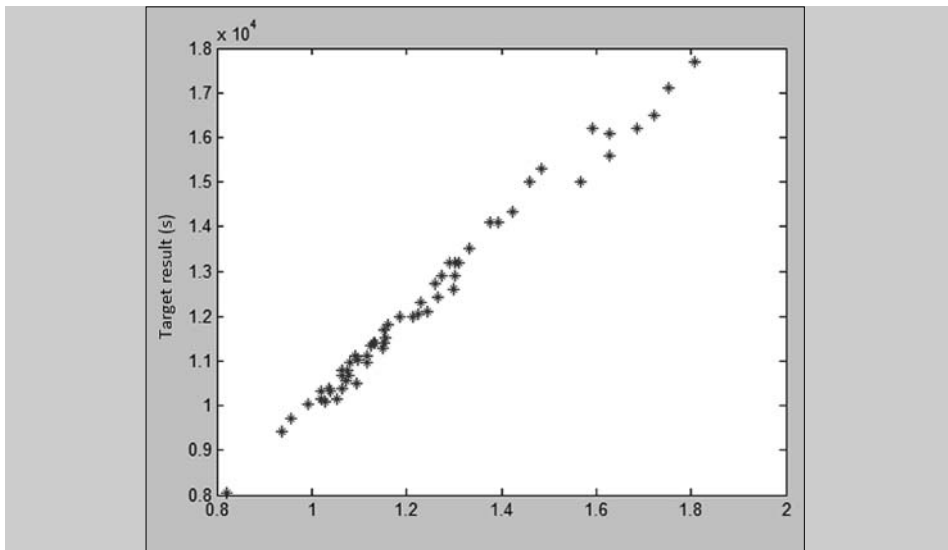


Figure 3 — Graphic representation of the achieved and target result. Source: Author's illustration.

CONCLUSION

The system, developed for long-distance runners, was validated on a representative sample of athletes, evaluating the effectiveness of integrated methods and algorithms to identify potential areas for correction or improvement. The study analysed different age and gender groups of runners. Participants actively engaged in the preparation program and utilized the full functionality of the ORT system. The verification process spanned over two years, allowing for continuous adjustments and improvements to training parameters. The results highlighted the system's ability to adapt to individual needs and improve athletic performance through data-driven adjustments. This comprehensive analysis demonstrated the effectiveness of artificial neural networks in predicting marathon outcomes based on personalized training data. The autonomy of the system in the evaluation of the set and achieved results would not be possible without algorithms and methods for the qualitative and quantitative assessment of each individual training session. The developed system is designed for simultaneous interactive use by a large group of users, but in such a way as to maintain flexibility and individuality for each individual athlete, who decides for himself the volume of his training, the beginning of his preparations, and the weight aspect of his preparations.

The verification process showed that using available ICT technologies and implemented algorithms and methods, significantly reduces the possibility of achieving an inadequate result or the occurrence of a sports injury, while increasing the probability of achieving the expected result under appropriate conditions.

References

- De Marchi, L. (2011). *Data mining of sports performance data*. [Doctoral dissertation, University of Leeds, School of Computing Studies]. Erasmus computing 2010/2011.
- Havaš, L., Skočir, Z., & Medved, V. (2013) Modelling of the athlete's training decision support. *Tehnički vjesnik — Technical gazette*, 20(2), 315-322, <https://hrcak.srce.hr/100253>.
- Havaš, L., Medved, V., & Skočir, Z. (2014, October 24-26). Machine learning for individualized training support in marathon running. [Conference presentation]. *2nd International Congress on Sport Sciences Research and Technology Support*. Rome, Italy. <https://www.bib.irb.hr/746945>.
- Horvat, T., Havaš, L., & Medved, V. (2015, November 15-17). Web application for support in basketball game analysis. [Conference presentation]. *International Congress on Sport Sciences Research and Technology Support*. Lisbon, Portugal, 225-231. Lda, SCITEPRESS. <https://www.bib.irb.hr:8443/788920>.
- Horvat, T., Havaš, L., Srpak, D., & Medved, V. (2019, September 20-21). Data-driven basketball web application for support in making decisions. [Conference presentation]. *7th International Conference on Sport Sciences Research and Technology Support*, Vienna, Austria, 239-244. <https://doi.org/10.5220/0008388102390244>. <https://www.bib.irb.hr:8443/1027452>.
- Horvat, T., Havaš, L., & Srpak, D. (2020). The impact of selecting a validation method in machine learning on predicting basketball game outcomes. *Symmetry*, 12(3), 431. <https://doi.org/10.3390/sym12030431>.
- Musat, C. L., Mereuta, C., Nechita, A., Tutunaru, D., Voipan, A. E., Voipan, D., Mereuta, E., Gurau, T. V., Gurău, G., & Nechita, L. C. (2024). Diagnostic applications of AI in sports: A comprehensive review of injury risk prediction methods. *Diagnostics*, 14(22), 2516. <https://doi.org/10.3390/diagnostics14222516>.
- Cossich, V. R. A., Carlgren, D., Holash, R. J., & Katz, L. (2023). Technological breakthroughs in sport: Current practice and future potential of artificial intelligence, virtual reality, augmented reality, and modern data visualization in performance analysis. *Applied Sciences*, 13(23), 12965. <https://doi.org/10.3390/app132312965>.
- McCullagh, J. (2010). Data mining in sport: A neural network approach. *International Journal of Sports Science and Engineering*, 4(3), 131-138. Corpus ID: 9453572.
- Rodrigues, A. C. N., Pereira, A. S., Mendes, R. M. S., Araújo, A. G., Couceiro, M. S., & Figueiredo, A. J. (2020). Using artificial intelligence for pattern recognition in a sports context. *Sensors*, 20(11), 3040. <https://doi.org/10.3390/s20113040>.

A CASE STUDY OF THE PORTRAYAL OF MIGRANTS IN THE CROATIAN ELECTRONIC MEDIA

Abstract

Croatia is one of the European countries on the so-called Balkan route used by migrants from Asian and African countries to reach their desired Western European destinations. Consequently, during the tremendous migrant crisis in 2015, Croatia became the so-called hot spot, i.e., a transitional migrant hub. Since Croatia became a member of the European Union in 2013, entered Schengen and introduced the euro as a currency, it has become attractive to migrants not only as a transitional destination but also as a final destination, which is evident from the increase in the number of foreign workers in Croatia in the last few years. Although, according to the data of the State Bureau of Statistics (2023), the most significant number of immigrants to Croatia in 2022 were from Ukraine (19.3%) and Bosnia and Herzegovina (14.6%), the number of immigrants from Asian and African countries is continuously increasing, and migrants are becoming visible in daily interaction with the resident population, especially in larger cities such as Zagreb, Split and Rijeka. Greater visibility of migrants from Asian and African countries has led to xenophobic incidents that manifest as street violence against migrants or hate speech on social media. Mass media communication is critical in integrating migrants into society, so this paper, by triangulating qualitative and quantitative methodological approaches, investigates how the three most-read Croatian news portals (index.hr, 24sata online, Dnevnik.hr) portray migrants. In the paper, based on the results of the conducted research, recommendations are given for the integrative presentation of migrants in the media.

Key words: *migrants, Croatia, online portals, xenophobia, media responsibility*

INTRODUCTION

Migration has become a key global issue, driven by factors such as conflicts, economic instability, and environmental changes. Europe, especially due to its geographical position, has seen an influx of migrants from Asia and Africa. Croatia, situated along the Balkan route, plays an important role in this phenomenon. Historically a transit point for migrants heading to Western Europe, Croatia has become both a transitional and final destination, especially since joining the EU in 2013, entering the Schengen Area, and adopting the euro.

The 2015 migrant crisis was a turning point for Croatia, spotlighting its geopolitical role as a buffer zone within the EU. Recent years have seen an increase in both legal and irregular migration, with more foreign workers and asylum seekers from coun-

tries like Syria, Afghanistan, and African nations. Major cities like Zagreb, Split, and Rijeka now experience a visible presence of migrants, bringing both social diversity and rising social tensions.

This study examines how Croatian electronic media, specifically major news portals, depict (im)migrants. Using both qualitative and quantitative methods, the research seeks to understand dominant narratives and propose more responsible media coverage.

This research was conducted as part of the project "Dynamics and Challenges of Migration, Re-migration, and Immigration in the Republic of Croatia" (DinamiRH) (original: "Dinamika i izazovi migracije, re-migracije i imigracije u Republici Hrvatskoj"), funded by the European Union — NextGeneration EU (01/08-73/23-2519-18).

THEORETICAL FRAMEWORK

The portrayal of migrants in mass media has long been a focus of academic study, as media coverage significantly shapes societal attitudes and influences policy decisions on immigration. Since 2015, interest in analysing media representations of migrants in the EU has intensified due to the migration wave caused by the Syrian war and other crises (Fuller, 2024). Researchers have found that European media often portray migrants negatively and in a biased manner (Eberl et al., 2018; Benesch et al., 2019; Fuller, 2024). Eberl et al. (2018) point out that when migrants are represented in the media, they are often featured in negative contexts and columns, such as crime stories, rather than more balanced depictions. This negative portrayal extends beyond Europe. For example, Turkish media also framed Syrian refugees negatively (Pandir, 2020). This pattern, however, did not start with the 2015 crisis, as scholars had already identified negative media portrayals of migrants even before (Boomgaarden & Vliegenthart, 2009; Christoph, 2012).

Media framing theory suggests that the way issues are presented in the media shapes public understanding. Frames highlight specific aspects of an issue, which influence how people interpret it (Entman, 1993). In migration coverage, media can frame migrants as victims, threats, or contributors to the economy. Entman (1993) argues that framing involves promoting a specific problem definition, moral evaluation, or solution, and this can shape policy debates. For instance, media may frame migration as a crisis ("invasion") or a humanitarian issue ("refugee protection"). Negative framing tends to portray migrants as threats to security, cultural identity, or economic stability, often amplifying issues like crime or illegal activity. These framing influences public attitudes toward migrants and suggests solutions like border enforcement over humanitarian aid. Positive framing, on the other hand, can highlight the vulnerability of migrants, fostering empathy and promoting integration (Benesch et al., 2019; Van Gorp, 2005). In Europe, media coverage often emphasizes crime, cultural incompatibility, or economic

burdens linked to migrants, creating negative stereotypes and a climate of fear (Benesch et al., 2019). Conversely, positive framing can support integration policies. Understanding how Croatian media frames migration is vital to understanding public discourse on the issue.

Social identity theory, developed by Tajfel and Turner (1979), helps explain the "othering" of migrants in media. The theory suggests that people derive their identity from belonging to social groups, such as nationality or ethnicity. Migrants are often framed as the "other," distinct and potentially threatening to the dominant cultural identity. In Croatia, this theory can explain how media portrayals affect public perceptions. If migrants are framed as cultural or security threats, they are viewed as an out-group, fostering xenophobia and impeding integration (Boomgaarden & Vliegenthart, 2009). Xenophobia, defined as fear or hatred of foreigners, plays a key role in shaping media discourse on migration. When media focus disproportionately on negative aspects of migration, such as crime or unemployment, it can stoke public fears and reinforce stereotypes. However, media can also counter xenophobia by offering balanced, nuanced portrayals of migrants. In Croatia, rising xenophobic incidents, including violence and hate speech, particularly after Croatia joined the Schengen Area and adopted the euro in 2023, raise concerns about the media's role in either exacerbating or mitigating such sentiments. Media can either hinder or facilitate migrant integration. Responsible media coverage can promote intercultural dialogue, break down stereotypes, and foster an inclusive society where migrants are seen as part of the community (Strömbäck, 2008).

Research on Croatian media reveals predominantly negative reporting on migrants. Popović, Kardov, and Župarić-Ilić (2022a) analysed over 3,000 media articles published between 2018 and 2019 and found that Croatian media mostly present migrants in a negative light, often relying on sensationalism and dramatization. This coverage tends to support dominant official policies and lacks diversity in reporting. The author recommends that migrants be portrayed as individuals rather than statistics and emphasizes the need for more nuanced and objective reporting (Popović et al., 2022b). The study also highlights how Croatian media coverage of migrants is sporadic and often tied to political agendas or annual cycles (e.g., World Refugee Day). Media content frequently recycles articles from other outlets, reducing diversity in reporting. The report covers the period before Croatia entered the Schengen Area and adopted the euro in 2023. These developments have made Croatia more attractive as a final destination for immigrants, not just a transit country. Understanding the shift in media portrayals post-2023 is crucial, as Croatia has now become a destination for immigrants who are more integrated into everyday social life. Croatia's new role as a destination for immigrants since 2023 presents an opportunity for media to shift toward more balanced and integrative coverage. This study examines the media portrayal of migrants in Cro-

atia after 2023, with the goal of identifying gaps in media responsibility and suggesting ways in which media can contribute to a more inclusive public discourse on migration.

RESEARCH RESULTS

The research examined the three most-read Croatian news portals: *index.hr* (51%), *24sata.hr* (46%), and *dnevnik.hr* (34%) (Peruško, 2023). Using the keyword "migrant" as the search term, given its broad use in Croatian media, the study analysed articles on these portals since 2023. The analysis included both quantitative and qualitative elements, assessing the number of articles, dominant themes, and the orientation of the articles (positive, neutral, or negative). Special attention was paid to how often migrants were portrayed as individuals rather than anonymous objects in statistical reports.

On September 9, 2024, a search for the term "migrant" on *index.hr* yielded 9,059 articles. The portal categorized many articles under black chronicle sections or focused on migrant-related events abroad. On that day, six articles about migrants were published: three discussed the situation in Germany and Bosnia, while three covered a traffic accident involving migrants in Croatia. The previous day, three articles discussed international political contexts related to migration, such as Trump's plans for illegal immigrants and migration issues in Germany. On average, *index.hr* publishes between one and six articles on migration daily, reflecting continued public interest in the topic, especially illegal migration incidents. Despite this *index.hr* interest, statistics show a significant decrease in illegal crossings at the EU's external borders, particularly in the Western Balkans, with a reported 72% decrease by mid-2024.¹ Most articles focus either on international migration and the tensions it causes, especially in the EU and the U.S., or on Croatian police actions concerning illegal migration, typically in the black chronicle section. The tone of these articles is primarily neutral, presenting information without detailed individual narratives. Migrants are often portrayed as statistics, linked to crime and economic burdens, with headlines highlighting traffic accidents, illegal transport, police clashes, and protests related to migration policies. A notable example is the article "Chase near Sinj, 4 Dead, 2 Children Fighting for Their Lives. Police Released Details," published on May 16, 2024. It reports on a police chase involving a car carrying nine migrants that crashed, killing four. This article received over 130 comments, many expressing negative and xenophobic sentiments, including calls for military border enforcement. Such reader responses reflect growing public hostility towards migrants, even though these individuals are rarely presented as people with personal stories or experiences. While *index.hr* did publish a report about Syrian refugee children in early July 2024, this content was sourced from Deutsche Welle, showing a reliance on external media for human-interest stories about migrants. Overall, the portra-

¹ <https://www.index.hr/vijesti/clanak/jako-pao-broj-ilegalnih-prijelaza-vanjskih-granica-eu-u-polovici-godine/2582015.aspx>.

yal of migrants on index.hr remains focused on their presence as part of criminal statistics, without substantial change after Croatia's adoption of the euro and entry into the Schengen Area.

The portal 24sata.hr presents a similar picture, with search results for "migrant" showing 1,000 articles as of September 9, 2024. Although 24sata.hr does not publish articles on migrants daily, the themes covered are nearly identical to those on index.hr, primarily focusing on crime and international issues. The most recent article, from September 8, 2024, titled "The Horror at Lampedusa: Seven Rescued, 21 Missing at Sea in the Shipwreck with Migrants," again highlights the black chronicle nature of much of the reporting. However, unlike index.hr, 24sata.hr includes opinion pieces and interviews that offer more diverse perspectives on migration. Columnist Tomislav Klauški, for example, sharply criticized President Milanović's rhetoric on migrants in an August 2024 piece,² and another commentary by Emir Imamović Pirke discussed the violent xenophobic attacks against foreign workers.³ These articles reflect a more critical stance on Croatia's handling of migration, with an emphasis on the harsh realities faced by migrants. Additionally, 24sata.hr features interviews with intellectuals like British-Pakistani writer Tariq Ali, who critically examined European policies towards migrants.⁴ Despite these more nuanced commentaries, interviews with migrants themselves are rare. Migrants remain largely represented through proxies, such as spokespersons or commentators, rather than being given a direct voice. As a result, the portal does not significantly depart from the general trend of portraying migrants as objects rather than active participants in Croatian society.

Dnevnik.hr, the online arm of Croatia's most-watched television station NovaTV, showed 103 articles related to migrants in 2024 as of September 9. This is a considerably smaller number compared to index.hr and 24sata.hr. Dnevnik.hr publishes fewer articles on migration, often with gaps of several days between publications. The portal's focus mirrors that of the other two, with most articles revolving around illegal migration and traffic accidents involving migrants. For example, a September 9, 2024 article covered a fatal traffic accident involving migrants, while other recent articles discuss police actions or international political developments related to migration. Dnevnik.hr also reported the results of a survey on May 23, 2024, where NovaTV viewers rated Croatia's handling of the "migrant wave" with an average score of 2.8 out of 5, indicating dissatisfaction with the government's policies on illegal migration. The ove-

² <https://www.24sata.hr/news/poslovi-za-tamnije-od-nas-zoran-milanovic-sad-je-odlucio-malo-zagaziti-u-kaljuzu-rasizma-999455>.

³ <https://www.24sata.hr/kolumne/balavci-izbrijanih-glava-udaraju-na-strane-radnike-a-ono-sto-se-za-rad-ovdje-dobiva-je-mizerno-1002916>.

⁴ <https://www.24sata.hr/news/express-vikend-eu-je-postala-pijun-bez-ikakve-samostalnosti-a-migranti-se-sad-pretvorili-u-dezurne-krivce-947760>.

rall tone of Dnevnik.hr's articles is neutral, primarily offering news without editorial commentary or in-depth analyses. Like the other portals, migrants on Dnevnik.hr are largely anonymous, mentioned as part of police or immigration statistics, with little effort to humanize or personalize their stories.

In summary, Croatian media across all three major portals, index.hr, 24sata.hr, and dnevnik.hr, largely frame migrants as part of criminal or economic issues, with a focus on illegal border crossings and the associated political and social tensions. While there are occasional opinion pieces or interviews that take a more empathetic stance, migrants themselves rarely appear as individuals with their own stories. Instead, they remain objects of discussion, caught in a media narrative that frequently leans towards sensationalism and negativity. Even in the wake of Croatia's entry into the Schengen Area and the adoption of the euro, this portrayal has not fundamentally changed. The media's focus on crime, economic burdens, and restrictive migration policies continues to shape public perception, often reinforcing xenophobic sentiments among readers.

DEBATE

The content analysis of articles about migrants on the three most-read Croatian portals aligns with the findings of Popović et al. (2022a), who studied migrant-related articles published in 2018 and 2019, before Croatia joined the Eurozone and Schengen. The main difference is an increased number of articles on migration, likely reflecting the rise in immigration since early 2023 and the resulting public interest. Migrants are mostly framed as lawbreakers (illegal crossings, crimes against the local population, disregard for societal rules). They are objectified, often reduced to police statistics. On 24sata.hr, while positive sentiments appear in interviews and commentary, these are voiced by 'spokespeople' rather than migrants themselves, reinforcing objectification. Although the tone is generally neutral and fact-based, the frequent placement of articles in crime sections suggests an ideological bias. Overall, migrants are portrayed in a biased, depersonalized manner, contributing to their 'othering' and the social divide between them and the native population, strengthening negative public perceptions.

CONCLUSION

This study contributes to the growing body of literature on media and migration by examining the portrayal of migrants in Croatian online portals. Through the lens of media framing and social identity theory, the research uncovers the dominant narratives surrounding migrants and their potential impact on public opinion and migrant integration. The research has shown that the analysed portals present im/migrants through a biased and depersonalized frame, so the most widely read Croatian media, should start publishing articles in which im/migrants are depicted as real people who live among us and share the everyday challenges faced by local citizens. In order to inte-

grate im/migrants, it is essential to build bridges of understanding between the migrants and the local population, and this can be achieved through a media frame that portrays migrants as real people, as one of us. Given the critical role of the media in shaping societal attitudes, the findings of this study have implications for media professionals, policymakers and civil society actors who are working toward the successful integration of migrants into Croatian society.

References

- Benesch, C., Loretz, S., Stadelmann, D., & Thomas, T. (2019). Media coverage and immigration worries: Econometric evidence. *Journal of Economic Behavior & Organization*, 160, 52-67. <https://doi.org/10.1016/j.jebo.2019.02.011>.
- Boomgaarden, Hajo G. & Vliegenthart, Rens (2009). How news content influences anti-immigration attitudes: Germany, 1993–2005. *European Journal of Political Research*, 48, 516-542. <https://doi.org/10.1111/j.1475-6765.2009.01831.x>.
- Christoph, Vanessa (2012). The Role of the Mass Media in the Integration of Migrants. *Mind, Brain, and Education*, 6(2), 97-107. <https://doi.org/10.1111/j.1751-228X.2012.01142.x>.
- Eberl, J.-M., Meltzer, C. E., Heidenreich, T., Herrero, B., Theorin, N., Lind, F., Berganza, R., Boomgaarden, H. G., Schemer, C., & Strömbäck, J. (2018). The European media discourse on immigration and its effects: A literature review. *Annals of the International Communication Association*, 42(3), 207-223. <https://doi.org/10.1080/23808985.2018.1497452>.
- Entman, Robert M. (1993). Framing: Toward Clarification of a Fractured Paradigm. *Journal of Communication*, 43(4), 51-58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>.
- Fuller, Janet M. (2024). Media discourses of migration: A focus on Europe. *Language and Linguistics Compass*, 18(4), 1-13. <https://doi.org/10.1111/lnc3.12526>.
- Pandir, Müzeyyen (2020). Media Portrayals of Refugees and their Effects on Social Conflict and Social Cohesion. *Perceptions*, XXV(1), 99-120.
- Peruško, Zrinjka (14.06.2023). Digital News Report Croatia. reutersinstitute.politics.ox.ac.uk. <https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2023/croatia>.
- Popović, Helena, Kardov, Kruno & Župarić-Iljić, Drago (2022a). *Media representations of migration: Discursive constructions of migrants, refugees and asylum seekers in Croatian media*. Office for Human Rights and Rights of National Minorities of the Government of the Republic of Croatia.
- Popović, Helena, Kardov, Kruno & Župarić-Iljić, Drago (2022b). *Preporuke za medijsko Izvještavanje o migrantima i izbjeglicama*. Office for Human Rights and Rights of National Minorities of the Government of the Republic of Croatia.
- State Bureau of Statistics (2023). *Migracija stanovništva Republike Hrvatske u 2022*. <https://podaci.dzs.hr/2023/hr/58061>.
- Strömbäck, J. (2008). Four phases of mediatization: An analysis of the mediatization of politics. *The International Journal of Press/Politics*, 13(3), 228-246.
- Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Brooks/Cole.
- Van Gorp, Baldwin (2005). Where is the Frame? Victims and Intruders in the Belgian Press Coverage of the Asylum Issue. *European Journal of Communication*, 20(4), 484-507. <https://doi.org/10.1177/0267323105058253>.

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JARGON TERMINOLOGY: THE DICTIONARY OF FILM JARGON PROJECT

Abstract

During the academic year 2023/2024 at the BA studies Film, Television, and Multimedia and Transmedia Dramaturgy at Vern' University, a student project titled "The Dictionary of Film Jargon" was launched. The project is designed by Lana Hudeček and Ozana Ramljak, who developed the concept of the dictionary in accordance with which the collection and processing of the material took place, and it gathered interested students from the second and third year. The launch of the project and the work on compiling the dictionary were preceded by research into the relationship between standard language and professional jargon, as well as material in manuals that notes film terminology. During the implementation of the project, an analysis of the collected material was conducted, and the basic characteristics of film jargon were observed: interdisciplinary, a large intake of foreign words and loanwords, and emphasized metaphoricity. A model was also developed and applied in the creation of this Dictionary, based on clear theoretical principles and principles of selection and processing of material, which is presented in this paper as one of the possible models of a dictionary of professional jargon.

Keywords: *film jargon, dictionary, linguistic, croatian language, student project*

INTRODUCTION

The *Dictionary of Film Jargon Project*¹ was initiated by the authors of this paper during the 2023/2024 academic year within the BA studies of Film, Television, and Multimedia Design and Transmedia Dramaturgy at Vern' University². The primary motivations for launching the project were:

¹ This paper was developed in collaboration with the project *Croatian Online Dictionary (Mrežnik)* — Phase 2, funded by the European Union — NextGenerationEU. The views and opinions expressed are solely those of the authors and don't necessarily reflect the official position of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.

² Project collaborators, in addition to the authors of this paper, who are also the editors of the *Dictionary of Film Jargon*, include students Katarina Ćupić, Iva Grdić, and Mia Vidović.

- The successful completion of the *Dictionary of Journalism Jargon* project (Huđeček, Lana, et al., 2023), conducted at Vern' University's Journalism program, which garnered significant interest among professional, media, and general public.
- The lack of recent literature on film terminology, especially jargon.
- The desire to raise awareness of the necessity of understanding professional language and its functional stratification.

This paper summarizes the results of research conducted prior to the project's initiation, as well as the findings from analyzing the collected material. The relationship between jargon and standard language (jargon and standard terminology), is discussed, the main features of film jargon is highlighted, and the principles for collecting and processing material for the *Dictionary of Film Jargon* are outlined and explained, as well as the structure of dictionary entries. Finally, this paper presents one possible model that could also be applied to compiling dictionaries of jargon in other fields.

PROFESSIONAL AND JARGON TERMINOLOGY

Professional jargon refers to the language used by members of a specific profession in their mutual, everyday, informal communication. It doesn't belong to the standard language. For example, in casual conversations on a film set, jargon terms like *gorplan* (close-up), *shot*, and *švenk* (pan shot) are used. However, when a film professional involved in such a conversation decides to write a textbook, they would use standard terminology such as *krupni plan* (close-up), *kadar* (frame), and *panorama* (pan shot).

The most notable works addressing Croatian jargon are dictionaries by Tomislav Sabljak (1981, 2013), that rarely include professional jargonisms. This is due to the occasional conflation of slang and jargon in linguistic literature, as well as the practical impossibility of compiling jargon terms from all professional fields in a single manual.

žargonski naziv	standardnojezični naziv
ameriken	American shot
drebu	shooting script
far	dolly shot
gorplan	close-up
rakurs	camera angle
retake	reshoot
shot	frame
smontirati/zmontirati	edit
švenk	pan shot
titl	subtitle

Table 1 — Examples of Film Jargon Terms and Their Standard Equivalents

In Croatian linguistics, works focusing on professional jargon and its relationship to professional terminology are rare (e.g., Halonja & Mihaljević, 2012; Hudeček & Mihaljević, 2012; Hudeček, 2023).

FILM JARGON

There are not many sources available for learning about film jargon. Foremost among them is the dictionary *Govor oko kamere* (Midžić, 2006), as well as works by Ante Peterlić, particularly *Fundamentals of Film Theory* (Peterlić, 2018), *Dictionary of Film Art* (Beran, 1971), and *A Small Glossary of Film Terms* (Mikić, 2001).

In the *Film Lexicon* published by LZMK (edited by Kragić & Gilić, 2003), terms that don't belong to standard language or professional film terminology are rarely listed. When they are included, they are usually cross-referenced to their standard language equivalents, e.g., *art film* → *umjetnički film* (artistic film). In some entries, slang synonyms are provided in parentheses; for example, under the entry *panorama*, the slang term *švenk* (pan shot)³ is also mentioned.

Similarly, in volumes I and II of the *Film Encyclopedia* by LZMK (edited by Ante Peterlić, 1986–1990), as well as in the *Film Lexicon*, slang terms are rarely given their own entries but may appear within dictionary articles. For instance, in the *Film Encyclopedia*, the term *švenk* appears under the entry on camera movements in the section titled *Dynamic Camera*, alongside the term *panorama*.

Some film jargon terms are also included in the *Croatian Radiotelevision Lexicon* (also in Novak, ed., 2006), but the differentiation between slang and standard terms is neither sufficient nor systematic. For instance, the term *titl* (a slang term with the standard equivalent *podslav* for subtitle) or *limiter zvuka* (sound limiter) is presented without any indication that these are slang terms. Likewise, the term *švenk* is not labeled as slang but is cross-referenced to the standard term *panorama*.

In 2010, a topic titled *Film Dictionary* was launched on the Forum.hr website with the description "educational topic".⁴ It lists many film terms, including slang ones, such as *slash horror / slasher* (a horror film with a lot of gore), *heist film* (a heist film), *screeener* (a film copy for press screenings), *gaffer* (lighting technician), *best boy* (assistant lighting technician), and others. This forum thread also links to a five-part *Guide to Film Genres and Subgenres* published on Tportal (<https://www.tportal.hr/>), which al-

³ The "Film Encyclopedic Dictionary" has been announced on the LZMK website as a dictionary currently in preparation. A brief description of the project on the page https://www.lzmk.hr/index.php?option=com_content&view=article&id=43&catid=15&lang=en-GB states: "The project aims to systematize Croatian film terminology, which has not yet been systematically addressed or standardized. The single-volume 'Film Encyclopedic Dictionary' will include terms from various film-related fields — cinematography, film criticism and technology, film theory and history, and film criticism."

⁴ Available at: <https://www.forum.hr/showthread.php?t=604817>

so contains many slang terms, such as *akcić* (action film), *box office* (box office success or market value), and *buddy-buddy* (a film genre/subgenre, usually a police story about two partners solving a problem together). Many of the terms listed on this page are systematized for the first time and have not been standardized.

A smaller number of film jargon terms can be found on the Žargonaut website, a dictionary of urban and professional slang, by searching under the tag *film*. Examples include *spojlanje* (spoiling the experience of a book/film), *vanlajner* (a character's one-liner), *indi* (independent production), *rivajnadti* (to rewind a film), and *kastati* (to cast someone in a film).

These sources were carefully reviewed, and part of the material for the dictionary of film jargon was drawn from them. Additional material was sourced from other professional books and articles, which often include brief glossaries (e.g., Forenbacher, 1987; Kavčić and Vrdlovec, 1999; Novak, Božidar, ed., 2006; Puhovski, 2008; Rodica Vi-rag, 1998; Šagovac, 2014; Turković, 2016). Other glossaries available on online plat-forms were also consulted⁵. Many film terms, including slang ones, that appear in ge-neral dictionaries of the Croatian language are also mentioned by Jušić and Turković (2009).

Basic Features of Jargon in Film Terminology

One of the fundamental characteristics of any specialized jargon is its terminology. Spe-cialized jargon quickly adapts to the constant need to denote new concepts, often bor-rowing foreign terms — today, predominantly English ones — to ensure unambiguo-us communication within narrower or broader professional circles.

The main features of jargon in film terminology are:

- Emphasized interdisciplinarity
- Significant borrowing from foreign languages
- Use of metaphors and vivid expressions.

The first two features also apply to professional film terminology and to contem-porary terminology across many fields.

Interdisciplinarity

The field of filmmaking is inherently interdisciplinary. As a result, the *Dictionary of Film Jargon* contains a significant number of terms from other domains, particularly techni-cal fields. This is due to the inseparability of the film production process from modern technologies and the fact that, with the development of digital environments, all parti-cipants in this process are expected to possess an increasingly broad spectrum of com-petencies.

⁵ Such as <https://www.scribd.com/doc/204091176/filmski-pojmovnik-docx>, available at: <https://kostimografija.hr/najcesce-strane-rijeci-i-kratice-na-setu>, and Media Literacy at medijska-pismenost.hr.

Even within the narrowest definition of the filmmaking field, there are many terms associated with professions and activities essential to the realization of a film (lighting, costume design, set design, image and sound recording, directing, acting, etc.).

Thus, the *Dictionary* also includes jargon terms primarily associated with, for instance, computing and new technologies (e.g., *downloadati*, *uploadati*, *jutjubirati*), marketing (*target*, *targetirati*), social media (*selfie*, *tvitati*), finance and accounting (*above the line*), and media in general (*presica*, *press release*, *telka*, *telkić*), but which are used in film jargon.

This strong interdisciplinarity is a core feature of contemporary terminology — both professional and jargon-based — across most fields and disciplines.

Foreign Words and Loanwords

In modern jargon across almost all fields, Anglicisms are prevalent and appear at varying levels of adaptation to the Croatian language. Film jargon is no exception. This is due to the numerous changes that filmmaking has undergone in recent years and its expansion into new media, where terminology is typically developed in English.

Anglicisms used in the specialized jargon of certain professions may remain orthographically unadapted, retaining their English spelling and pronunciation (e.g., *authoring*, *backstory*, *best boy*, *blockbuster*, *docusoap*, *pitch*, *storyboard*, *timeline*), or they may be adapted to Croatian orthography (e.g., *bejbi*, *bauns*, *blondi*, *cajtlupe*, *džek*, *tajming*, *tejk*), or written in both ways (*casting* and *kasting*, *clone* and *klon*, *cut* and *kat*). In both cases, they are grammatically adapted to Croatian, adopting its morphological features (e.g., declension: *N pitch*, *G pitcha*, *D pitchu*). Derivatives are also formed according to Croatian word-formation rules (e.g., *ajncldanjanje*, *belihtanje*, *blurati*, *gafer*, *pitchati*/*pičati*).

Film jargon (especially older terms) also includes borrowings from German (e.g., *ajncld*, *apšminkati*, *belihtanje*, *blajhanje*, *blenda*, *blic*, *cener*, *drebu*, *dunkl komora*, *dunklzak*, *fah*, *fajnsnit*, *fasung*, *ferlauf*, *foršpan*, *foršpil*, *hoh format*, *kla*, *nahsinkronizacija*, *šnit*, *šalter*, *šarfer*, *šihta*, *šlagvort*, *šlajfa*, *šlinga*), French (e.g., *auteur*, *femme fatale*, *filaž*, *žurnal*), Italian (e.g., *chiaroscuro*, *intermeco*), and classical languages (e.g., *indikacija*, *kubus*).

Some older German-origin terms (e.g., *klaper*, *foršpan*, *mišpult*, *nahsinkronizacija*, *umkher*) have recently been replaced or coexist with terms borrowed from English (e.g., *clapman*, *trailer*, *mikspult*, *ADR* [automatic digital replacement], *reversal*).

Two-word jargon terms often follow English rather than Croatian syntax rules, even when part of the term is in Croatian (e.g., *dijalog-lista*). Sometimes only part of a compound term is translated into Croatian (e.g., *brzi gang*, *butterfly rasvjeta*, *fini šnit* alongside *fajnsnit*, *originalni blank*).

English terms in Croatian film jargon are often misspelled, with examples such as *delay* appearing as *diley*. Abbreviations of foreign terms are also common (e.g., *B & W*, *EXT.*, *INT.*, *IT*, *M + E*, *OS*, *OTS*).

Film jargon also includes English-Croatian false friends, such as the use of *karakter* instead of *lik* — in standard Croatian, the English word *character* in a film context should be translated as *lik* (character in the sense of personality), not as *karakter*, which is misleading.

Metaphoricity and Vividness

As with jargon in general, metaphoricity and vividness are essential characteristics of professional jargon. Unlike jargon terminology, where metaphoricity is a fundamental feature, it is not a characteristic of standard professional terminology.

Film jargon terminology is particularly vivid, even in English. For example, consider the variety of terms for film genres and subgenres (as per Grgić, 2011): *boy meets girl*, *buddy-buddy*, *chick-flick*. Other examples of metaphorical film jargon include *bo-bić*, *bubica*, *fleš*, *galge*, *gardelin*, *idiot-kamera*, *kalota*, *kon-tiki*, *labudica*, *lavand*, *martini-klapa*, *rembrandt*, *roštilj*, *sapunica*, *sapunjara*, *šalata*, *trakavica*.

This vividness sometimes originates in the Croatian language (e.g., *bubica*, *bananica*, *pinča*), while at other times it is derived from foreign terms with metaphorical meanings (e.g., *blue hour*, *cinderella*, *cutaway*, *easter egg*, *heavy duty*). Occasionally, foreign terms are directly translated into Croatian (e.g., *biblija*, *sapunica*).

One way vividness is achieved is through abbreviations, such as *epka*, *fotka*, *lab*, *masovka*, *majk*, *telka*, *širac*. Diminutives (e.g., *bananica*, *bubica*) and augmentatives/pejoratives (e.g., *navlakuša*, *sapunjara*) also contribute to vividness.

PRINCIPLES FOR SELECTION AND PROCESSING OF MATERIAL FOR THE DICTIONARY OF FILM JARGON

For the *Dictionary of Film Jargon*, jargon terms were collected, as already mentioned, from all available sources: dictionaries, lexicons, encyclopedias, journals, and anthologies; from the websites of the Croatian Film Association and the Croatian Film Archive; from news portals, forums, and film sets by listening to film professionals and asking them about specific terms; by searching the internet (Croatian websites only); from literature used in professional courses; and by attending lectures given by professors teaching professional subjects. The focus was on current words and expressions used in film jargon, but outdated terms were also included from these sources and literature.

Many other specialized texts and general dictionaries of the Croatian language also served as sources for the *Dictionary of Film Jargon*.

The collected words and expressions were verified against Croatian language corpora (e.g., the Croatian Web Corpus — hrWaC, the Croatian Language Repository, and the CLASSLA Croatian Corpus) using corpus search tools such as SketchEngine and

word sketches for Croatian⁶. When establishing definitions for less common jargon terms, corpus evidence found in concordances was particularly helpful.

During the material collection process, it was observed that drawing a clear line between professional and jargon terms, or between terms belonging to the Croatian standard language and jargon terms, is not always straightforward. The ambiguity mainly concerns terms borrowed from foreign languages (primarily English, but also German and French), for which a standard Croatian equivalent has not been established or widely adopted.

Sometimes, this difficulty arose from the challenge of distinguishing between jargonisms and colloquialisms (expressions on the fringes of the standard language) and between linguistic errors and colloquialisms/jargonisms.

Even in academic works on film, various anglicisms (English words or phonetic borrowings from English) can be found because a standard equivalent in Croatian doesn't yet exist or has not been established. This explains why the terms for the dictionary were also sourced from professional and academic works. The use of English words or borrowings, including jargonisms of other origins, is not an indicator of the author's lack of knowledge but rather reflects the absence of a standard Croatian term or a widely accepted standard term.

In such cases, the use of jargon terms is intended to ensure clarity, as authors often fear that a Croatian term, if it exists, doesn't describe the concept accurately enough or doesn't convey the concept as effectively as the English term does.⁷

As noted earlier, determining the fine line between jargon terms and those belonging to the conversational style of the standard language is also problematic. For example, it can be challenging to decide whether terms like *snimak*, *kontrasvjetlo*, or *pos-tojeće svjetlo* (with the recommended terms being *snimka*, *protusvjetlo*, and *prirodno svjetlo*) belong to jargon or to the conversational style.

The abundance of highly metaphorical terms in film jargon also raises the question of whether such terms belong to the standard language or jargon (*bananica*, *bubica*, *pinca*).

In cases of such ambiguities, the term was included in the dictionary. As a result, the dictionary contains not only unquestionably jargon terms but also a certain num-

⁶ Word sketches are a representation of the relationships with other words in which a particular word recorded in the corpus is found, searchable using the Sketch Engine corpus search tool. Word sketches for the Croatian language were created based on the grammar of sketches for the Croatian language compiled within the Croatian Online Dictionary — Mrežnik project.

⁷ Halonja and Mihaljević (2012: 161-165) discuss this issue and point out some of the most common misconceptions about terminology, including the following: "The English term is much more precise than the Croatian one — the English term accurately reflects the intended concept — everyone knows what the English term means." However, many examples demonstrate that English terms are often not more precise than their Croatian counterparts.

ber of colloquialisms (words belonging to the conversational style of the Croatian language).

STRUCTURE OF DICTIONARY ENTRIES IN THE *DICTIONARY OF JOURNALISTIC JARGON*

In designing the structure of dictionary entries and processing the material, editorial decisions were guided by the principle that the presumed user is always at the center. Since the dictionary is intended for a wide range of users and aims to contribute to the standardization of journalistic terminology, its structure includes fields that form the core of a lexicographic entry (*headword, definition, examples*) as well as fields containing information about semantic relationships (*synonymy and antonymy*) and standard language terms (if confirmed) or proposals for standard terms.

These aspects can be of interest to film professionals and linguists specializing in terminology, who should collaborate in the development of contemporary film terminology. Each dictionary entry also includes a note about the source in which the term was confirmed. The *notes* field provides various pieces of information related to the jargon term featured in the headword, such as its etymology, variations in spelling, and areas of use.

The basic structure is expanded if a headword has multiple meanings, with each meaning numbered.

For entries where the headword refers to another term, the entry contains only the headword, a cross-reference (v.), and, occasionally, a note, e.g., *schwenk* v. *švenk*.

Word	izblendavanje
Definition	<i>Izblendavanje</i> refers to the gradual reduction of sound to complete silence and the gradual darkening of the image or fading into a color until it completely disappears.
Example(s)	mekano izblendavanje
Synonym(s)	fade out
Antonym(s)	fade in, ublendavanje
Standard Language Term(s)	utišavanje, zatamnjivanje
Notes	The word originates from the German <i>Abblende</i> , 'to fade'.
Source	RNŽ

Table 2 — Basic Structure of a Dictionary Entry in the *Dictionary of Film Jargon*

CONCLUSION

The creation of the Dictionary of Film Jargon was preceded by defining the dictionary material and its collection, as well as the development of principles for processing and structuring dictionary entries. Research on the characteristics of film jargon was also conducted. Funding for the publication of the dictionary has been approved by the Institute for the Croatian Language, and it is scheduled to be published during 2025.

References

- Beran, J. (1971). *Rječnik filmske umjetnosti* (A dictionary of film art). Sarajevo.
- Filmski pojmovnik* (Film glossary). <https://www.scribd.com/doc/204091176/FILMSKI-POJMOVNIK-docx>.
- Forenbacher, I. (1987). *Sekretar režije i film*. ADU.
- Forum.hr. <https://www.forum.hr/showthread.php?t=604817>.
- Grgić, V. (2011). *Vodič kroz filmske žanrove i podžanrove. 1. dio*. A guide to film genres and subgenres. Part 1). Tportal. <https://www.tportal.hr/magazin/clanak/vodic-kroz-filmske-podzanrove-i-mikrozanrove-1-dio-20100822>.
- Grgić, V. (2011). *Vodič kroz filmske žanrove i podžanrove. 2. dio*. (A guide to film genres and subgenres. Part 2). Tportal. <https://www.tportal.hr/magazin/clanak/vodic-kroz-filmske-podzanrove-i-mikrozanrove-2-dio-20100907>.
- Grgić, V. (2011). *Vodič kroz filmske žanrove i podžanrove. 3. dio*. (A guide to film genres and subgenres. Part 3). Tportal. <https://www.tportal.hr/magazin/clanak/vodic-kroz-filmske-podzanrove-i-mikrozanrove-3-dio-20100927>.
- Grgić, V. (2011). *Vodič kroz filmske žanrove i podžanrove. 4. dio*. Tportal. <https://www.tportal.hr/magazin/clanak/vodic-kroz-filmske-podzanrove-i-mikrozanrove-4-dio-20101215>.
- Grgić, V. (2011). *Vodič kroz filmske žanrove i podžanrove. 5. dio*. <https://www.tportal.hr/magazin/clanak/vodic-kroz-filmske-podzanrove-i-mikrozanrove-5-dio-20101222/print>.
- Hrvatska jezična riznica riznica* (Croatian Language Treasury Treasury). <http://riznica.ihjj.hr/index.hr.html>.
- Hrvatski filmski arhiv* (*Hrvatska kinoteka*) (Croatian Film Archive). <http://zagreb.arhiv.hr/hr/hda/fs-ovi/kinoteka.htm>.
- Hrvatski filmski savez* (Croatian Film Association). <http://www.hfs.hr>.
- Hrvatski mrežni korpus — hrWaC* (Croatian Network Corps — hrWaC). <http://nlp.ffzg.hr/resources/corpora/hrwac>.
- Hudeček, L. (2023). *Novinarski žargon* (Journalistic jargon). In L. Hudeček et. al. (Eds.). *Rječnik novinarskoga žargona*. Institut za hrvatski jezik i jezikoslovlje, pp. 1-26.
- Hudeček, L. et. al. (2023). *Rječnik novinarskoga žargona* (Dictionary of journalistic jargon). Institut za hrvatski jezik i jezikoslovlje.
- Hudeček, L., & Mihaljević, M. (2012). *Hrvatski terminološki priručnik* (Croatian Terminology Manual). Institut za hrvatski jezik i jezikoslovlje.

- Jušić, H., & Turković, H. (2009). *Filmsko nazivlje u novijim jednosveščanim općim rječnicima hrvatskoga jezika* (Film terminology in recent one-volume general dictionaries of the Croatian language). *Studia Lexicographica* 3/1-2(4-5). pp.15-49.
- Kavčić, B., & Vrdlovec, Z. (1999). *Filmski leksikon* (A film lexicon). Modrijan.
- Kostimografija.hr. <https://kostimografija.hr/najcesce-strane-rijeci-i-kratice-na-setu>.
- Kragić, B., & Gilić, N. (Eds.). (2003). *Filmski leksikon* (A film lexicon). Leksikografski zavod Miroslav Krleža.
- Leksikon Hrvatske radiotelevizije*. <https://obljetnica.hrt.hr/leksikon?s=a>.
- Medijska pismenost. medijskapismenost.hr.
- Midžić, E. (2006). *Govor oko kamere: rječnik filmskog žargona, kolokvijalnih i stručnih izraza stranoga podrijetla* (Speech around the camera: a dictionary of film jargon, colloquial and professional expressions of foreign origin). Hrvatski filmski savez.
- Halonja, A., & Mihaljević, M. (2012). *Od računalnoga žargona do računalnoga nazivlja* (From computer jargon to computer terminology). Hrvatska Sveučilišna naklada — Institut za hrvatski jezik i jezikoslovlje.
- Mikić, K. (2001). Mali filmski pojmovnik. Film u nastavi medijske kulture. Zagreb: Educa
- Mikić, K. Mali filmski pojmovnik (A small film glossary). <https://www.sat-multimedia.com/mali-filmski-pojmovnik-a>.
- Novak, B. (Ed.). (2006). *Leksikon radija i televizije* (Lexicon of Radio and Television). Masmedia.
- Peterlić, A. (Ed.). (1986.—1990.). *Filmska enciklopedija I, II.* (Film Encyclopedia I, II.) Jugoslavenski leksikografski zavod Miroslav Krleža.
- Peterlić, A. (2018). *Osnove teorije filma* (The Foundations of Film Theory). Hrvatska sveučilišna naklada; ADU.
- Puhovski, N. (2008). *Digitalni abecedarij. Digitalni abecedarij audiovizualnih medija* (The digital alphabet. Digital Alphabet of Audiovisual Media). Hrvatski filmski savez.
- Rodica Virag, M. (1998). *Uvod u filmsku montažu* (Introduction to film editing). ADU.
- Sabljak, T. (1981). *Šatra. Rječnik šatrovačkog govora* (Tent. A dictionary of chatter speech). Globus.
- Sabljak, T. (2013). *Rječnik hrvatskoga žargona* (Dictionary of Croatian Jargon). Profil.
- Šagovac, M. (2014). *Za početnike i publiku: Tko je tko na filmskom setu?* (For beginners and audiences: Who's who on the film set?). Hrvatski filmski portal. <https://www.moj-film.hr/novosti/pregled/filmovi-i-glumci/za-pocetnike-i-publiku-ko-je-ko-na-filmskom-setu>.
- Turković, H. (1996). *Zvuk na filmu. Sistematizacija pojmova* (Sound on film. Systematization of concepts). *Hrvatski filmski ljetopis*, 2(5), 80-86.
- Žargonaut* (Jargonaut). <http://www.zargonaut.com>.
- Filmski enciklopedijski rječnik* (najava) (Film Encyclopedic Dictionary (trailer)) https://www.lzmk.hr/index.php?option=com_content&view=article&id=43&catid=15&lang=en-GB.

MASKED MEASURING OF PERSONALITY TRAITS VIA GAMING PERFORMANCE — INDECISIVENESS TRAIT MEASURED USING ENDLESS FLYER ARCADE GAME

Abstract

Personality traits influence human behaviour, including preferences, motivations, and performance. Indecisiveness, a trait affecting decision-making styles, leads to decision avoidance or delay, impacting academic, career, and interpersonal outcomes. This study proposes assessing indecisiveness through gaming performance via endless flyer arcade game, aiming to demonstrate usability of gaming performance and non-self-reported data provided by video games in measuring personality traits. It hypothesizes that higher gaming scores (playtime duration) is associated with lower indecisiveness. Data was collected using a convenience sample of 134 participants, who played the game and completed an indecisiveness questionnaire. Multiple regression analysis, controlling for age and gender, showed a negative, significant, but low association between indecisiveness and gaming performance. Higher gaming scores were linked to lower indecisiveness, suggesting gaming performance can provide insights into personality traits and psychological factors.

Key words: *personality, indecisiveness, gaming performance, decision making*

INTRODUCTION

Studies of personality traits often rely on self-report questionnaires, which can be biased. To improve accuracy, researchers use masked measurement techniques that assess traits indirectly through implicit tasks or observations. Recent technology allows for new methods of measuring personality traits, such as using gaming performance. Video games provide a unique setting to observe decision-making behaviors, offering insights into different psychological traits.

The aim of this research is to demonstrate the usability of gaming performance in measuring personality traits and to raise awareness within the academic community about the untapped potential of objective, non-self-reported data provided by video games. For this purpose, the indecisiveness personality trait, which negatively affects personal and professional life, has been chosen.

LITERATURE OVERVIEW

Studies of personality traits are key area in psychological research, with various methods developed for accurate measurement. Traditional self-report questionnaires are often criticized for social desirability bias and self-perception inaccuracies. A meta-analysis found that social desirability responses (SDR) influenced 43% of health-related studies (van de Mortel, 2008). Online questionnaires were expected to reduce SDR due to increased privacy, but Gnams and Kasper (2016) found no evidence in computerized assessments or unsupervised data collection.

To address these limitations, researchers use masked measurement techniques, assessing personality traits indirectly through implicit tasks or behavioral observations. Uher and Visalberghi (2016) demonstrated that even professional third-party personality assessments show significant deviations from observed constructs, which were measured through specific behavioral observations. These deviations arise from human impression formation, stereotypical biases, and differing interpretations of standardized items, highlighting the higher objectivity of observational methods.

Indecisiveness, characterized by difficulty in making decisions, impacts personal and professional domains. Highly indecisive individuals often experience neuroticism, anxiety, depression, self-consciousness, worry, diminished cognitive flexibility, and avoidance behaviors (Lauderdale, Martin & Moore, 2018). Indecisiveness affects decision-making processes, including decision latency and information requirements, with women being more indecisive than men (Rassin & Muris, 2005a). Indecisiveness fosters worst-case scenario reasoning, interpreting ambiguous situations as threatening (Rassin & Muris, 2005b).

A study by Taillefer, Liu, Ornstein and Vickers (2016) showed that indecisiveness is both an integral part of obsessive-compulsive disorder and a significant predictor of quality of life for non-clinical respondents when other variables were controlled. Understanding indecisiveness mechanisms is crucial for developing interventions to improve decision-making, especially using cognitive-behavioral strategies.

Advancements in technology offer new ways to measure personality traits, such as using gaming performance as an indicator of indecisiveness. Video games provide a unique environment to observe decision-making behaviors. Studies show gaming performance reflects personality traits. Wang and Yang (2023) found correlations between in-game behavior and personality traits using the HEXACO model, while Potard et al. (2020) demonstrated associations between gameplay various in-game behaviour and strategies and personality traits using the Big5 questionnaire.

Analyzing in-game choices and challenges offers insights into decision-making patterns. It's important to account for gender and age differences in gaming performance, as younger individuals and men tend to outperform older individuals and women (Erfani, M. *et al.*, 2010).

METHODOLOGY

Model

The primary research focus of this paper revolves around the inquiry into whether personality traits can be effectively measured through gaming performance. To operationalize this problem, the specific objective has been outlined: examine the connection between scores in an endless flyer arcade game and scores on an indecisiveness personality trait scale.

The research objective is accompanied by a corresponding hypothesis (H1): a higher score in the endless flyer arcade game is inversely associated with a lower score on the indecisiveness personality trait scale.

The model predicts indecisiveness score via game performance while controlling for age and gender (Figure 1).

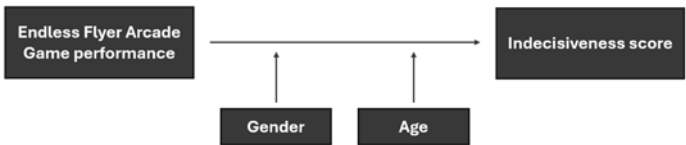


Figure 1 — Model for gaming performance and indecisiveness. Source: Author.

Instruments

For purpose of data collection, an online questionnaire in Croatian was created which consists of screener, main part of the questionnaire and demographic variables. The main part of the questionnaire further consisted of two modules: game and main questionnaire part.

Game module

The game, devised and programmed by the author, is an endless flyer arcade game where the player moves a block (square) up and down to avoid obstacles moving towards it at a constant rate and interval, while also avoiding the floor and ceiling (Figure 2). The player perceives the block as moving through space with obstacles placed

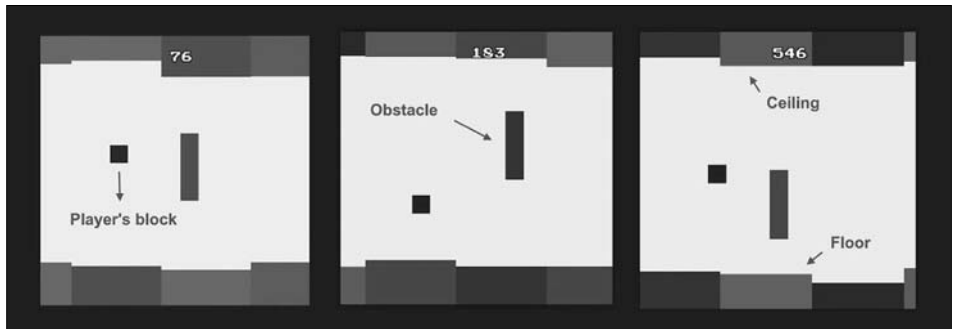
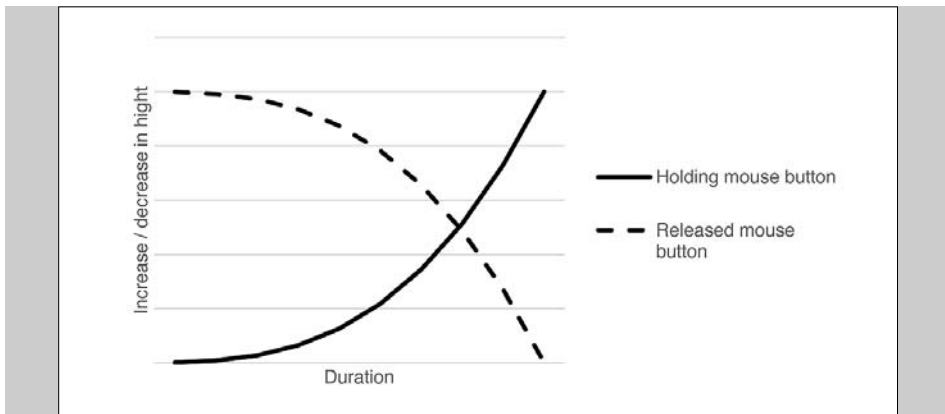


Figure 2 — Game snapshot in three different instances. Source: Author.



Graph 1 — Change in position considering mouse activity. Source: Author.

at different heights, ensuring the block can always move above or below them. The block is controlled with a mouse: holding the mouse button moves it upwards, and releasing it makes it fall. The score is based on how long the player stays in-flight before hitting an obstacle, floor, or ceiling, which ends the game.

A key feature is a delayed movement effect, where upward movement builds up exponentially as the mouse button is held, and the fall rate increases with the duration of the released button. This relationship is visualized in Graph 1. This feature encourages players to maintain their decision to go above or below obstacles, as changing decisions mid-flight doesn't allow enough time for position correction, leading to a collision and ending the game. Thus, the game "punishes" any change or delay in decisions.

Main questionnaire module

The main part of the questionnaire was developed by the author, utilizing concepts from the indecisiveness items in the Frost and Show (1993) and Germeijs and Boeck (2002) scales. Items included were not only directly taken from these scales but were crafted to align with the broader theory of indecisiveness. All statements were content evaluated, deduplicated, adjusted and translated. In the end 13 items were used. Evaluation was done using a Five-point Likert scale where respondents had to evaluate how much each item describes them, with 1 meaning "Does not apply to me at all" and 5 "Applies to me completely".

Procedure

A convenience sampling procedure, specifically the snowball method, was used to acquire respondents. The questionnaire was distributed via email and social media, with participants encouraged to forward it to their acquaintances and share it on their plat-

forms. The purpose of the research and anonymity were explained at the beginning of the questionnaire. Data was gathered from April to July 2022.

To ensure a consistent experience, the questionnaire was available only on desktop devices, standardizing the gameplay experience. The game module was introduced first to prevent respondents from deducing the hypothesized traits, followed by the questionnaire module.

All respondents began with a one-minute practice run to familiarize themselves with the game mechanics. The main run then allowed respondents 10 lives, as stated on the screen. After using all 10 lives, respondents completed the questionnaire, which included self-evaluations on the indecisiveness scale and final demographic questions.

Sample

The target population was Croatian citizens. 138 respondents have entered the questionnaire, out of them, three dropped out with incomplete practice runs and one with an incomplete main run, leaving total of 134 respondents who completed the questionnaire.

From the 134 respondents who were part of the analysis, 56 (41,8%) were male and 78 (58,2%) females. The average age was 37 years, 25,4% respondents were between 16 and 29 years old, 31,3% between 30 and 39, most (38,4%), and 43,4% were 40 years or older, with 62 years being the maximum value. Higher education qualifications were held by 61,9%, the rest achieved a high school education or bachelor's degree. Most of the respondents were employed (86,9%).

RESULTS

Exploratory Factor analysis (EFA) was conducted on the questionnaire module created to measure indecisiveness and rashness traits. KMO and Bartlett's test (Table 1) indicate that scale items are adequate for calculating factor analysis, with high intercorrelations, and significant difference between correlation and identity matrix, i.e., items are grouping into higher factor(s).

EFA with EIGEN criterium revealed 3 factors (Table 2), with first factor explaining 32,3% of variance. First factor had an eigen value of 4,2, while other two factors had eigen values between 1 and 2.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.780
Bartlett's Test of Sphericity	Approx. Chi-Square	473.234
	Df	78
	Sig.	.000

Table 1 — KMO and Bartlett's Test. Source: Author.

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	4.197	32.282	32.282
2	1.527	11.746	44.028
3	1.088	8.366	52.394

Extraction Method: Principal Component Analysis.

Table 2 — Total variance explained. Source: Author.

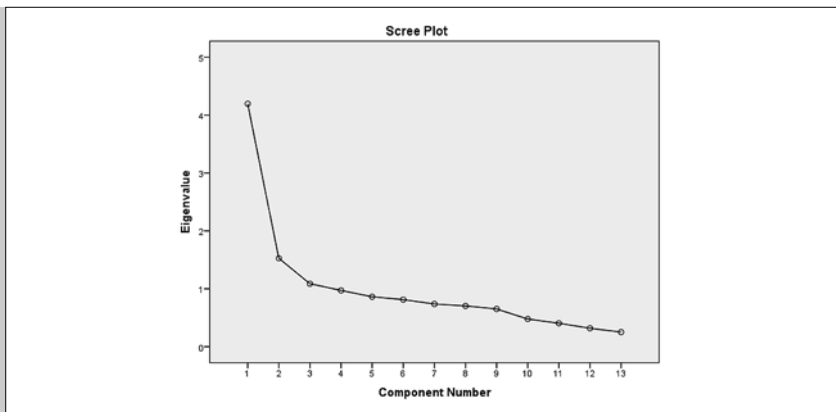


Figure 3 — Factor analysis scree plot. Source: Author.

Items	Component		
	1	2	3
I am an indecisive person.	.789	.150	-.014
I have a hard time deciding when there are several options	.781	.219	.085
I have trouble deciding when there is not enough time	.741	.183	.172
I have trouble prioritizing my activities	.602	.081	-.262
I often worry after my decisions	.595	.226	.017
I postpone decisions	.459	.368	.111
Sometimes I miss some chances due to troubles deciding	.458	.410	.176
Wrong choices worry me less than other people	-.416	.141	-.399
In stress situations I react slower than I should	.020	.789	.048
I decide fast	-.303	-.660	-.117
I am sure of my decisions	-.384	-.543	.368
I plan most of my decisions	-.182	.098	.817
I like to analyse every decision	.195	.108	.650

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 4 iterations.

Table 3 — Rotated Component Matrix. Source: Author.

Scree plot (Figure 3) exhibits one major factor, with indication of two other factors, after which there is consistent slope, i.e., additional factors do not significantly contribute to the explaining the variance.

Factor loadings on the rotated component matrix can be seen in Table 3. Content analysis of items in each factor revealed 1st factor as indecisiveness, 2nd connected mostly to speed of deciding, while 3rd factor was affinity to planning and analysis during decision process.

The final scale was created considering EFA results and content analysis. A total of 8 items were used for the Indecisiveness scale, all items from 1st extracted factor in EFA and unambiguously associated with indecisiveness. Internal consistency of the Indecisiveness scale using chosen items shows good reliability $\alpha=0,797$.

Scores on scales were calculated as unweighted averages of all items which satisfied the above criteria. The item "Wrong choices worry me less than other people" was rotated so that higher score indicated higher level of indecisiveness.

The Skewness index indicates that scale is normally distributed, although with slight tendencies for more right inclination (0,304). Considering kurtosis, the indecisiveness scale shows normal distribution (0,069). Main descriptive statistics are shown in Table 4. With women with statistically significant higher indecisiveness ($p=0,017$; t-test).

To test the hypothesis that higher game scores are associated with lower indecisiveness scores, a multiple regression analysis was conducted. The average score of 10 games / lives was the independent variable, and the average indecisiveness score was the dependent variable. Age and gender, significant factors in indecisiveness and gaming performance, were used as control variables to account for their variance before analysing the independent variable's effect on the dependent variable.

Due to high skewness and outliers in gaming performance, a logarithmic transformation was applied to the independent variable (average score during 10 lives), normalizing the distribution. After transformation, skewness was adjusted to a slight right inclination (0.330). Descriptive statistics for game performance are shown in Table 5,

	N	Minimum	Maximum	Mean	Std. Deviation
Indecisiveness scale	134	1,13	4,75	2,8041	,75085

Table 4 — Descriptive statistics of Indecisiveness scale. Source: Author.

	N	Minimum	Maximum	Mean	Std. Deviation
Game performance (log)	134	1,25	2,92	2,0337	,31705

Table 5 — Descriptive statistics of Game performance. Source: Author.

with men having significantly higher performance ($p < 0.001$; t-test), and a negative correlation between age and gaming performance ($r = -0.226$; $p = 0.002$).

Before hypothesis testing, a correlation analysis was conducted to examine the association between game performance and indecisiveness. A small negative correlation (-0.213), significant at $p < 0.05$ ($p = 0.014$), indicates that higher game performance scores were associated with lower indecisiveness scores.

Multiple regression analysis explained a small amount of variance (5.0%), with control variables (gender and age) accounting for most of it (Table 6). Vice versa analysis showed when predicting gaming performance (dependent variable) via indecisiveness scores (independent variable) using multiple regression, results yield 33.6% explained variance.

The ANOVA table showed significant effects of both control and independent variables ($p < 0.05$) as shown in Table 7.

Among the control variables, gender explains most of the variance in indecisiveness ($p = 0.015$) as seen in Table 8.

The analysis of the independent variable shows that the indecisiveness scale has a borderline significant effect ($p = 0.079$), which is below the $p = 0.10$ threshold but above $p = 0.05$. Overall, the effect of indecisiveness on game score is low but significant ($p < 0.01$), indicating an existing relationship.

Model	R	Adjusted R Square	Std. Error of R Square	the Estimate
1	.220a	.049	.034	.73795
2	.266b	.071	.050	.73200
a. Predictors: (Constant), Gender, Age				
b. Predictors: (Constant), Gender, Age, Game performance (log)				

Table 6 — Model summary. Source: Author.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.645	2	1.822	3.347	.038b
	Residual	71.338	131	.545		
	Total	74.983	133			
2	Regression	5.325	3	1.775	3.313	.022c
	Residual	69.658	130	.536		
	Total	74.983	133			
a. Dependent Variable: Indecisiveness						
b. Predictors: (Constant), Gender, Age						
c. Predictors: (Constant), Gender, Age, Game performance (log)						

Table 7 — ANOVA. Source: Author.

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.542	.325		7.812	.000
	Age	-.007	.007	-.080	-.940	.349
	Gender	.320	.130	.211	2.470	.015
2	(Constant)	3.780	.771		4.906	.000
	Age	-.010	.007	-.123	-1.392	.166
	Gender	.177	.152	.116	1.162	.247
	Game perf. (log)	-.435	.245	-.184	-1.771	.079
a. Dependent Variable: Indecisiveness						

Table 8 — Coefficients. Source: Author.

DISCUSSION

The findings of this study provide valuable insights into the relationship between gaming performance and the indecisiveness personality trait. The hypothesis (H1) posited that a higher score in the endless flyer arcade game would be inversely associated with a lower score on the indecisiveness personality trait scale. The inverse relationship indicates that individuals who perform well in the game are likely to exhibit more decisive behaviours, supporting the hypothesis. This hypothesis was grounded in the premise that gaming performance, which requires quick decision-making and adaptability, could serve as an indirect measure of an individual's decisiveness.

The literature review highlighted several key points that contextualize these findings, such as the need for alternative measurement techniques that can mitigate social desirability response (SDR) biases, and the significant implications of indecisiveness for both personal and professional domains.

Additionally, the study accounted for gender and age differences, noting that women tend to be more indecisive than men, and in the gaming context, younger individuals and men tend to outperform older individuals and women.

Even though this research explained small portion of variance (5,0%) it contributes to the growing body of research exploring non-traditional methods for assessing personality traits and demonstrates that leveraging gaming performance as an indirect measure, researchers can gain deeper insights into decision-making patterns and tendencies. The study also showed that indecisiveness has a stronger influence on gaming performance than the other way around.

Convenience sampling process and gathering data using only desktop devices created a somewhat unbalanced sample structure. Regardless, the association that was proved should be invariant and demonstrates that gaming behaviour can be used to

identify individual differences. The practicality of these insights is ever-growing, as gaming has become an everyday activity for most Western-world citizens.

Future research should continue to explore these innovative approaches, considering the potential for broader applications in psychological assessment.

References

- Erfani, M. et al. (2010). The Effect of Age, Gender, and Previous Gaming Experience on Game Play Performance. *Human-Computer Interaction. HCIS 2010. IFIP Advances in Information and Communication Technology*, 332. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-15231-3_33.
- Gao, M., Wang, J., & Yang, J. (2023). Research into the Relationship between Personality and Behavior in Video Games, Based on Mining Association Rules. *Mathematics*, 11(3), 772. <https://doi.org/10.3390/math11030772>.
- Gnambs, T., & Kaspar, K. (2017). Socially Desirable Responding in Web-Based Questionnaires: A Meta-Analytic Review of the Candor Hypothesis. *Assessment*, 24(6), 746-762. <https://doi.org/10.1177/1073191115624547>.
- Lauderdale, S.A., Martin, K.J., & Moore, J. (2019). Aversive Indecisiveness Predicts Risks for and Symptoms of Anxiety and Depression Over Avoidant Indecisiveness. *Journal of Rational-Emotive & Cognitive-Behavior Therapy* 37, 62-83. <https://doi.org/10.1007/s10942-018-0302-x>.
- Potard, C., Henry, A., Boudoukha, A.-H., Courtois, R., Laurent, A., & Lignier, B. (2020). Video game players' personality traits: An exploratory cluster approach to identifying gaming preferences. *Psychology of Popular Media*, 9(4), 499-512. <https://doi.org/10.1037/ppm0000245>.
- Rassin E., & Muris P. (2005). To be or not to be...indecisive: Gender differences, correlations with obsessive-compulsive complaints, and behavioural manifestation. *Personality and Individual Differences*, 38(5), 1175-1181. <https://doi.org/10.1016/j.paid.2004.07.014>.
- Rassin E., & Muris P. (2005). Indecisiveness and the interpretation of ambiguous situations. *Personality and Individual Differences*, 39(7), 1285-1291. <https://doi.org/10.1016/j.paid.2005.06.006>.
- Taillefer S. E., Liu J. J. W., Ornstein T. J., & Vickers K. (2016). Indecisiveness as a predictor of quality of life in individuals with obsessive and compulsive traits. *Journal of Obsessive-Compulsive and Related Disorders*, 10, 91-98. <https://doi.org/10.1016/j.jocrd.2016.07.002>.
- Uher J., & Visalberghi E. (2016). Observations versus assessments of personality: A five-method multi-species study reveals numerous biases in ratings and methodological limitations of standardised assessments. *Journal of Research in Personality*, 61, 61-79. <https://doi.org/10.1016/j.jrp.2016.02.003>.
- van de Mortel, T. F. (2008). Faking It: Social Desirability Response Bias in Self-report Research. *The Australian Journal of Advanced Nursing*, 25(4), 40-48. <https://search.informit.org/doi/10.3316/informit.210155003844269>.

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A PARADISE LOST TO TOP-DOWN DEVELOPMENT AND OVER-TOURISM: THE CASE OF OKINAWA

Abstract

The promise and problems found in small places are more discernible and magnified, yet also indicative and predictive of what could be happening elsewhere. Such is the case of Okinawa, an archipelago in the Pacific Ocean, Japan's southernmost prefecture. With the pleasant natural amenities of turquoise seas, beaches, and lush vegetation in a mild climate and a distinctive culture of its own, removed yet accessible geographically, Okinawa has come to rely heavily on tourism to bolster its economy. Smaller in area than Luxembourg, but larger in population, Okinawa is a small place that magnifies the best and worst possibilities of a tourist-driven economy. This paper examines how Okinawa has experienced/ endured several large-scale projects, using a top-down approach to the development of its tourism economy as well as its social and physical infrastructure. Historical and political influences are described, to provide the needed background to appreciate Okinawa's current situation, following the post-WWII era and the damage experienced from the war and its aftermath. The paper notes a pattern of failed and failing top-down approaches to the development of the island prefecture, in contrast to organically generated, yet promising contributions, in the way of small enterprises and initiatives. The case of Okinawa is a cautionary tale for other island communities.

Key words: *overtourism, overdevelopment, Japan, Okinawa, Junglia*

INTRODUCTION

The promise and problems found in smaller venues of tourism are more discernible and magnified, yet also indicative and predictive of what already is or could be happening elsewhere, as people struggle to find a balance between use and overuse of the very physical, cultural, and human resources tourists strive to see and experience. Such is the case of Okinawa, a subtropical archipelago between the Pacific Ocean and the East China Sea, and Japan's southernmost prefecture. With the pleasant natural amenities of turquoise seas, beaches, and lush vegetation in a mild sub-tropical climate and a distinctive Ryukyuan culture of its own, removed yet accessible geographically, Okinawa has come to rely heavily on tourism to sustain bolster its economy. Smaller in area than Luxembourg (2,586 sq km, population of 674,000), but larger in population, Okinawa (2,267 square kilometers) is a small place that magnifies the best and worst possibilities of a tourist-driven economy. Compared to the archipelago of Hawaii, the island chain of Okinawa is one tenth the land area, with approximately the same per-

manent population of 1.46 million. Lying south of Kyushu, the Okinawan archipelago begins at Iheya, the northernmost island, and stretches in a gentle arc of 1,000km to Yonaguni, which is 108 km from Taiwan.

MAIN GOAL

Okinawa is exhibiting signs of over-tourism, post-Covid, resulting from large, top-down projects; however, Okinawa also possesses chances for smaller, local, community-oriented growth that will foster more organic and sustainable tourism growth. It is hoped that by considering the example of Okinawa, we can learn to move more slowly, avoid the top-down large-scale projects, and foster smaller initiatives toward more sustainable economic growth.

METHODOLOGY

The author reviewed secondary literature, national and prefectural positions on tourism, and local news accounts, as well as speaking with people in the local area, relating to Okinawa tourism and the development of the Junglia amusement park project and Junglia-related infrastructure projected for Motobu, Okinawa.

Like everywhere else, Okinawan tourism took a dive for the worse, with the advent of Covid restrictions. In 2019, over 10 million visitors came to Okinawa, rivaling Hawaii's yearly numbers, a first for Okinawa (Okinawa tourist arrivals, 2020). Visitors to Hawaii spend more and spend more time (8 to 9 days), (Derrick, 2024) compared to Okinawa (3-5 days)

(Tourism Teacher, n.d.). Covid ruined prospects for sustaining this upward trend, leaving the heavily dependent Okinawan tourist economy in limbo, characterized by one writer as "Okinawa's wasted COVID-19 year". (Eldridge, Robert D., 2021) The Covid era showed just how vulnerable economies, large and small, can be, even more so, economies that rely heavily on tourism. Post-Covid, Japan in general and Okinawa in particular, have recovered and even exceeded Pre-Covid levels. Thanks partly to the historically weak Yen against other major currencies, Japan might well get the Olympic gold for the number of foreign tourists. In July 2024 alone, Japan experienced an influx of 3.29 million foreign visitors, mostly from mainland China (77,000), South Korea (75,000), and Taiwan (57,000) (Shigatsu ni Nihon, 2024). The post-Covid surge in tourism in Japan is projected to reach 35 million foreign visitors in 2024, (Bhutia, Peden Doma, 2024) exceeding the pre-Covid record of 32 million foreign visitors in 2019 (Japan Bound Statistics, n.d.).

The vulnerability of the tourism market and its effect on the host societies has been laid bare by the pandemic as well as the effects of certain kinds of tourism on the host societies. Both the European Commission on Tourism and UN Tourism emphasize the importance of sustainable tourism, job creation, with 'people and planet'...

always center stage.” (UN Tourism, n.d.). Prime Minister Fumio Kishida, echoed some of the EU and UN Tourism sentiments, in August 2023. While speaking at Okinawa’s Shuri Castle, destroyed by fire in October 2019, Kishida mentioned the importance of sustainable tourism: “While achieving sustainable tourism in Okinawa, ... we must keep in mind the issue of overtourism” (Moriguchi, Saori, 2023). The buzz words of ‘sustainability’ and ‘fragility’ relating to tourism are also mentioned by the Japan National Tourism Organization: “Embracing sustainable travel in Japan brings you at one with the country” (Japan National Tourism Organization, 2023). Despite international and national support for sustainable tourism, the reaction to the present surge in Japan offers sobering accounts of limits reached and exceeded.

The mixed sentiments about the immense and sudden influx of post-Covid foreign visitors to Japan is echoed by many local Kyoto residents, whose elected officials have imposed a slew of restrictions on how visitors interact with the cultural and physical infrastructure of one of Japan’s cultural capitals (Vogt & Qin, 2023). In Kyoto, complaints of bad tourist behavior are piling up, from touching traditional Geisha entertainers to over-smartphoning local people at close range to littering and packing local buses. The backlash has led to the closing off of some streets to tourists and fines (Reed, 2024). However, in this same period, Kyoto received 20 percent of its revenue from tourism, clearly showing a dependence on it; call it the post-honeymoon phase where the initial gush of enthusiasm has stagnated. Yet Okinawa Prefecture, Japan’s poorest, is yet more dependent economically on an influx of visitors. Even so, in 2024, Iriomote Island, second largest of the Okinawan archipelago and a UNESCO World Heritage site, sometimes called locally a “Galapagos of the East” has started to limit the number of visitors, both yearly and per day (Okinawa to cap, 2023). Much of Iriomote Island is jungle and mangrove, with few people and a fragile and limited physical infrastructure (Busetto, 2023). Some residents apparently fear that the tourism rate has reached beyond its sustainable limits. Invoking the *Irridex* scale of residents’ reception to tourists, the year 2024 may well have slipped from initial ‘euphoria’, followed by ‘apathy’ to expressions of ‘irritation’, even ‘antagonism’, depending on how a resident experiences the effects of tourism, as a home-owner near an historic site, truck-driver on roads clogged with rental vehicles or small entrepreneurs, trying to compete for business with large companies financing large tourist-related projects (Tourism Teacher, n.d.). The Doxy *Irridex* may not be irreversible, as originally described, but returning to neutral or positive outlooks relating to tourism would require time to take effect.

BACKGROUND

Although located along traditional trading routes from Southeast Asia, Okinawa Prefecture is also distant from mainland Japan. Manufacturing and assembly are still fledgling components of the Okinawan economy. Like many of the islands of the Pacific, Oki-

nawa is resource-poor. Ground water as well is limited, making water supply dependent on rainfall and reservoir collection, so manufacturing that requires large amounts of water is difficult or impossible. Transportation infrastructure is limited to roads and lorries, as there is no light rail or freight infrastructure, though plans for a north-south light rail passenger system have been in discussion/planning in the last decade. Today's Okinawan economy relies very heavily on tourism (Introduction of Okinawa, n.d.).

Logistics, public works projects, limited exports, and US military installations represent the major parts of the Okinawan economy. Public works money from the central government has stagnated, due to national economic malaise, and the US military contribution to the Okinawan economy has leveled off shrunk dramatically since 1972. Upwards of 80 percent of the prefectural economy is tied to the trends of tourism, (Introduction of Okinawa, n.d.) tying the fate of Okinawa to its growth and relationship to tourism, both domestic and international. The basic question then is how to develop this economy such that, in the long run, Okinawa Prefecture and its residents may prosper.

The economy could be viewed separately from other elements of a society, but doing so eclipses the idea that the economy is a complex expression of human interaction, exchange, affecting how people live, the quality and nature of the society, as well as the material environment, not to forget effects on the residents and distinctive culture(s). The tourist-dependent economy of Okinawa is conditioned and limited by geography and sustainability. Growth in sustainable tourism in Okinawa is highly praised and generally applauded today in Okinawan regional government circles, exemplified by Director of Okinawa General Tourism Policy, Promotion Office, Akihiko Hoshi's upbeat medium- and long-range plans to increase access to enduring features of Okinawa, such as its several World Heritage sites, natural splendors, as well as increasing higher-quality enterprises such as its National Theatre, so that Okinawa rivals Hawaii, not only in terms of raw numbers of tourists, but also the money spent per visitor, which at the present lags significantly behind Hawaii (Okinawa takes the lead, 2023). However, at what cost to the current way of life and to the material and social environments? So much affects the nature, quality, and sustainability of a society in the long run. Okinawa is no exception to the effects of large-scale tourism. Because of its smaller geography and singularly defining economic contribution, in this case, tourism, the effects of large-scale tourist projects act inversely to magnify the opportunities and challenges for the social reality and physical environment.

Originally, an independent Ryukyu Kingdom paid tribute to the Middle Kingdom — China and benefited in turn through mutual trade, even after the Ryuku was overthrown and regulated by the Satsuma Clan of Kyushu. Okinawa, as it was called in Japanese, was annexed in 1879, making the former Ryukyu Kingdom a Prefecture. Many economic benefits from this mutual arrangement between Ryukyu and China were siphoned off by the Satsuma administration.

During World War Two, Okinawa was the location of the largest land battle in the Pacific theater. Fighting and bombing destroyed much of the original architecture, including Shuri Castle. Under US occupation, Okinawa was returned to Japan in 1972, while significant numbers of US Air Force, Marines, Navy, and Army have remained in Okinawa to this day. This cataclysmic event — the Battle of Okinawa — has left an indelible mark on the society and its people.

From the short list of major interventions, we can see that Okinawa has experienced several of what one writer called “external interventions” (Kakazu, Hiroshi, 2018) and continues to experience more at the level of the national government as well as private enterprise. Marking the 50th anniversary of the reversion of Okinawa to Japan, Prime Minister Kishida pledged to increase the prefectural GPP — gross prefectural product — and reduce the relatively high unemployment rate in the country’s prefecture, exacerbated by a significant influx of Japanese nationals, after the Fukushima earthquake tsunami (Johnston, Eric, 2022).

Discussions of national government development assistance to Okinawa Prefecture are considered in the context of military base-issues, long a sore sticking point in moving forward for both national and prefectural leaders. Developing the Okinawan economy is undertaken within the historical context of the war and its aftermath, and any plans for development take into account or at least cannot avoid the sizeable presence of US military and growing Japanese Defense Force facilities and personnel. Currently, 75 percent of US military personnel in Japan are located in Okinawa, which is 0.6 percent of today’s Japanese land mass. Despite the view of Japan as a high-tech mecca of the Bullet Train, highly efficient regional rail, extensive roadways and physical infrastructure, Okinawa stands as a conspicuous counter-example. Although public works funded heavily by Tokyo has been extensive and ongoing, though declining recently, Okinawa presently has no passenger rail system or freight line, though a north-south passenger rail system is in the planning stages, from Naha, the prefectural capital, to Nago, in the northern part of Okinawa Island, and a very limited monorail system currently undergoing modest expansion. Okinawa fields a limited public bus service, one toll Expressway that runs north-south from Naha/Airport to just south of Nago, and regular highways that experience gridlock at key points and times. Despite these limitations on land, the Ryukyu Islands have secure and regular air service to the larger islands and routine car-ferry service between the inhabited islands.

Beneath discussions of tourism in Okinawa is the question and quest for independence, political or at least economic, from external interests, national and financial. Long eclipsed by larger powers and larger financial interests, the Ryūkyū dokuritsu undō — the Ryukyu independence movement — is active, though without a groundswell of public support. The independence movement has advocated political independence since the end of the Pacific War in late 1945 and often argues against US military and Japanese Defense Force presence. Economic independence has also eluded Oki-

nawa. The Okinawan economy has remained buoyant through what one expert in the field of Okinawan tourism called “massive inflows of public expenditures which simultaneously pushed up factor prices such as labor and land costs without improving total factor productivity of labor and capital” (Kakazu, Hiroshi, 2018). The large-scale economic support from the Tokyo government is often linked to US base issues, as a means of placating discontent. The large public works and tourist projects — some are funded by investors from other countries — offer jobs, to be sure, but the jobs filled by residents is often the lower-paying staff and service positions, not higher-level management positions.

ENTER YET MORE DINONSAURS: JUNGLIA ARRIVES IN OKINAWA

Big, brash, and full of “ad hype,” the Katana Corporation, in collaboration with Japan Entertainment, is the most recent, large tourist project to enter Okinawa. Katana is presently constructing Junglia, a theme park that uses the 1993 Jursassic Park motif from Steven Spielberg’s film. The theme park is slated to open in December 2025. Initially targeting the domestic market, but with plans to expand the park and interest foreign tourists (German, 2023). Katana Corporation and Japan Entertainment are financing the construction of the theme park on 60 hectares (148 acres), on what was an aging golf course owned by the Orien Beer Company, in Motobu. Katana, Corp., based in Osaka, founded by Tsuyoshi Morioka, is a licensing and consulting company that has enjoyed success in revitalizing flagging industries, and hopes to energize the tourism industry in Okinawa. In one article, Morioka said, “I hope that the Junglia theme park will further revitalize the Okinawa tourism industry” (Seyoon, Jung, 2024). The project is expected to cost 70 billion Yen (470 million US Dollars), and the theme park will feature zip rides over the forest canopy, hot air balloon rides, and dinosaur-hunting car chases, along with day spas and wellness spots. Morioka has already had success in revitalizing Universal Studios attendance by creating a Harry Potter theme in the US (USJ Saiken, 2024). In 2015, when Morioka was still at Universal Studios Japan, he had announced plans to expand USJ to Okinawa. When USJ was acquired by Comcast, any plans for the development of a theme park were shelved. At that point, Morioka parted ways with USJ and created Katana Corp in 2017 to facilitate the project in Motobu, Okinawa (Tamura, Keiko , 2023). Motobu already features a modest DinoPark, in Nago, just a few kilometers from Junglia’s building site. Nature theme parks certainly do not have to restrict their motifs to their geographic location. The dinosaur capital of Japan, Fukui, stretching from northern Kyushu Nagoya, where over 80 percent of all dinosaur finds are found located in Japan, also hosts the Katsuyama Dinosaur Forest Park as well as the Fukui Prefectural Dinosaur Museum where visitors can see and partici-

pate in real field station dinosaur digs (Fukui, n.d.). However, the Ryukyu Islands emerged geologically long after the dinosaur age.

The Junglia example offers a top-down approach to tourism development. The project is an example of large, external investment, the BIG project that is projected to energize the Okinawan tourism economy, particularly in the less populated, more undeveloped Yanbaru region and World Heritage constituent sites of northern Okinawa Island. Creating the theme park is one thing: getting people to and from this theme park is quite another. Once the park is operational, the existing transportation infrastructure is presently no better than it was preceding the construction of the park. Roads are narrow, traffic is slow. Over 90 percent of all transportation in Okinawa is by personal transport, much more than the 60 percent of mainland Japan. Okinawa is truly, for better or worse, a car culture (History of Road Maintenance, 2016). The narrow roads leading to the park are merely country roads that ascend to a plateau. Plans, however, are underway to upgrade the roadways and widen roads and other infrastructure in the Motobu region of the island. The Okinawan Prefectural government also has plans to upgrade the Motobu Port, allowing larger cruise ships to dock. Roadways between the port facility and Junglia are slated for extensive upgrades to facilitate tourist traffic (Ryall, Julian, 2016).

The underdeveloped area of Motobu and the northern part of the island will eventually become ‘developed’, but at what enduring price? The outside infusion of capital and facility construction of Katana’s Junglia contrasts deeply with an alternative, cumulative, slower, incremental growth from within Okinawan society. Katana and Junglia promotional literature provide the patina for a sensitive eco-friendly greenwash — used an old golf course whose original planners had clear-cut the forested area, not Katana — allowing patrons to enjoy the nature that already had been removed when the golf course was built and view the still undeveloped Yanbaru forest and the ocean vista in the distance, viewable by hot air balloon. Morioka is hoping for a ripple effect in the Okinawan tourist economy. Such a large project, with major infrastructure construction to accommodate the project, will have effects on the residents and their way of life in the northern part of the island. Some few in the area will profit, while the remainder must adjust to the effects of the big project.

Though the Junglia project is supported by the Prefecture and is working in tandem with Nago administrators and some academics at Meio University, once again, Okinawa is developed from the outside in large scale, by external investors. With a glitzy veneer of savvy marketing, with significant capital, and support from the national, prefectural and national, Okinawa Prefectural and Nago city government, Katana is impressing a big version of development with a 30-year-old idea of a theme park already replicated in over 100 amusement parks around the world (List of dinosaur parks, n.d.). Though protests against US military projects and presence are common in Okinawa, no one, to my knowledge, has emerged to protest the Junglia project.

CONCLUSION: A SLOWER ALTERNATE PATH TO DEVELOPMENT

Instead of large, externally originating, top-down approaches to the development of tourism, I suggest its polar opposite: slower, smaller, individual or small-group enterprises, with a more organic rate of growth, within the existing Okinawan economy, not just for tourism, but also for the residents of Okinawa, and in the long-run. Counter-examples to Junglia are any number of cafes, restaurants, and small-scale stay-overs. Local entrepreneurs can and have developed their small businesses gradually. An example of smaller and slower development is the Rokka Café at the base of Shuri Castle, the jewel of Okinawan culture and also tourism. The café was founded by local people with a personal stake in the area. It caters to all people, both local people and tourists looking for a place to regenerate themselves. The cups and dishware are made by students of Okinawa Prefectural University of Arts (OPUA). Many of the staff are OPUA students, just across a castle pond. The money stays in Okinawa and circulates in low orbit within the community. Partly because of Shuri Castle and OPUA, the café fits nicely into a cluster of small restaurants and shops that are visited by locals and tourists.

Okinawa has many high-rise, 'big business' hotels. However, Satoru Kikugawa, originally from Tokyo, developed his dream of building a real treehouse into a reality in Okinawa. Learning many things for the first time, Kikugawa was able to create several unique treehouses for an immersion experience that also strives not to disturb the natural surroundings. His idea has been a real success, and his business thrives (One of Japan's, 2023).

One of the benefits of the smaller enterprises is that if things fail, the damage to the market and society can easily be absorbed. In contrast, if a large hotel or a large theme park fails, the infrastructure changes and additions could easily remind residents of moving too quickly and building too large for such a small island with dwindling natural attractions, the very things that draw people to Okinawa in the first place, a paradise about to be lost. Standing along Katana CEO Tsuyoshi Morioka at a press conference, Japanese PM Shigeru Ishiba said, "It is very essential for the Japanese government to develop the northern part of Okinawa" (New amusement park, 2025). With the support of the national, prefectural, and local governments, the rest of Okinawa will apparently be developed in a similar fashion.

References

- Bhutia, P. D. (22 July 2024). Japan's 35 million tourist bonanza in 2024: Great for business, not so much for overtourism". *Skift*. <https://skift.com/2024/07/22/japans-35-million-tourist-bonanza-in-2024-great-for-business-not-so-much-for-overtourism>.
- Busetto, A. (10 April 2023). New protections from overtourism for Okinawa's world heritage Iriomote island. *Japan Forward*. <https://japan-forward.com/new-protections-from-overtourism-for-okinawas-world-heritage-iriomote-island>.

- Derrick, J. C. (1 September 2024). *Hawaii Tourism Statistics*. <https://www.hawaii-guide.com/hawaii-tourism-statistics>.
- Eldridge, R. D. (21 April 2021). Okinawa's wasted COVID-19 year." *The Japan Times*. <https://www.japantimes.co.jp/opinion/2021/04/21/commentary/japan-commentary/okinawa-tourism-covid-19-japan-economy>.
- Fukui: The dinosaur capital of Japan, <https://enjoy.pref.fukui.lg.jp/en/discover/stories/fukui-dinosaur-capital-of-japan>.
- German, A. (2 December 2023). New northern Okinawa theme park will be named JUNGLIA. *Patience Realty*. <https://www.patience Realty.com/post/new-northern-okinawa-theme-park-will-be-named-junglia>.
- Okinawa Prefectural Government. *History of road maintenance in Okinawa prefecture, future road plan*. <https://www.okinawa-ctc.or.jp/wp-content/uploads/2023/11/JICA5-1.pdf>.
- Introduction of Okinawa. https://www.jetro.go.jp/ext_images/austria/images/OkinawaGOTF2024/OkinawaProfile.pdf.
- Japan Bound Statistics. *JTB Tourism and Consulting Company*. <https://www.tourism.jp/en/tourism-database/stats/inbound>.
- Japan National Tourism Organization. <https://www.japan.travel/en/sustainable>.
- Johnston, E. (15 May, 2022). Tourism and logistics: Okinawa's latest plan to boost its economy. *The Japan Times*. <https://www.japantimes.co.jp/news/2022/05/15/national/okinawa-economic-development-local-leaders>.
- Kakazu, H. (December 2018). Island Sustainability and Inclusive Development: The Case of Okinawa (Ryukyu) Islands. <https://jmic.online/issues/v7n2/1>.
- List of dinosaur parks. Wikipedia. https://en.wikipedia.org/wiki/List_of_dinosaur_parks.
- Moriguchi, S. (26 August 2023). Japan to compile 'overtourism' countermeasures amid surge in inbound visitors: Kishida. *The Mainichi*. <https://mainichi.jp/english/articles/20230826/p2a/00m/0li/014000c>.
- Travel Voice. (3 February 2025). *New amusement park 'JUNGLIA OKINAWA' will open on July 25 2025, differentiating prices between residents in Japan and international visitors*. <https://www.travelvoice.jp/english/new-amusement-park-junglia-okinawa-will-open-on-july-25-2025-differentiating-prices-between-residents-in-japan-and-international-visitors>.
- Okinawa Prefectural Government. *History of road maintenance in Okinawa prefecture, future road plan*. <https://www.okinawa-ctc.or.jp/wp-content/uploads/2023/11/JICA5-1.pdf>.
- EY Japan. (26 June 2023). *Okinawa takes the lead in tourism DX - how local innovation is driving long-term value*. https://www.ey.com/en_jp/integrated-report/client-interview-01.
- Ryukyu S. (24 January 2020). *Okinawa tourist arrivals hit 10 million beating record for seventh-consecutive year*. <https://english.ryukyushimpo.jp/2020/01/28/31573>.
- Reed, B. (7 March 2024). Kyoto bans tourists from parts of geisha district amid reports of bad behaviour. *The Guardian*. <https://www.theguardian.com/world/2024/mar/08/kyoto-geisha-district-tourist-ban-gion>.
- Ryall, J. (May 2016). Japan to fund new cruise facilities in Okinawa. *TTG Asia*. <https://www.ttgasia.com/2016/05/27/japan-to-fund-new-cruise-facilities-in-okinawa>.
- Seyoon, J. & Maeil Business Letter. (13 January 2024). <https://www.mk.co.kr/en/culture/10920290>.
- Tamura, K. (14 December 2023). Massive Jungle Theme Park to Open in Okinawa. *Japan Forward*. <https://japan-forward.com/massive-jungle-theme-park-to-open-in-okinawa>.

- Tourism Teacher. <https://tourismteacher.com/doxeyes-irritation-index/#0-what-is-doxey%E2%80%99s-irritation-index>.
- Tourism Teacher. <https://tourismteacher.com/tourism-in-okinawa>.
- UN Tourism. <https://www.unwto.org/news/unwto-becomes-un-tourism-to-mark-a-new-era-for-global-sector>.
- Vogt, G., & Qin, S. (6 December 2023). Japan quietly and politely hates its tourism boom." *Asia Times*. <https://asiatimes.com/2023/12/japan-quietly-and-politely-hates-its-tourism-boom>.
<https://jmic.online/issues/v7n2/1>.
- Kyodo News. (29 March 2023). *Okinawa to cap remote island visitors to prevent 'overtourism.'*
<https://english.kyodonews.net/news/2023/03/84bcc329ef3e-okinawa-to-cap-remote-island-visitors-to-prevent-overtourism.html>.
- CNN. (13 November 2023). One of Japan's most elegant hotels is actually a treehouse.
<https://www.cnn.com/travel/treeful-house-hotel-japan-intl-hnk/index.html>.
- News Web Easy. (23 August 2024). *Shigatsu ni Nihon e kita gaikoku hito 1-kagetsude wa ima made de ichiban ōi.* NHK.
<https://www3.nhk.or.jp/news/easy/k10014555071000/k10014555071000.html>.
- The Sankei Shinbun. (27 November 2023) "USJ Saiken no Morioka-shi — Katana Okinawa Theme Park Junglia." <https://www.sankei.com/article/20231127-SECNC2A5DBNSXIN34JOEOW2PSA>.

THE RELIABILITY OF ChatGPT IN MEDICAL CASE REPORTS

Abstract

This study investigates the reliability of ChatGPT in medical diagnostics, with a particular focus on its efficacy in generating accurate and clinically relevant case reports. Conducted with third-year medical students, the research analysed 45 case reports comparing ChatGPT's diagnostic outputs against those provided by medical students. Results reveal that ChatGPT correctly diagnosed 68.9% of cases, demonstrating significant potential as a supplementary tool for medical professionals, especially in identifying common conditions and some rare diseases. However, 24.4% of diagnoses were only partially correct, often due to incomplete assessments or a lack of specific nuance, while 6.7% were entirely incorrect, particularly in complex or rare cases. These findings emphasize the necessity of human oversight to mitigate risks associated with misdiagnosis and ensure patient safety. The study underscores both the strengths and limitations of ChatGPT in medical case analysis. While it can enhance productivity and provide initial diagnostic insights, it is not a substitute for professional medical expertise. The research also highlights ethical considerations, such as transparency in its use, and the importance of critical evaluation of AI-generated outputs. Future efforts should aim at improving the model's accuracy, minimizing errors, and expanding its capacity to handle complex and rare conditions.

Key words: medicine, ChatGPT, AI, case reports, diagnosis

INTRODUCTION

The integration of artificial intelligence (AI) in healthcare is transforming traditional practices, with large language models (LLMs) such as ChatGPT emerging as powerful tools in medical communication and diagnostics. ChatGPT, developed by OpenAI, represents a generative pre-trained transformer model capable of producing human-like text. This paper explores the reliability of ChatGPT in medical diagnostics, focusing on its efficacy in generating case reports — a critical component of medical literature. While its capabilities offer promising applications, the challenges related to accuracy, bias, and ethical considerations remain significant. This study compares ChatGPT's outputs to human-authored case reports and medical standards to evaluate its potential in clinical decision-making and highlight areas for improvement. It aims to shed light on AI's opportunities, challenges, and future role in medicine.

THEORETICAL BACKGROUND

Several studies were dealing with the integration of artificial intelligence (AI) in healthcare, so a few of them will be mentioned here.

Kadi and Aslaner (2024) evaluated 15 medical case reports generated by ChatGPT and found that 33.3% were unacceptable due to inaccuracies and reliance on non-existent or outdated sources. Their findings underline ChatGPT's limitation in producing scientifically reliable content independently

Buholayka et al. (2023) evaluate the performance of ChatGPT in creating scientific case reports by comparing its outputs to those written by human professionals. They highlight several critical flaws, including inaccuracies, fabricated references and a lack of context-specific understanding. ChatGPT frequently generated incorrect diagnoses, undermining the reliability. It performed well in grammar and style corrections but fell short in content accuracy and analytical depth. However, their conclusion is that ChatGPT can be used in complementing human efforts in medical writing by enhancing productivity and efficiency.

Alkaissi and McFarlane (2023) explore ChatGPT's role and challenges in academic writing, particularly in medical and scientific contexts. They mention the term artificial hallucinations which means that Chat GPT generates confident but inaccurate information, such as fabricated references and fictitious scientific connections. They give an example of a non-existent link between homocysteine and vitamin K in osteoporosis. Therefore, this highlights the need for critical evaluation skills in medical students and researchers. Their conclusion is that ChatGPT demonstrates potential as a supportive tool in scientific writing, but its limitations — particularly regarding accuracy and ethical use — necessitate human oversight.

Lin (2024) et al. investigate the applications and limitations of ChatGPT in medical case reporting through a bibliometric analysis of 66 case reports indexed in PubMed. They found out that ChatGPT was primarily used for information retrieval and content generation, including tasks like drafting titles, abstracts and introductions, though it was also employed for editing, structural presentation and result interpretation. However, they established its inaccuracies, particularly with fabricated references and incorrect information and highlighted outdated information, lack of creativity, biases and privacy concerns. Another concern was transparency in disclosing AI contributions. They conclude that ChatGPT can only complement and not replace, professional expertise.

Similar conclusions were brought by Zhou (2023) who explores ChatGPT's potential in creating clinically relevant medical reports using patient laboratory data and symptoms. The study focused on evaluating the accuracy and relevance of the AI-generated outputs in the context of a case involving gastroesophageal reflux disease (GERD). The results showed substantial similarity to human suggestions, which proved

that ChatGPT can complement healthcare professionals in medical writing. For example, ChatGPT recommended lifestyle changes, such as dietary adjustments, stress reduction techniques and vitamin D supplementation, after which, the patient's symptoms of GERD improved. However, thorough validation is still necessary.

Meše et al. (2024) also explore the strengths and limitations of ChatGPT in medical writing. The authors highlight its utility in various stages of medical article creation, including planning, drafting, revising, and submission. ChatGPT can summarize vast amounts of literature, suggest research questions, enhance readability, and support multilingual research. These capabilities streamline the writing process, making it a valuable tool for initial research and routine tasks.

Despite its advantages, the article identifies significant limitations. ChatGPT's reliance on pre-existing training data results in potential inaccuracies, outdated information, and lack of domain-specific expertise. It cannot critically evaluate conflicting evidence, address ethical considerations, or handle context-specific nuances essential for high-quality medical writing. Additionally, its outputs may reflect biases present in its training data, raising ethical and integrity concerns in academic and clinical settings.

The study emphasizes that while ChatGPT is beneficial for improving efficiency, human expertise is indispensable for maintaining accuracy, critical analysis, and ethical rigor in medical writing. The authors advocate a hybrid approach, combining AI's computational power with human intellectual oversight, to optimize the quality and reliability of medical communication.

Therefore, all these studies see ChatGPT as a promising tool for medical writing and diagnostics, mentioning the same limitations: accuracy, ethical considerations, and transparency, which emphasises the role of human expertise.

RESEARCH AND DISCUSSION

The integration of AI tools like ChatGPT in medical education and diagnostics raises questions about their reliability and practical applications. The aim of this research was to see how reliable ChatGPT is in establishing a diagnosis. The research was carried out on the third year of School of Medicine in the academic year 2023/2024. Although 249 students participated, 45 case reports were chosen for the analysis. Students were given a task to write a case report either of the real or invented medical case and they were supposed to enter the symptoms to the ChatGPT and ask for its opinion, namely — to establish a diagnosis and suggest treatment. Following this, they had to compare their results and the results of ChatGPT.

In one of the examples of case reports, a student described a case of a 32-year-old woman who presented to the Emergency Department with pain and swelling in her lower extremities. During her first visit, she was afebrile with normal vital signs. However, a physical exam revealed tenderness in the left knee without systemic abnor-

The answers provided by ChatGPT are as follows:	Diagnostic procedures, treatment, and further therapy
(a) Based on the presented symptoms and findings, the patients diagnosis would likely be acute rheumatic fever (ARF).	(a) Acute rheumatic fever (ARF).
(b) Typical treatment for acute rheumatic fever involves addressing the underlying streptococcal infection with antibiotics, usually penicillin or amoxicillin, to eradicate the bacteria causing the condition. Additionally, symptomatic relief is provided with anti-inflammatory medications such as aspirin or corticosteroids to reduce inflammation and manage pain.	(b) The patient was started on aspirin (symptoms gradually subsided over the next 48 hours), was discharged on high dose aspirin and oral penicillin.
(c) Further steps in the therapy of acute rheumatic fever may include (1) long-term antibiotic prophylaxis, (2) management of cardiac involvement (such as valvular damage), (3) anti-inflammatory therapy, (4) regular follow-up, and (5) education and lifestyle modifications.	(c) The patient was scheduled for regular cardiac follow-ups. At each visit, her WBC count, ESR, bleeding profiles, ASO and ADN-B levels were monitored closely, and a cardiac echo was performed.

Figure 1 — Results of ChatGPT analysis (on the left) as compared to the doctor's diagnosis

malities, so she was sent home with painkillers. Ten days later, her symptoms worsened, involving multiple joints. Physical findings included blanching erythematous plaques on her trunk and back and subcutaneous nodules on her arms. Her inflammatory markers were elevated but other tests were negative. The diagnosis established by the doctor was acute rheumatic fever and she was treated with high-dose aspirin and oral penicillin, after which her condition improved. The same symptoms were given to ChatGPT and the student summed up all the results in the table, which can be seen in Figure 1.

Based on the analysis of both columns, the student concluded that ChatGPT made a correct diagnosis.

Another case is provided as an example of poor diagnosis. It was a case of a young underweight girl who was hyperactive at rest, with pale, greyish skin and thin hair with alopecia patches. She also had peripheral tremor, weakness in her muscle strength, lowered mood and signs of anxiety. She had tenderness and pain in the epigastric region and showed signs of dehydration. After thyroid function tests, it was obvious that the girl had thyrotoxicosis, which is a life-threatening condition if left untreated. However, ChatGPT established the following diagnosis which can be seen in Figure 2.

Based on the symptoms described, it is important for Eve Collins to undergo a thorough medical evaluation by a healthcare professional to determine the underlying cause of her symptoms. The symptoms mentioned, such as severe tiredness, low mood, dark circles under her eyes, extreme malnutrition despite an increase in appetite, tachycardia, underweight appearance, dehydration, pale and greyish skin, thin hair, hyperactivity at rest, tenderness and pain in the epigastric area, lowered mood with signs of anxiety, muscle weakness, and peripheral tremor, could be indicative of various medical conditions. A healthcare provider would need to conduct further tests and assessments to make an accurate diagnosis and develop a treatment plan tailored to Eve's specific needs. It is important to seek medical attention promptly to address these concerning symptoms.

Figure 2 — The diagnosis established by ChatGPT

As it can be seen from the above diagnosis, ChatGPT is not reliable as it does not have all the data, but it still emphasizes the importance of seeking a medical help.

45 most interesting case reports were analysed to see how reliable ChatGPT is and what its strengths and weaknesses are. Out of 45 cases, ChatGPT correctly analysed 31, which is 68.9%. Most frequently, common conditions were correctly diagnosed, and they include: chronic kidney disease, Hashimoto's thyroiditis, left-sided heart failure, iron deficiency anaemia, systemic sclerosis, Ehlers-Danlos syndrome, Sjogren's syndrome, hypothyroidism, superior mesenteric vein thrombosis and acute pancreatitis. It also correctly diagnosed autoimmune disorders like systemic lupus erythematosus and diffuse systemic sclerosis, as well as a rare disease — fibrodysplasia ossificans progressive which was correctly diagnosed after a few more prompts were offered.

It partially correctly diagnosed 11 cases or 24.4%. For example, it diagnosed correctly acute myeloid leukaemia but missed the specific subtype (acute promyelocytic leukaemia). It also diagnosed pancreatic cancer at first, but with additional lab results it correctly diagnosed hepatocellular carcinoma. Sometimes incomplete assessments were responsible for its partially correct diagnosis, like in the case of bladder tumour when it first suggested urinary obstruction. Also, in the case of recognised osteomyelitis it did not pinpoint the specific bacterial cause.

ChatGPT incorrectly diagnosed 3 cases which were rare or complex diseases and they are — stone man syndrome, Crohn's disease when it failed to distinguish it clearly from similar gastrointestinal disorders and haematological malignancy, where it missed nuances in this leukaemia subtype.

Figure 3 shows the graph which presents the correctness of ChatGPT's diagnoses.

As it can be seen in Figure 3, the high percentage of correct diagnoses (68.9%) demonstrates the significant potential of ChatGPT as a supplementary tool in medical diagnostics.

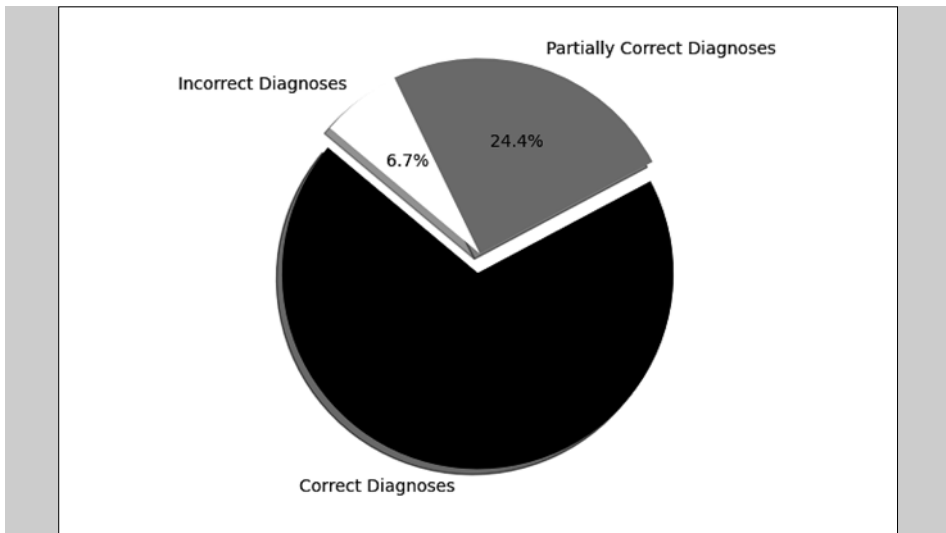


Figure 3 — A pie chart showing the correctness of medical diagnoses obtained by ChatGPT

Also, about 31% of responses are either partially correct or incorrect, which confirms the importance of using ChatGPT diagnoses only as a secondary aid to human expertise, rather than a primary decision-making tool.

In the end, the 6.7% of incorrect diagnoses, while relatively small, highlights areas where further refinement and validation are necessary to enhance the model's reliability and minimize risks to patient safety.

CONCLUSION

This study highlights both the strengths and limitations of ChatGPT in medical diagnostics. With a high percentage (68.9%) of correct diagnoses, the model shows significant potential as a supplementary tool for medical professionals. Its ability to identify common and even some rare conditions demonstrates its utility in supporting diagnostic processes. However, the 31% of cases where ChatGPT provided partially correct or incorrect diagnoses emphasises the importance of human oversight. Particularly, the 6.7% of entirely incorrect diagnoses reflect critical gaps that could lead to adverse outcomes if used as a standalone tool.

While ChatGPT can enhance productivity and efficiency in medical case analysis, it is not a substitute for professional medical expertise. Ethical considerations, including transparency in its use and careful validation of its outputs, remain crucial. Future efforts should focus on improving the model's accuracy, reducing errors, and ensuring its safe integration into healthcare practices. Ultimately, ChatGPT holds promise as a supplementary tool, complementing healthcare professionals, rather than replacing them.

Future research could focus on training AI models like ChatGPT with data referring to rare and complex diseases. This may help reduce the rate of incorrect diagnoses and improve reliability in such cases.

References

- Ahaley S. S. et al. (2023). ChatGPT in medical writing: A game-changer or a gimmick? // *Perspectives in Clinical Research*.
- Alkaissi H., & McFarlane, S.I. (2023). Artificial hallucinations in ChatGPT: Implications in scientific writing. *Cureus*, 15(2), e35179. <https://doi.org/10.7759/cureus.35179>. PMID: 36811129; PMCID: PMC9939079.
- Buholayka, M., Zouabi, R., & Tadinada, A. (May 23, 2023). Is ChatGPT ready to write scientific case reports independently? A comparative evaluation between human and artificial intelligence. *Cureus*, 15(5), e39386. <https://doi.org/10.7759/cureus.39386>.
- Kadi, G., & Aslaner, M. A. (2024). Exploring ChatGPT's abilities in medical article writing and peer review. *Croat Med J.*, 65(2), 93-100. <https://doi.org/10.3325/cmj.2024.65.93>. PMID: 38706235; PMCID: PMC11074943.
- Lin, K. -C., Chen, T. -A., Lin, M. -H., Chen, Y. -C., & Chen, T. -J. (2024). Integration and assessment of ChatGPT in medical case reporting: A multifaceted approach.? *European Journal of Investigation in Health, Psychology and Education*, 14(4), 888-901. <https://doi.org/10.3390/ejihpe14040057>.
- Meşe İ, Kuzan B, Kuzan T.Y. (2024). ChatGPT in medical writing: enhancing healthcare communication through artificial intelligence and human expertise. *Anatolian Curr Med J / ACMJ / acmj*, 6(1), 97-104. <https://doi.org/10.38053/acmj.1367414>.
- Zhou Z. (2023). Evaluation of ChatGPT's capabilities in medical report generation. *Cureus*, 15(4), e37589. <https://doi.org/10.7759/cureus.37589>.

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POSSIBILITIES OF IMPLEMENTING THE CLIL METHOD FOR FOREIGN LANGUAGE TEACHING FOR SUSTAINABLE DEVELOPMENT

Abstract

CLIL (Content and Language Integrated Learning) is a dual-focused approach in which an additional language is used for the learning and teaching of both content and language. A CLIL approach not only focuses on linguistic skills and the transfer of content but also promotes the development of transversal skills such as cooperation, creativity, citizenship, and critical thinking. CLIL should not simply be understood as a foreign language didactic concept in which the subject is only introduced to improve the learner's foreign language skills. Different strategies can be pursued in CLIL lessons that are also implemented in practice and, at the same time, lead to sustainable education. The research is conducted in the academic year 2023-2024 among graduate students studying German as a foreign language (Faculty of Humanities and Social Sciences in Split) to raise awareness of the importance of the CLIL method. The research aims to question students' perceptions of the use of CLIL so that they become aware that it is an approach that includes content and language in equal measure and where sustainable education could be developed. Language and content are taught and learned in an integrated manner, i.e., they are connected and treated as a whole. The Mann-Whitney normality test is to be used to confirm the assumption of normality, and descriptive statistics of relevant measures will be summarized according to sample size, mean values, and standard deviations. The research has shown that the added value of CLIL refers to the language and the subject, to develop a multilingual approach to teaching from the perspective of sustainable development in education.

Keywords: *CLIL method, research, sustainable development, education, foreign language*

INTRODUCTION

In recent years, a lively debate has erupted in European education policy about language education and the linguistic education of today's and future citizens of Europe. In recent years, the English term Content and Language Integrated Learning (CLIL) has become established in Europe as a generic term for educational or teaching contexts in which a language other than the learner's first language (L1) is used as the working language, at least in part. As one can easily imagine, the CLIL approach can be found in today's Europe — especially in its broad definition — in various variants and forms of practice (Marsh, 2002; European Commission, 2003, 2005, 2006). The added value

of CLIL for European school education is expected to be seriously examined in the coming years, not least from a language education policy perspective, with a view to more systematic anchoring in European education systems. Overall, we can now speak of a new and interesting development in language education policy in Europe, which is of course not made less interesting because the basic principles of CLIL are anything but new (Haatja, 2007). In regards to the spread and development of CLIL methods, experiences with language immersion have had a decisive influence in some cases. For example, in Finland, where the CLIL approach was able to develop quite quickly following the successful experience with Swedish immersion introduced towards the end of the 1980s, it has also been taken into account in various languages (English, German, French, and Russian) and educational contexts since the mid-1990s (Eurydice, 2006; Haatja, 2007; Järvinen, Haatja & Marsh, 2007). Due to its content, foreign language teaching is always a journey of cultural discovery, as students engage with the language, culture, etiquette, and dialects of their environment as well as that of the target language (Baker, 2006). Precisely because of the above, it can be concluded that the CLIL method can help the development of sustainable foreign language education, especially in higher education institutions focusing on teaching where students are preparing for such a role.

CLIL METHOD FOR FOREIGN LANGUAGE TEACHING FOR SUSTAINABLE DEVELOPMENT

Language is not a "transportation device" for content, but a means of constructing understanding. In Wittgenstein's sense, communication in language learning is a "language game". The language game takes place primarily in the language of instruction in the sense of communicative negotiation. The question always arises as to what skills teachers at higher education institutions have to implement the CLIL method in teaching to encourage the process of sustainable development and education. Integrated subject and language learning in CLIL lessons for sustainable education include: a) *subject learning*: the content of the subject, understanding it, and gaining knowledge using the methods that are specific to the subject (e.g. deductive methods, inductive methods, hermeneutic, experimental methods; b) *language learning in the subject*: the formation of concepts, the technical terms, the specific language structures in the subject, and c) *foreign language learning*: competent language learning in the target language (Leisen, 2013). In CLIL lessons, three didactics come together: 1) Subject didactics: teaching and learning the subject, 2) Language learning didactics in the subject: teaching and learning language learning in the subject and 3) Foreign language didactics: teaching and learning a foreign language (Bialystock, 2014). At the same time, he points out that there has not yet been any discussion of the "everyday business" of vocabulary work in bilingual subject teaching and that the efficiency of the various forms of vocabulary

work in CLIL teaching has not yet been sufficiently researched (Hollm, 2011, p. 321). Elsner also states that language work “is given too little consideration” in developing the didactics of bilingual learning and teaching (Elsner, 2009, p. 90). The special thing about CLIL is that it uses didactic methods from foreign language teaching. Most of the time, this is action-oriented, or in English, task-based (language) learning. This means that the students should be actively involved in the lesson and given tasks that they should work on independently (Marsh, 2000; Wolf, 2011). This is because action-oriented teaching focuses on learning through active action. As already mentioned, integrated language learning also prepares young people perfectly for the increasingly global job market. It is particularly suitable for sustainable education and development (Leisen, 2015).

METHODOLOGY

Problem research question

The subject of the research is to examine students' perception of the importance of applying the CLIL method in foreign language teaching for sustainable development. The research was conducted during the summer semester of 2023/2024. The research was conducted by online surveying among 1st and 2nd-year graduate students and graduate students who studied German as a foreign language at the Faculty of Humanities and Social Sciences in Split. The research tries to answer the following problematic questions: 1. Does the degree of key skills/competencies that teachers must have and/or acquire to apply the CLIL method in foreign language teaching have an impact?; 2. Which measurement standards according to students' perceptions are of great importance for teachers and essential for the future application of the CLIL method in foreign language teaching? and 3. What standards of the language situation do students consider essential for the sustainable development of education, tourism, and the development of entrepreneurship?

Statistical analysis, procedure, sample, and instrument

Descriptive analysis of relevant data is summarized in percentages (%). To determine the differences in individual variables, the non-parametric Mann-Whitney U test was used (Z value is shown) and the p-value as well as the significance threshold of $p < .05$ was presented. $N=40$ graduate students from the Department of German Language and Literature took part. It should be noted that this is the first generation enrolled in German language and literature studies, and that is why the number of respondents is 40. From that, 12 are graduate students of the 2022/2023 generation. The research was in the period of the winter semester of 2023/2024. Data were collected and processed in the statistical program data processing (SPSS version 23) for the application of descriptive and inferential statistics. The research was conducted online, and the online ques-

tionnaire compiled in Google Forms was placed on the Google Classroom platform so that students could fill out the online questionnaire at a time that suited them. A course was created in Google Classroom: *Models of Language Production*. The questionnaire consisted of a total of 24 open and closed questions. A Likert scale was used to assess the degree of gradation in certain variables.

RESEARCH RESULTS AND DISCUSSION

A total of 40 students participated in the research of the Department of German Language and Literature. Table 1. presents the data on respondents

	N	%
1. 1st year of graduate studies	10	25%
2. 2nd year of graduate studies	18	45%
3. graduate students of the 2022/2023 generation	12	30%
Total	40	100%

Table 1 — Presentation of data on respondents (N, %). Source: author.

The results show that 25% of respondents from the first year of graduate studies, 45% from the second year, and 30% from the third year participated in the survey, i.e., already (today) graduated students of German language and literature. The results show data on students' perceptions of the importance of using CLIL in foreign language teaching for sustainable development. 95% of respondents believe that using CLIL in foreign language teaching is very important for sustainable development. Outside the German-speaking countries of Europe, German as a foreign language suffers from a negative image. Studies of traditional foreign language teaching in Belgium, France, and the Netherlands found that the German language is perceived as hard and difficult to learn and that the image of German is associated with stereotypical images such as sausage, beer, sauerkraut and (still) the Second World War. Such attitudes have a negative influence on the motivation to learn the language and thus on learning success (Lochtman, 2009; Devaux, 2010). The results of the research, also show the students' opinions of the frequency of use of the CLIL method in a foreign language by teachers during their studies. Students thought that their teachers occasionally used CLIL methods (35%).

The results from Figure 1 indicate the respondents' opinions on the importance of the above language situation standards, which are essential for the sustainable development of education, tourism, and entrepreneurship. Students consider that all factors that include language situation standards are important (43%), which certainly includes the following: being able to present knowledge linguistically, monitoring the acquisition of knowledge through language, linguistically negotiating knowledge with others, and developing textual and linguistic skills. Only in recent years has CLIL teaching been

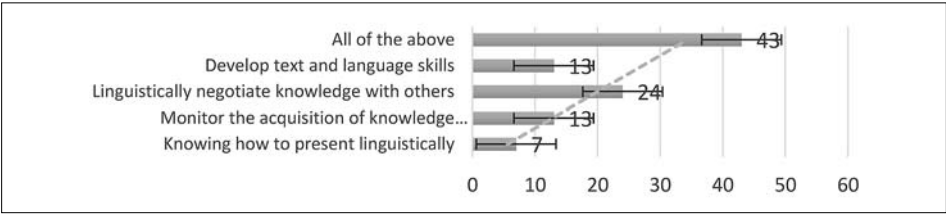


Figure 1 — Students' opinions on the type of language situation standards mentioned, which are essential for the sustainable development of education, tourism, and development of entrepreneurship (%). Source: author.

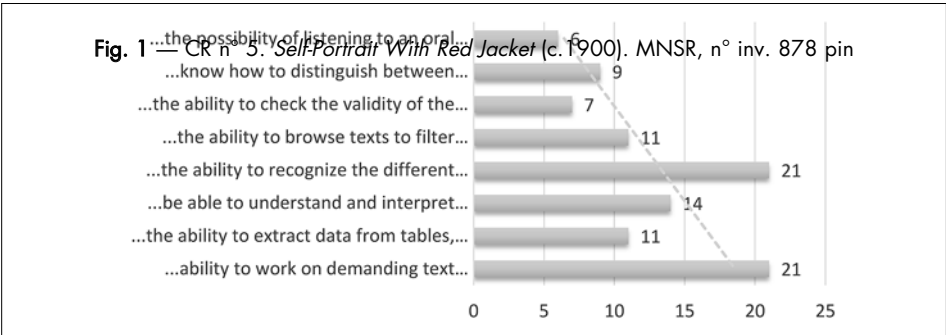


Figure 2 — Students' perception of the degree of importance of the language challenge. Source: author.

understood primarily as subject-specific teaching, in which the linguistic focus only comes to the fore when necessary for understanding the material. (Duske, 2017). The following are the results of the students' perception of the importance of applying the CLIL method in foreign language teaching for two categories: a) emotional development, and b) linguistic development (Figure 2). The opinion of students about the importance of the CLIL method for emotional development is very high. November believes that the use of the CLIL method also contributes to emotional development (89%). Students should often work in groups or pairs to develop their teamwork skills. Separating household waste is a topic that students are often confronted with in their everyday lives. This should make it easier for them to deal with the problem in a foreign language. Through various social forms of work such as group work, teamwork, pair work, etc. This potency and empathy can be achieved through emotional intelligence (Butzkamm, 1989). According to the qualitative characteristics, CLIL can be defined as follows to distinguish it from foreign language teaching: As a rule, it is not primarily about teaching subject content more or less entirely in a foreign language, nor is it about immersion in a foreign language or, in the traditional sense of immersion, a majority or minority language learning environment (Baker, 2006).

Figure 2 shows the results of the respondents' perceptions of the level of importance of the language challenge. The respondents were asked to rate the level of im-

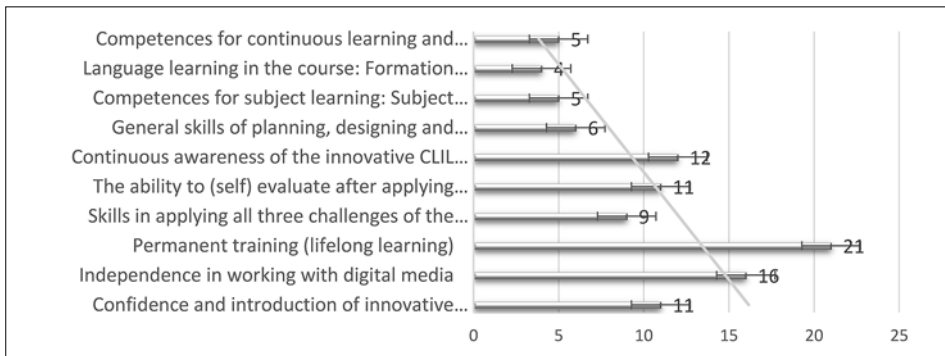


Figure 3 — Students' perception of the key skills/competencies teachers must have and/or acquire to apply the CLIL method in foreign language teaching. Source: author.

portance according to a Likert scale. The following standards were included in this question: 1) the ability to work on demanding text with technical vocabulary without visual aid (21%), 2) the ability to extract data from tables, graphs, without further explanation (11%) 3) be the ability to understand and interpret the main idea(s) of a long text (14%), 4) the ability to recognize the different intentions of different texts (21%), 5) the ability to view texts to filter important information (11%), 6) the ability to verify the validity of content and the credibility of sources (7%), 7) know how to distinguish between facts and opinions (9%), and 8) the possibility of listening to an oral lecture, even if dialects in a foreign language are emphasized (6%). For the question, what do you think would be the key skills/competencies teachers must have and/or acquire to apply the CLIL method in foreign language teaching?, the following results were obtained, as outlined in Figure 3.

Standard language situations in CLIL classes are typical and often repetitive learning situations that students should master as successfully as possible and develop their language skills in the process. They can be assigned to different categories, which are graded according to the level of difficulty. Standard language situations in CLIL teaching are typical and often recurring learning situations that students should master as successfully as possible and develop their language skills. They can be assigned to different categories, which are rated according to the level of difficulty. The next question was what measurement standards for teachers would be important in terms of importance for the future application of the CLIL method in foreign language teaching. For each statement of the standard, the respondents had to determine the degree of importance. Furthermore, the research showed that the standard language situations (Figure 5) that the students consider essential for the sustainable development of education, tourism, and the development of entrepreneurship are the following: 1. Standard 3: Have methodological knowledge of language learning, language diagnosis, and language support in CLIL teaching (24%); 2. Standard 1: Possess language skills and language ac-

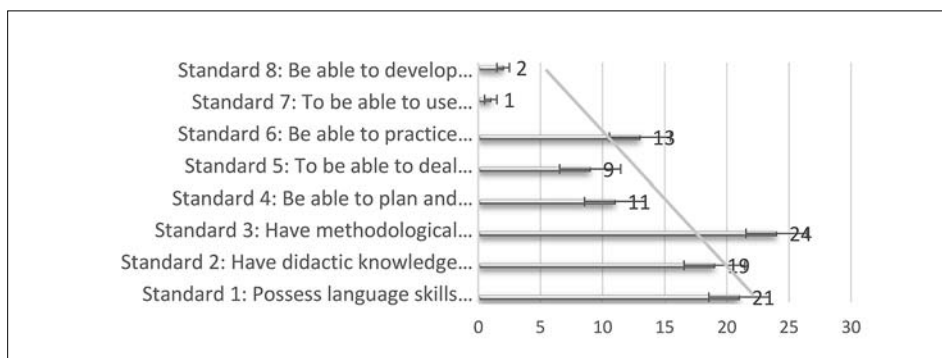


Figure 4 — Students' perception of the importance of measurement standards for teachers that are essential for the future application of the CLIL method in foreign language teaching. Source: author.

quisition in CLIL (21%), and 3. Standard 2: Have didactic knowledge of language learning, language diagnosis, and language support in CLIL teaching (19%).

Figure 4 shows the results of respondents' perceptions of the level of importance of the language challenge. Respondents were asked to rate the level of importance on a Likert scale. The following standards are included in this question: a) Standard 1: Possess language knowledge and language acquisition in CLIL, b) Standard 2: Have didactic knowledge of language learning, language diagnostics, and language support in CLIL teaching; c) Standard 3: Have didactic knowledge of language learning, language diagnostics, and language support in CLIL teaching; d) Standard 4: Be able to plan and design language learning processes in CLIL lessons e) Standard 5: Be able to deal professionally with standard language situations in CLIL teaching; f) Standard 6: Be able to practice sustainable language education in CLIL classes; and g) Standard 7: Be able to use language diagnostic methods in CLIL teaching, and h) Standard 8: Be able to develop language education skills in CLIL. In this approach, the lessons given in the mother tongue and the foreign language form a whole. The lessons are bilingual so the most appropriate language is chosen in learning situations depending on the purpose and situation. According to the CLIL method, the learning content of all subjects except the mother tongue can be taught in a foreign language. The language is not the actual learning goal but rather a means of learning. Formal language instruction takes place in language lessons (Haatja, 2007; Leisen, 2013). The Mann — Whitney test (Z-value) shows that the difference in the respondents' opinions regarding the importance of using CLIL methods in teaching is greater among graduate students than among students who are still studying, greater than among students [$Z=-2.04$, $p<.05$]. It could be because they felt the weight of the labor market. Furthermore, the results of the correlation analysis indicate a significantly high correlation between all standards of the language situation and more frequent use by teachers of the CLIL method in teaching [$p=,48-.66$]. Differences in individual statements regarding the development of adoption

of digital literacy among students exist only for the variable female gender ($Z2=-1.99$; $p=0.04$). Female respondents who consider themselves to have more developed digital literacy state that the CLIL method is handy for all three levels: 1. linguistic, 2. cultural, and 3. emotional. CLIL offers a natural situation in which to play with what has been learned, to try it out in authentic situations and to be allowed to make mistakes. This can have a significant impact on the learners' self-confidence about the foreign language (Coyle, Hood, & Marsh, 2010, pp. 11-12)

CONCLUSION

CLIL is the use of a second or foreign language to teach content and language skills in an integrated manner outside of language classes, incorporating elements of foreign language teaching. It is a pedagogical approach "in which another language is used to teach and learn subjects and language to promote mastery of both the subject and the language to pre-determined goals" (Lochtman, 2011, pp. 46). The CLIL teaching approach (Content and Language Integrated Learning) represents the teaching of one or more subjects in a foreign language, where the foreign language plays an intermediary role in conveying the content of those subjects, but also the content of that foreign language. Research has shown that for teachers to apply the CLIL method more often in the teaching of a foreign language, permanent education is necessary - according to the students. And that the standards of the living situation are of great importance for the application of the CLIL method to achieve awareness of sustainable development and sustainable education of a second foreign language. Furthermore, the research showed that the standard language situations that the students consider essential for the sustainable development of education, tourism, and the development of entrepreneurship are the following: 1. Standard 3: Have methodological knowledge of language learning, language diagnosis, and language support in CLIL teaching (24%); 2. Standard 1: Possess language skills and language acquisition in CLIL (21%), and 3. Standard 2: Have didactic knowledge of language learning, language diagnosis, and language support in CLIL teaching (19%). Some of the responding students expressed that students can feel discouraged, overwhelmed, anxious, inadequate, and helpless when listening, reading, and using a foreign language. These feelings negatively affect students' self-confidence, and thus also affect their willingness to take risks when using the language. In this way, the development of sustainable education can be ensured. Students believe that for more frequent use of the CLIL method in teaching by teachers, the aspects of digital literacy development for the use of tools, in the development of permanent education, and most of all in the ability to (self) evaluate after applying the CLIL method in foreign language teaching. The research has shown that the added value of CLIL refers to the language and the subject, to develop a multilingual approach to teaching from the perspective of sustainable development in education. It offers le-

arners the opportunity to apply and expand the language skills they have already acquired. Whether it is self-esteem, recognition, interest in the subject matter, or a completely different intrinsic or extrinsic factor that drives the learners - motivation plays a decisive role in their success.

References

- Baker, C. (2006). *Foundations of bilingualism and bilingual education* (4th ed.). Multilingual Matters.
- Bialystock, E., & Poarch, G. J. (2014). Language experience changes language and cognitive ability. *Zeitschrift für Erziehungswissenschaft* 17, 433-446.
- Butzkamm, W. (1989). *Psycholinguistik des Fremdsprachenunterrichts*. Natürliche.
- Coyle, D., Hood, P., & Marsh, D. (2010). CLIL — Content and language integrated learning. Cambridge University Press
- Devaux, V. (2010). *Deutsch als Fremdsprache in Frankreich: Einfluss und Ergebnisse des deutschsprachigen CLIL. Attitüden, Image, Motivation und Interkulturalität im deutsch-französischen Gymnasium von Buc*. Brüssel: Université Libre de Bruxelles (unpublished dissertation).
- Duske, P. (2017). *Bilingualer Unterricht im Fokus der Biologiedidaktik — Auswirkungen von Unterrichtssprache und -kontext auf Motivation und Wissenserwerb*. (Doktorarbeit) Wiesbaden, DE: Springer Fachmedien.
- Europäische Kommission (Hrsg.) (20003). Aktionsplan zur Förderung des Sprachenlernens und der Sprachenvielfalt. Mitteilung der Kommission an den Rat, das Europäische Parlament, den Europäischen Wirtschafts- und Sozialausschuss und den Ausschuss der Regionen.
- Europäische Kommission (Hrsg.) (2005). Eine neue Strategie der Mehrsprachigkeit. Mitteilung der Kommission an den Rat, das Europäische Parlament, den Europäischen Wirtschafts- und Sozialausschuss und den Ausschuss der Regionen. KOM (2005) pp. 596, endgültig. Brüssel.
- Europäische Kommission (Hrsg.). (2006). Eurydice Unit. Brüssel.
- Haataja, K. (2007). Warum CLILig? Ein Blick in die Hintergründe und Zielsetzungen einer europäischen Erhebung zum integrierten Sprach- und Fachlernen auf Deutsch. In: Deutsche Lehrer im Ausland, Jg. 54, 1/2007, pp. 18-37. Aschendorff, Münster.
- Hollm, J. (2011): Wortschatzarbeit im bilingualen Sachfachunterricht. In: Schäfer, Patrick/Schowalter, Christine (Hrsg.): In mediam linguam. Mediensprache — Redewendungen-Sprachvermittlung. Festschrift für Heinz-Helmut Lüger. Landau: Verlag Empirische Pädagogik, pp. 319-329.
- Elsner, D. (2009). Und wenn ich nichts versteh, dann denke ich halt nach!" Content and Language Integrated Learning (CLIL) in der Grundschule - ein Beispiel. In: Abendroth-Timmer, Dagmar/Elsner, Daniela/Lütge, Christiane/Viebrock, Britta (Hrsg.): Handlungsorientierung im Fokus. Impulse und Perspektiven für den Fremdsprachenunterricht im 21. Jahrhundert. Frankfurt a.M.: Lang, pp. 89-100.
- Järvinen, H. M., Haataja, K., & Marsh, D. (2007). Content and Language Integrated Learning in Finland — A Country Profile. In D, Marsh, et al. (Hrsg.): Windows on CLIL — Insights and Perspectives on CLIL and Bilingual Education in Europe (to appear).
- Leisen, J. (2015). Der sprachensible Fachunterricht — DFU". In K. Haataja, & R. E, Wicke,. (Hrsg.) (2015). pp. 117-120.
- Lochtman, K. (2011). Attitüden und Sprachlernmotivation im CLIL-Unterricht: Ob und wie CLIL die Sprachlernmotivation für weniger beliebte Fremdsprachen wie DaF beeinflussen kann. Paper presented at *Langscape meeting at the Langscape CLIL Conference 2011: CLIL*:

Complementing or Compromising Foreign Language Teaching? Effects and Perspectives of Education Policy Plans, Frankfurt a.M., Germany.

- Leisen, J., (2013b). Darstellungs- und Symbolisierungsformen im Bilingualen Unterricht. In W. Hallet, & F. G., Königs, *Handbuch Bilingualer Unterricht. Content and Language Integrated Learning*. Klett-Kallmeyer: Seelze, pp. 152-160.
- Marsh, D., & Langé, G. (2000), Using languages to learn and learning to use languages. TIE-CLIL, Ministero della Pubblica, Universität Jyväskylä und Milan Istruzione.
- Marsh, D., Langé, Gisella (2000). *An introduction to CLIL for parents and young people — using languages to learn and learning to use languages*. University of Jyväskylä.
- Marsh, D.i (Hrsg.) (2002) CLIL/EMILE — The European Dimension. Actions, Trends, and Foresight Potential. Public Services Contract DG EAC 36 01 Lot 3. Jyväskylä.
- Wolf, D. (2011). QUARTAPELLE, Franca. CLIL in deutscher Sprache in Italien — ein Leitfaden. Milano — Italien: Goethe-Institut Mailand.

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EXPERIENCES OF UNIVERSITY STUDENTS WITH THE USE OF AI TECHNOLOGY FOR ACADEMIC PURPOSES

Abstract

As artificial intelligence (AI) becomes increasingly prevalent in everyday life, its growing impact on tertiary education has become inevitable. The goal of this paper is to investigate the experiences of students from three different institutions of higher learning with artificial intelligence through a structured survey encompassing diverse dimensions of AI usage. The survey addresses the tools employed by students, the purposes for which AI is utilized, and the perceived impact of AI on the academic success of the participants. Factors such as the extent of their preparedness for AI implementation and potential challenges are also explored. In addition, the study examines the participants' attitudes towards AI usage in connection with academic integrity, the ethical considerations of AI usage, and the potential role of AI in shaping the value of educational credentials. Furthermore, the survey explores student perceptions of the advantages and disadvantages of AI in higher education. The findings offer insights for educators and institutions aiming to enhance AI integration in higher education while focusing on the perspective of the students themselves.

Key words: artificial intelligence, students, student experiences, tertiary education

INTRODUCTION

Artificial intelligence (AI) refers to the development of computer systems that can perform tasks typically requiring human intelligence, such as decision-making, problem-solving, and learning (Bellman, 1978). Over recent years, AI has become an integral part of various fields, transforming how we approach complex problems and make decisions across industries. In education, AI tools have emerged as valuable resources for both students and educators, offering new ways to support learning, personalize content, and improve engagement (Almusaed et al., 2023).

The employment of AI by higher education students for academic purposes has seen a growth in recent years, with one UK survey reporting that “one in three students use artificial intelligence (AI) to help with their studies at least once a week” (Neves et al., 2024, p. 8). AI-driven tools like chatbots, image generators, and personalized learning platforms have the potential to enhance learning experiences by providing immediate feedback and allowing access to resources outside of traditional classroom settings (Alam, 2023). However, the use of AI also raises important ethical and practical considerations (Floridi et al., 2018), particularly in the context of education (Kajiwara & Kawabata, 2024) and student experiences with the use of AI tools (Khare, Stewart & Khare, 2018; Kieslich, Lünich, Marcinkowski & Starke, 2019; Kelly, Sullivan & Strampel, 2023; Alkhaaldi et al. 2023; Klarin & Ivaniš, 2023). Issues such as academic integrity, the potential for dependency on AI tools, and concerns about the devaluation of educational credentials are now subjects of discussion among educators and students alike.

The aim of this study was to examine the experiences of students from three different Croatian institutions of higher learning at the University of Zagreb (Faculty of Teacher Education, University of Applied Health Sciences, and Faculty of Political Science) with the use of artificial intelligence for academic purposes. The study was focused on collecting and examining information about the tools employed by students, the purposes for which AI is utilized, and its perceived impact on the academic success of the participants. Factors such as the extent of student preparedness for AI implementation and potential challenges were also explored. In addition, the study examined the participants’ attitudes towards AI usage in connection with academic integrity, the ethical considerations of AI usage, and the potential role of AI in shaping the value of educational credentials. Furthermore, the survey aimed to explore student perceptions of the overall advantages and disadvantages of AI in higher education.

METHODOLOGY

An anonymous survey was conducted among students at three higher education institutions located in Zagreb, Croatia: Faculty of Teacher Education, Faculty of Political Science, and University of Applied Health Sciences. An anonymous questionnaire, specifically designed for this study, was used to conduct the survey. The questionnaire was created using the Google Forms online tool and contained questions on demographic data, the type of study, year of study, context of AI use, tools used, study-related purpose of AI use, formal training for AI use, challenges of using AI tools, institutional rules for AI use, as well as questions about the impact of AI use on the value of academic credentials obtained through AI use and open-ended questions about student attitudes on the advantages and disadvantages of AI use. Prior to providing students with the link to the questionnaire, the necessary approval for the survey was obtained from the ethics committees of each faculty involved in the study.

RESPONDENTS

The study included 248 respondents (204 female and 44 male) studying at one of the three higher education institutions in Croatia included in this study. The participants were approximately equally divided between the three institutions (Faculty of Teacher Education, 37%; Faculty of Political Science, 33%; University of Applied Health Sciences, 30%). An overwhelming number of respondents are in their first year of study (71.4%), with other years of study represented by much fewer students (second year, 3.2%; third year, 16.5%; fourth year, 0.4%; fifth year, 8.5%).

All respondents were informed of the purpose and manner of conducting the anonymous survey, and they were requested to indicate that their participation was voluntary. The participants received the link to the online questionnaire via email. Their responses were collected over the period of time between 12 March and 29 April 2024.

RESULTS

The first AI-related question was a multiple-choice question about the context of the respondents' use of AI for academic purposes, and it received 213 responses. The question aimed to examine the conditions in which students have used AI and whether they had received any instructions on their use of AI from their instructors. The response "I have used artificial intelligence for homework, projects, seminar papers, and/or similar assignments, but NOT because it was required by the instructor" was selected by a majority of respondents (180, or 77.9%). On the other hand, the response "I used artificial intelligence for homework, projects, seminar papers, and/or similar assignments because it was required by the instructor" was selected by significantly fewer respondents (58, or 25.1%). This indicates that almost 50% more participants have relied on AI assistance without suggestion from their instructors. What is more, students also admit to having used AI during testing without the permission of their instructor (42, or 18.2%). A small section of the respondents claims to have used AI during testing with permission (14, or 6.1%). When asked whether their instructors have spoken to them about the use of AI and/or the ethical implications of such use, slightly more than half of the participants claim that their instructors have indeed spoken to them about such issues (122, or 52.8%).

In relation to the previous question, the participants were also asked whether their place of study had clearly defined rules for the use of AI. A significant number of participants answered that they did not know (154, or 62.1%), while 42 (16.9%) respondents answered in the negative, and only 21 (8.5%) in the positive. 31 (12.5%) respondents claim that some of their instructors or courses have clearly outlined rules, but not all. The participants were then asked to explain in what form they had been notified about the rules for the use of AI if their place of study provided them with such instructions. Most of the total number of 131 respondents claim that they were informed

orally (76, or 58%) by their instructors, while others received this information from their colleagues (27, or 20.6%); via the course syllabus (15, or 11.4%); through email (7, or 5.3%); or from a student brochure (6, or 4.5%).

Along the same line of inquiry, the participants were asked whether they had received any formal instruction on the use of AI or guidelines on its effective use. Out of 248 responses, most were in the negative (231, or 93.1%), with only 17 (6.9%) positive responses. Such results may be connected to the results of the next question, which asked whether the students had encountered any challenges or difficulties in the use of AI tools for academic purposes. Of the 242 respondents who answered the question, most (130, or 54.1%) claim to have found AI tools to be unreliable or that they have provided them with inaccurate answers. A significant number of respondents (74, or 30.5%) claim that they have experienced loss of independence in academic work, while a sizable number of respondents (59, or 24.3%) encountered limited access to AI resources, with a minority of respondents reporting problems with the complexity of using such tools (22, or 9%). 66 (27.2%) respondents experienced no issues with using AI tools.

When asked about the exact AI tools they have used in academic contexts and the purposes for which they have used them, most of the participants who answered the question (a total of 218) claim to have used ChatGPT (191, or 87.6%) or Grammarly (76, or 34.8%) for writing essays, compositions, or seminar papers (153, or 68.6%); preparing presentations (136, or 61%); translating (92, or 41.3%); learning a foreign language (34, or 15.2%). Importantly, 47 participants (21.1%) have used AI for the purposes of written exams, while 8 (or 3.6%) have used AI assistance during oral exams, and 9 have used it for writing their final theses (9, or 4%).

The next six questions were focused on the attitudes of the respondents toward the use of AI tools in academic contexts, both by students and instructors. The respondents were first asked to express their level of agreement with the statement "I believe that artificial intelligence positively impacts my studying experience." This statement was mostly positively assessed, with 48 (19.4%) respondents completely agreeing and 89 (35.9%) somewhat agreeing. 27 (10.9%) respondents somewhat disagree and 16 (6.5%) completely disagree. A significant number of respondents, 68 (27.4%), remain undecided.

The next question focused on the idea of fairness of using AI tools for academic purposes. When asked to assess the statement "I believe that using artificial intelligence (without the knowledge or permission of the instructor) for homework, projects, term papers, final papers, theses, or exams is cheating", again most of the respondents agreed with the statement, with 41 (16.5%) completely agreeing and 69 (27.8%) agreeing somewhat. While a sizeable proportion of respondents neither agree nor disagree (76, or 30.6%), a smaller proportion somewhat disagrees (43, or 17.3%) or completely disagrees (7.7%) with the statement.

The following question built upon the previous, requiring the respondents to assess the claim that “students' use of artificial intelligence (without the knowledge or permission of the instructor) for homework, projects, term papers, final papers, theses, or exams diminishes the value of the degree they are pursuing”. Those in agreement again took the lead, with 34 (13.7%) agreeing completely and 71 (28.6%) agreeing somewhat, but a relatively sizeable percentage disagreed somewhat (40, or 16.1%) or completely disagreed (38, or 15.3%). A significant number remained neutral (65, or 26.2%). The next question shifted the focus on the instructors' use of AI tools, requiring the respondents to assess the following statement: “If university instructors regularly use artificial intelligence for preparing courses, lectures, or teaching materials, this will diminish the value of the degree their students are pursuing”. In comparison with previous questions, more respondents remained neutral (93, or 37.5%), while those who agree completely (27, or 10.9%) or somewhat agree (58, or 23.4%) only slightly outnumber those who somewhat disagree (39, or 15.7%) or disagree completely (31, or 12.5%).

The final two questions required the respondents to assess the general advantages and disadvantages of the use of AI tools for academic purposes. The respondents could choose from several options and, if they wished, enter their own responses. When it comes to the advantages of using AI tools, the respondents expressed their appreciation of the speed with which they can receive answers to their questions (191, or 77%); 24-hour availability of AI tools (174, or 70.2%); quick task completion (145, or 58.5%); translation from one language into another (136, or 54.8%); interactive learning (92, or 37.1%); efficient time management (60, or 24.2%); or content adjusted to student needs (59, or 23.8%). A small number of students (21, or 8.5%) states that AI has no advantages. Regarding disadvantages, the respondents list the following: excessive reliance on technology (176, or 71%); loss of independence (174, or 70.2%); unreliable sources and accuracy of information (160, or 64.5%); lack of critical thinking (156, or 62.9%); limited human interaction (97, or 39.1%); loss of traditional method of learning (87, or 35.1%); misuse of personal information (58, or 23.4%); and depersonalization of the teaching process (58, or 23.4%). Only 13 respondents (5.2%) claim that there are no disadvantages to the use of AI tools.

CONCLUSION

The results of this study indicate that most of the respondents, regardless of their place of study, have used artificial intelligence for academic purposes. The respondents' replies also show that they have used AI for a broad range of tasks related to academic study, from writing essays, seminar papers, and final theses to translating, preparing presentations, and even during written and oral examinations. Although a majority of respondents uses AI tools for such purposes, predominantly ChatGPT and Gram-

marly, they are doing so despite the fact that the overwhelming majority of them (93.1%) has not received any formal instruction on the use of AI. This is also despite the fact that more than half of the respondents (62.1%) do not know if their university has a clearly defined set of rules on the use of AI (although they report that they have received comments on the ethical issues of AI use from their instructors and information about rules regarding AI tools for individual courses). Furthermore, their reliance on AI occurs despite their stated awareness of a variety of serious drawbacks of such tools, including unreliability of answers provided by AI and potentially long-term consequences such as loss of independence in performing academic tasks, lack of critical thinking, and excessive reliance on technology.

Such an approach to AI use is reflected in the respondents' assessment of statements designed to gauge their attitudes toward the use of artificial intelligence in an academic context. More than half of respondents (55.3%) partially or completely agree that AI is positively impacting their experience of studying. Fewer than half of respondents (44.3%) partially or completely agree that using AI for academic purposes without permission constitutes cheating, and the number drops further when it comes to those who partially or completely agree that such practices diminish the value of their future academic certificates (42.3%). The use of AI tools by instructors at institutions of higher education is of even less concern for respondents, as altogether 34.3% believe that such practices diminish the value of their students' future academic certificates. Overall, it seems that respondents view the use of AI tools for academic purposes in a positive light, despite identifying some serious drawbacks and ethical implications involved in such practices.

While this study has identified areas in which students use AI for academic purposes, as well as their attitudes toward AI use, it does have certain limitations. Further research should explore to what extent AI tools are used in academic contexts, i.e. what percentage of essays, seminar papers, and final theses are written with the aid of AI or in what ways AI is used during written and oral examinations. Additionally, it may be beneficial to repeat or expand similar studies in order to track developments over time in the relationship between student attitudes toward AI use and their academic success, as well as potential changes in trends regarding the selection of AI tools available to students. Finally, conducting similar research in different cities or countries and comparing their results may indicate similarities in trends that reach beyond the higher education institutions in Zagreb.

References

- Alam, A. (2023). Harnessing the power of AI to create intelligent tutoring systems for enhanced classroom experience and improved learning outcomes. In G-Rajakumar, K. L. Du, & A. Rocha (Eds.), *Intelligent Communication Technologies and Virtual Mobile Networks. ICICV 2023*. Springer. https://doi.org/10.1007/978-981-99-1767-9_42.

- Alkhaaldi S. M. I., Kassab C. H., Dimassi Z., Oyoun Alsoud L., Al Fahim M., Al Hageh C., & Ibrahim H. (2023). Medical student experiences and perceptions of ChatGPT and artificial intelligence: Cross-sectional study. *JMIR Med Educ.* <https://doi.org/10.2196/51302>.
- Almusaed A., Almssad A., Yitmen I., & Homod R. Z. (2023). Enhancing student engagement: Harnessing “AIED”’s power in hybrid education — A review analysis. *Education Sciences*, 13(7). <https://doi.org/10.3390/educsci13070632>.
- Bellman, R. E. (1978). *An introduction to artificial intelligence: Can computers think?* Boyd & Fraser Publishing Company.
- Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., & Luetge, C. (2018). AI4People — An ethical framework for a good AI society: Opportunities, risks, principles, and recommendations. *Minds and Machines*, 28, 689-707. <https://doi.org/10.1007/s11023-018-9482-5>.
- Kajiwara Y., & Kawabata K. (2024). AI literacy for ethical use of chatbot: Will students accept AI ethics? *Computers and Education: Artificial Intelligence*, 6. <https://doi.org/10.1016/j.caeai.2024.100251>.
- Kelly, A., Sullivan, M., & Strampel, K. (2023). Generative artificial intelligence: University student awareness, experience, and confidence in use across disciplines. *Journal of University Teaching & Learning Practice*, 20(6). <https://doi.org/10.53761/1.20.6.12>.
- Khare, K., Stewart, B., & Khare, A. (2018). Artificial intelligence and the student experience: An institutional perspective. *IAFOR Journal of Education*, 6(3), 63-78. <https://doi.org/10.22492/ije.6.3.04>.
- Kieslich, K., Lünich, M., Marcinkowski, F., & Starke, C. (2019). Hochschule der Zukunft: Einstellungen von Studierenden gegenüber Künstlicher Intelligenz an der Hochschule. *Institute for Internet und Democracy*. Available from: https://www.researchgate.net/profile/Kimon-Kieslich/publication/336588629_Hochschule_der_Zukunft_-_Einstellungen_von_Studierenden_gegenueber_Kuenstlicher_Intelligenz_an_der_Hochschule/links/5da72ad392851caa1baa44c2/Hochschule-der-Zukunft-Einstellungen-von-Studierenden-gegenueber-Kuenstlicher-Intelligenz-an-der-Hochschule.pdf. Accessed 30 November 2024.
- Klarin, Z., & Livačić, T. (2023). Primjena chatgpt jezičnog modela umjetne inteligencije u visokom obrazovanju. In D. Zlatović & D. Mečev (Eds.), *Zbornik radova Veleučilišta u Šibeniku*, 17(3-4), pp. 99-112.
- Neves, J., Freeman, J., Stephenson, R., & Sotiropoulou, P. (2024). *Student Academic Experience Survey 2024*. <https://www.hepi.ac.uk/wp-content/uploads/2024/06/SAES-2024.pdf>. Accessed: 10. November 2024.

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THE DEVELOPMENT OF CHARITABLE ORGANISATIONS SUPPORTING MARGINALISED WOMEN IN THE AREAS OF THE AUSTRO-HUNGARIAN MONARCHY IN THE FIRST HALF OF THE 19TH CENTURY ON THE EXAMPLE OF KRAKOW (HISTORICAL CONTEXTS)

Abstract

A major problem in Austria-Hungary was the social situation of young women coming from the margins of society, servants, homeless, living on the streets of the metropolises of that time. They tended to come from the poorest areas of the empire-Galicia, as evidenced by the historical name 'Galician misery' depicting the dire living conditions of the rural population. So, the girls set off for the big cities in the hope of finding work and improving their situation. Unfortunately, they often became victims of crime there or finding work as servants, became slaves in the homes of the rich bourgeoisie. To save this social group, charity organisations were set up, implementing very modern forms of help, supporting both young women as well as their illegitimate children.

Key words: *The Austro-Hungarian Monarchy, charity organisations, social exclusion, woman-servant, state social policy, poverty as a social phenomenon*

INTRODUCTION

As a result of the Congress of Vienna, the lands seized by the Habsburgs in the first partition of Poland in 1772 remained under Austrian rule. At the Congress of Vienna, the Poles were promised considerable political freedoms in order to calm the separatist situation in the monarchy.¹ The basis of the economy in the Austrian partition was agriculture based on old and inadequately yielding extensive agriculture. In these

¹ P. Jakubiec, „Two Souls”, or the evolution of the social and national identity of the Galician peasant population in the second half of the nineteenth and early twentieth centuries', [in:] *Zeszyty Naukowe Uniwersytetu Jagiellońskiego*, z. 2 (2017), pp. 413-426.

lands, no care was taken to develop industry and we can only speak of the successful development of the salt mines near Krakow as well as the estates of wealthy nobility.² The group, the largest in Polish society living under the Austrian partition, was the group of poor people, farm peasants, rural proletariat, homeless people, living on the streets of large cities, among them children without care, illegitimate children, single mothers, female servants, and finally female prisoners.³

METHODOLOGY AND DATA COLLECTION

In my publication, I have used the method of archival research-analysis of documents. The subjects of my research were mainly young women from poor Galician families emigrating to Krakow in search of servant work, as well as women from the Krakow proletariat.

In addition, an important premise of the research was to analyse charitable organisations helping poor women in various life situations, ranging from finding them housing, work, liberation from slave labour, assistance to women thrown out on the street, assistance to serving mothers, and defence against injustice in the courts of the time. For the purposes of the research, I analysed archival materials from the National Archives in Krakow, the Archives of the Albertine Brothers in Krakow, the Archives of the Dominican Fathers in Krakow, the Archive of the Carmelite Fathers in Krakow and the Archive of Historical Records in Warsaw. All sources that provided information on research problems have been indicated in the bibliography of the above publication.

RESULTS AND DISCUSSION

The situation of women on the margins of society

Among the poorest groups of Polish society living in the big cities of Krakow and Lviv were women, deprived of their social status, deprived of all rights. In view of the difficult living conditions in the Galician countryside, it was very common for adolescent children, mostly girls, to go to the cities in search of work, usually as servants.

The position of a servant was one of the most difficult jobs, given the young age of the girls and the demands of the families to which they were sent. The position of a maid was one of the most difficult due to the young age of the girls and the requi-

² A. Wdowik, Poles in Baden at the turn of the eighteenth and nineteenth centuries in the light of selected Austrian archival sources, [in:] „Galicia, Studies and Materials”, published by the University of Rzeszów, 7/2021, pp. 369-377.

³ P. Woś, Galician People's Movement in the Initial Period of the People's Party, [in:] „Galicia, Studies and Materials”, University of Rzeszów Publishing House, 6/2020, pp. 492-505. K., Bąkowski, Krakow Chronicle 1795-1848, part 1, Cracow 1905, p. 69; S. Szczepanowski, The Misery of Galicia in Numbers. A programme for the energetic development of the national economy, Lviv 1888, p. 49; Bąkowski K., Cracow Chronicle 1849-1860), part 2, Cracow 1905, p. 69-72.

Years	Age of the servant	The type of penalty imposed
1825	13 aged	expulsion on the street
	11 aged	explosion on the street
1827	10 aged	expulsion on the street
	13 aged	fatal beating
	15 aged	scalding the face with boiling water
1830	16 aged	being thrown from the second floor of an apartment building
	17 aged	custodial sentence
1831	16 aged	custodial sentence

Own research based on sources: Internal Affairs and Police Department files, No Team 87, reference 209; Statutes, orders of the Krakow Benevolent Society, ref. 209, par. 7 & 8, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48; Krakow Charitable Society, Personal records of women and girls of the Charitable Society 1830-1890, Ref. TD 413; Prison school and prisoner employment, ref. 29/440/107.

Table 1 — Most common penalties meted out to servants by their employers in Krakow (selected examples)

Year	Age of the servant	Prison sentence imposed	Comments
1850	17 aged	2 years	
	19 aged	3 years	As a result of help from the Krakow Benevolent Society, she was released after 6 months
1853	16 aged	1/2 year	Released home after two months due to progressive tuberculosis
1855	19 aged	2 years	
1860	21 aged	1 years	Died in prison of tuberculosis

Own research based on sources: Internal Affairs and Police Department files, NR Team 87, reference 209; Prisoners' education for the year 1899, ref. 29/440/108; St Joseph's Society for the Care of Girls, ref. 421; Records of the Department of Internal Affairs and the Police 1816-1848; Yearbook of the Krakow Charitable Society for the year 1855.

Table 2 — Women servants sentenced to imprisonment in Krakow between 1850 and 1860 (selected examples)

rements of the families to which they were sent. There were no regulations regarding the working hours of maids, which depended solely on their employers. The working hours of the service usually lasted from dawn to midnight.⁴

⁴ Ibidem, p. 179.

Legal regulation, concerning domestic servants in Kraków, took place in 1821 by a parliamentary act, which included laws concerning the relationship between masters and servants.⁵ This legal regulation, unfortunately, only allowed, in minimal cases, a fair defence of the servants against exploitation and revenge by the employers.⁶ (table 1)

Many of these women servants were wrongly accused of stealing the personal property of the family in which the woman worked (Table 2.)

Forms of assistance for marginalised women

In the first half of the 19th century, there were charitable organisations in Galicia established by representatives of the nobility and the wealthy bourgeoisie. Their aim was to help socially excluded people, including marginalised women. One of these was the Krakow Benevolent Society. It was founded in 1816 on the initiative of the bourgeoisie of Krakow.⁷

Women's aid was implemented in the following ways:

- Homeless women found accommodation and food at the Shelter House for Poor Women,
- The women's children took refuge in the Orphans' Home for the duration of their prison sentence, where they were adequately cared for,
- Received support during job search,
- Women accused of a crime could expect a fair trial by receiving free legal aid.⁸

Educational activities in prisons where women served their sentences

The Krakow Charitable Society also carried out educational activities in prisons where women served their sentences. Most of these women were illiterate *analfabeci*, so elementary education was very important to them. For women who could read and write, further levels of education were organized, including the possibility of graduating from junior high school by the most talented girls.⁹

Organized classes in the field of housekeeping, sewing, cooking, and cleaning have also become common. An important role in the education of female prisoners was

⁵ St Joseph's Society for the Care of Girls, ref. 421.

⁶ Yearbook of the Krakow Charitable Society for the year 1860.

⁷ Yearbook of the Krakow Charitable Society for the year 1845; Yearbook of the Krakow Charitable Society for the year 1855; Yearbook of the Krakow Charitable Society for the year 1860; Yearbook of the Krakow Charitable Society for the year 1863; Yearbook of the Krakow Charitable Society for the year 1865.

⁸ Society of St. Joseph in Krakow, [in:] Archiwum Narodowe w Krakowie, (National Archives), hereafter ANK, ref. 270 St. Joseph; Files of shelter homes, ref. 74-273.

⁹ Prisoners' education for the year 1899, ref. 29/440/108; Prison school and prisoner employment, ref. 29/440/107.

also played by cultural and educational work, the aim of which was to familiarize women with various contexts of cultural life in Galicia at that time. Sightseeing of Krakow city was organized with exploring the city's monuments. It took place in very small groups (4-5 female prisoners). Among them there were only those women who had not committed a crime punishable by a long prison sentence, such as beatings or murder.¹⁰ The prison buildings were also often used for lectures, talks on historical and cultural topics concerning the Austro-Hungarian Empire, Galicia and Krakow itself.¹¹

Railway Station Mission

The organization of this name was established in 1825, also on the initiative of the bourgeoisie of Krakow, including primarily women-mothers and widows who wanted to take care of young poor girls who came to Krakow in search of servant work. The organization began its support mission at the railway station, hence its name.¹² As part of the help, the young girls received their first meal at the station, if they had no relatives in Krakow, they also had the opportunity to live in a rented apartment for them, where they could stay until they found a job. Poor girls were also supported in finding a job as a servant, thanks to which they could work in honest families.

Childcare for female detainees — foster parenting

Women serving sentences of imprisonment were able to count on the assistance of the Krakow Charitable Society. Foster parenting was organized for the children of these mothers while the mothers served their sentences. The families in which the children were placed were carefully selected; most often they were wealthy middle-class families/ bourgeois families with a good reputation in the community and involved in helping the poor living in the city. But there were also situations where children were given to rural families, but the condition was that they had a good reputation in the rural environment, which had to be confirmed by the parish community to which the family belonged. Rural families received little payment in exchange for childcare. Unfortunately, the sources do not mention the amount of such payment.¹³

¹⁰ Ibidem.

¹¹ Prisoners' education for the year 1899, ref. 29/440/108; Prison school and prisoner employment, ref. 29/440/107; Krakow Charitable Society, Personal records of women and girls of the Charitable Society 1830-1890, Ref. TD 413.

¹² St Joseph's Society for the Care of Girls, ref. 421; Yearbook of the Krakow Charitable Society for the year 1850; St. Zita's Servants' Association, ref. 359.

¹³ Dr Kitowski's fund book, tosses, [in:] APKr, ref. TD 309; Files of child protection halls, ref. 60-73; Yearbook of the Cracow Charitable Society for the year 1860; Yearbook of the Cracow Charitable Society for the year 1863; Acts and minutes of provincial chapters and definitory meetings, files on matters of jurisdiction, interaction with other orders, letters of the general curia, copybooks and registers of writings concerning the provinces of Malopolska-Lithuania, Galicia and Poland from 1682-1937, ref. A169/AKKr 103.

CONCLUSION AND RECOMENDATIONS

As assumed in the introduction to the above-mentioned publication, in Galicia, the Polish territory under Austro-Hungarian rule in the 19th century, the situation of poor women, who were referred to as the 'social margin', was particularly difficult. It was precisely this term that was intended to further orient society towards their exclusion, and thus to regard them as that group that was completely useless for community building. The archival research carried out revealed the depth of the exclusion of these women from almost all spheres of social life.

The above-mentioned research in the process of discovering and analysing the above-mentioned problem should be considered particularly valuable due to the access to archival materials, which have not been researched so far, and which concern the problem of women-aristocrats in the 19th century in the areas of Galicia, with a particular focus on Kraków or Lviv. The above-mentioned research should continue both at the level of research in the state archives, including the archives relating to the documents of women in custody, and also at the level of research in monastic archives, in addition to parish archives, which will allow a broad treatment of both socially excluded women, including women in custody, in connection with rescue, support and preparation for life in society after serving their sentences.

References

Manuscript sources:

National Archive in Kraków:

Dr Kitowski's fund book, tosses, [in:] APKr, ref. TD 309. (Księga funduszu dra Kitowskiego, podrzutki, [w:] APKr, sygn. TD 309).

Internal Affairs and Police Department files, NR Team 87, reference 209. (Akta Wydziału Spraw Wewnętrznych i Policji, sygn.87, odnośnik 209).

Krakow Charitable Society, Personal records of women and girls of the Charitable Society 1830-1890, Ref. TD 413; (Krakowskie Towarzystwo Dobroczynności, Akta personalne kobiet i dziewcząt Towarzystwa Dobroczynności 1830-1890, sygn. TD 413).

Records of the City of Cracow, Assembly of Representatives of the Free Independent Neutral- City of Kraków, 4 January 1822, ref. 209. (Akta miasta Krakowa, Zgromadzenie Reprezentantów Wolnego Niepodległego Neutralnego Miasta Krakowa, 4 stycznia 1822 r., k. 209).

Records of the Department of Internal Affairs and the Police 1816-1848. (Akta Wydziału Spraw Wewnętrznych i Policji 1816—1848.).

Statutes, orders of the Cracow Benevolent Society , ref. 209, par. 7 i 8, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48. (Statut, zarządzenia Towarzystwa Dobroczynnego Krakowskiego , sygn. 209, par. 7 i 8, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48).

Reports on the activities of the Cracow Charitable Society in the area covered by the Higher Council in Cracow, ref. TSW6. (Sprawozdania z działalności Towarzystwa Dobroczynnego Krakowskiego na terenie objętym działaniem Rady Wyższej w Krakowie, sygn.TSW6.).

St Joseph's Society for the Care of Girls, ref. 421.

Prisoners' education for the year 1899, ref. 29/440/108.

Prison school and prisoner employment, ref. 29/440/107.

Yearbook of the Cracow Charitable Society for the year 1845.

Yearbook of the Cracow Charitable Society for the year 1850.

Yearbook of the Cracow Charitable Society for the year 1855.

Yearbook of the Cracow Charitable Society for the year 1860.

Yearbook of the Cracow Charitable Society for the year 1863.

Yearbook of the Cracow Charitable Society for the year 1865.

Yearbook of the Cracow Charitable Society for the year 1870.

Yearbook of the Cracow Charitable Society for the year 1875.

Yearbook of the Cracow Charitable Society for the year 1880.

Yearbook of the Cracow Charitable Society for the year 1890.

Society of St. Joseph in Cracow, [in:] Archiwum Narodowe w Krakowie, (National Archives), hereafter ANK, ref. 270 St. Joseph.

St. Zita's Servants' Association, ref. 359.

Archive of the Carmelite Fathers in Cracow:

Acts and minutes of provincial chapters and definitory meetings, files on matters of jurisdiction, interaction with other orders, letters of the general curia, copybooks and registers of writings concerning the provinces of Malopolska-Lithuania, Galicia and Poland from 1682-1937, ref. A169/AKKr 103.

Archbrotherhood of the Holy Scapular entry book 1818-10.VII. 1904, ref. AKKr 224.

Book of deceased brothers of the Holy Scapular: list of deceased brothers 1763-1851, list of deceased sisters 1763-1852, ref. AKKr 798.

Archives of the Albertine Brothers in Krakow:

Rules and Regulations of the Municipal Homeless Shelter in Kraków and the Statute for the Albertine Brothers [in:] Ref. II/2, III/2.

Archive of Historical Records in Warsaw:

Records of the General Board of Guardians of Hospitals 1811-1906, Band No. 224.

Files of child protection halls, ref. 60-73.

Files of shelter homes, ref. 74-273.

Printed sources:

Bąkowski K., Cracow Chronicle 1795—1848, part 1, Cracow 1905.

Bąkowski K., Cracow Chronicle 1849—1860), part 2, Cracow 1905.

Kutrzeba S., Ptaśnik J. (1910). The history of Cracow trade and merchantry [in:] "Cracow Yearbook" vol. 14.

Makarewicz J. (1905). Twenty years of Galician injustice. Kraków: Nakład L. Frommer.

Memoirs of Count Stanisław Wodzicki (1888). Kraków. (Makarewicz J.) 1905.

"Newspepper of Cracow" (Gazeta Krakowska) 1820/2-180; 1825/7-96; 1825/12-65; 1825/14-37; 1883/280; 1883/281.

Project for the arrangement of the communal care of the poor in Cracow. (1882).

Official report of the Commissioner of the second district of the city of Cracow in 1872. (1873), Krakow 1890.

Szczepanowski S., The Misery of Galicia in Numbers. A programme for the energetic development of the national economy, Lviv 1888.

Wielogłowski W. (1861). On begging in Cracow, catholic priesthood.

Scientific journals

Jakubiec P., "Two Souls" or the evolution of the social and national identity of the Galician peasant population in the second half of the nineteenth and early twentieth centuries', [in:] *Zeszyty Naukowe Uniwersytetu Jagiellońskiego*, z. 2 (2017), pp. 413-426.

Nowak B., The situation of serving women in the context of guilt, punishment and relief efforts of assistance ... in areas of Kraków in the 19th century, [in:] *Annales Universitatis Paedagogicae Cracoviensis Studia Sociologica VIII* (2016), vol. 2, pp. 177-192.

Wdowiak A., Poles in Baden at the turn of the eighteenth and nineteenth centuries in the light of selected Austrian archival sources, [in:] 'Galicia, Studies and Materials', published by the University of Rzeszów, 7/2021, pp. 369-377.

Woś P., Galician People's Movement in the Initial Period of the People's Party, [in:] 'Galicia, Studies and Materials', University of Rzeszów Publishing House, 6/2020, pp.492-505.

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THE INFLUENCE OF MODERN TRENDS ON THE INHERITANCE OF FAMILY BUSINESS BY MEMBERS OF THE ALBANIAN NATIONAL MINORITY IN CROATIA

A b s t r a c t

Family businesses of the members of the Albanian national minority in Croatia were traditionally inherited only by sons. Women were considered the guardians of children and households in the husband's family, so daughters did not inherit their parents' businesses, but instead received an appropriate dowry. By educating sons and daughters and reducing the number of children in the family, the situation is changing. The purpose of this research was to describe how family businesses were traditionally inherited and to investigate the experiences and attitudes of entrepreneurs and potential heirs about contemporary trends. The research methods were interviewing seven entrepreneurs and surveying 30 young members of the Albanian national minority whose parents are family business owners. The research results show that the traditional inheritance of family businesses still prevails to a large extent. The interviewed entrepreneurs are aware of the advantages of the spontaneous traditional way of transferring business to the new generation, but also of the changes that come with new trends. Therefore, they continue to prepare their children through work in the family business, education and gradual involvement in decision-making. They also respect their choice and would prefer to transfer the company to the one who is most interested and who will run the company best. They emphasize the importance of fair distribution of property and helping other children to "stand on their own feet", i.e. to start their own business and to solve the housing issue.

Key words: *family business, inheritance, tradition, new trends, Albanian minority in Croatia*

INTRODUCTION

Family businesses during generational transfer typically face challenges regarding whether their children, or successors, will be capable and willing to work in the business they operate, which the entire family's livelihood depends on. Entrepreneurial families usually have more children, which on one hand increases the availability of talent, but

on the other hand, creates the problem of how to choose the best successor to lead the business and the family, and whether the other children will agree with the parents' decision on how the inheritance will be divided. Although the traditional method of transferring the family business to the eldest son is still prevalent, contemporary trends are emerging, such as transferring the business to the most capable and interested child, regardless of gender or birth order, as well as transferring the business to daughters and sons-in-law.

Entrepreneurship among national minorities (minority or ethnic entrepreneurship) in the Republic of Croatia has not yet been studied, and there is no official data on it, but the work ethic and family businesses of Albanians have been noted. Practically, there is no island or larger town on the Adriatic coast without at least one bakery, pastry shop, pizzeria, jewelry store, or silver shop owned by an Albanian family. These family businesses are usually formally owned by the man, the head of the family, and traditionally passed on to sons.

At a time when family businesses are facing high rates of failure due to unsuccessful transitions from one generation to the next (Alpeza, 2019), it is interesting to investigate what traditional mechanisms of Albanian culture have enabled successful and sustainable inheritance of family businesses across many generations, and how contemporary trends influence them. Therefore, entrepreneurs were interviewed, and young potential successors of family businesses from the Albanian national minority in Croatia were surveyed. The paper is divided into five parts. After the introductory, a brief theoretical framework on minority entrepreneurship and the inheritance of family businesses is presented. The third part concerns the research methods, the fourth presents the results and discussion, and the fifth part is the conclusion.

INHERITANCE OF FAMILY BUSINESSES AND MINORITY ENTREPRENEURSHIP

The main features of family business are: family ownership, family involvement in management and strategic control, the business is the main source of income for the family in the long term, and the desire to pass it on to the next generation (Shuklev & Ramadani, 2012). An important element is the organizational culture, i.e., the relationships established between the family and the business in economic, administrative, managerial, and sociological areas, which should be passed down from generation to generation. Traditionally, worldwide, family businesses were passed on to the eldest son, but today there are various forms of ownership: businesses with majority ownership by the founder and/or one successor, or a married couple; partnerships between brothers and/or sisters; a consortium of relatives made up of the founder's grandchildren and great-grandchildren; and family unions with many members from the founder's family, divided into branches (Kružić & Bulog, 2012).

Minority entrepreneurship is defined as the investment of one's own capital in a business venture that is characterized by the sociological and cultural characteristics of the individual, but in accordance with the legal standards of the host country (Li, 2001). In addition to the classic traits of entrepreneurs and entrepreneurship, minority entrepreneurship includes two additional sociological dimensions: the possibility of maintaining identity and cultural heritage, and the sustainability and self-financing of the minority community (OECD, 2010). It is known that due to reduced opportunities in the labor market, immigrants are more likely to start their own business compared to the native population (OECD, 2023, Vandro, 2021, et al.). So-called ethnic businesses fill gaps in the market, help revitalize poor urban neighborhoods, provide new products and services, contribute to job creation by offering opportunities for vulnerable groups. Although most ethnic entrepreneurs operate as self-employed in traditional sectors, highly educated migrants can be self-employed or enter growing sectors through networking (OECD, 2010, 2023). Minority entrepreneurs are a very heterogeneous group, so their business operations and inheritance of businesses are highly conditioned by their culture, customs, and beliefs.

According to the 2021 population census, there were 240,079 members of the Albanian national minority in Croatia, making up 0.36% of the total population (Government of the Republic of Croatia, Office for Human Rights and National Minorities, n.d.). According to informal estimates, half of the men are self-employed, and nearly 90% of all employed Albanians in Croatia work in family businesses (Lekaj, Gregov, & Varlandy-Supek, 2015) that is very similar with situation in Slovenia. Albanians did not come to Slovenia for political reasons, but primarily for economic reasons, at the invitation of their successful fellow countrymen to work for them or to start their own business with their help. They do not isolate themselves in immigrant enclaves, but quickly integrate into Slovenian society, learn the language, and recognize products and services they can successfully offer to everyone. However, connections with family, relatives, and the community of fellow countrymen remain very strong. One of the strongest traditional values is trust, which is why they are not inclined to discuss their needs and problems with unfamiliar officials in state and local institutions. Instead, they seek advice and help from the wisest and most experienced family member, relative, or fellow countryman. They prefer to seek capital from their community rather than from banks or unknown investors. When hiring, they choose fellow countrymen who share the same culture and work ethic. The expansion of the family business goes through the launching of new small and medium-sized businesses by family members who cooperate like family holdings. The sustainability of the entire Albanian entrepreneurship system in Slovenia rests on the solidarity of older, more experienced, successful, and wealthier relatives who help others like business angels (Vadnjal, 2014). Although the role of women is not immediately visible, because they are not among owners, research in Croatia has shown that they can be very much involved in daily operations and decision-

making (Nreca & Gregov, 2018), especially when it comes to taking care of the other sons and providing appropriate dowries for the daughters.

According to the recent research in Albania (Ramadani et al., 2017), the majority of founders (70%) will transfer their business to the eldest son. But, some contemporary trends have begun to significantly influence the methods of inheritance of all family businesses. A smaller number of children, disinterest from family members in the business, inadequate levels of education, different career choices, etc., significantly reduce the founder's maneuvering space and narrow his options when making a decision about the inheritance of the family business (Kružić & Bulog, 2012). Albanian families are increasingly educating their children, including daughters, who help in the family businesses from an early age. As a result, there are more highly educated daughters who want to be equally involved in the family business, alongside their brothers and husbands, or even start their own business (Abdija & Gregov, 2017). In cases where there are no sons or they do not want to take over the family business, daughters and sons-in-law become the logical choice.

RESEARCH METHODS

A semi-structured interview was conducted with seven Albanians, family business owners, in Croatia. The sample was purposive, based on the researcher's decision, and the research was carried out in April 2023. Following this, a survey was conducted among young potential successors. The sample was quota-based, with an invitation to complete the online survey first sent to students of Entrepreneurship and Entrepreneurial Management at the University of VERN¹ in Zagreb, members of the Albanian national minority in Croatia whose parents own a family business. The respondents were asked to forward the survey invitation to their young compatriots in Croatia from family businesses. The online survey was open from July 23 to August 30, 2023 until 30 respondents had completed it. The semi-structured interview and survey contained 29 open and closed questions each, developed based on insights from the literature and the purpose of the research. Summarized responses to the most important questions are presented textually.

RESULTS AND DISCUSSION

The seven interviewed entrepreneurs were aged between 52 and 88 years, with two being retired and the rest still actively working. Only one inherited the family business, while the others founded their own. Three are engaged in goldsmithing, two in bakery, and two in hospitality and tourism. One has three sons, two have two sons and two daughters each, two have two sons and one daughter, and two have one son and two daughters. They faced significant challenges and problems when starting their family businesses such as the language, residence and work permits, and different administra-

tive matters. Their financial situation is not ideal, and they receive the most support from family members, relatives, and more experienced fellow Albanians. This is the same situation with migrant entrepreneurship in other European countries (OECD, 2010; 2023) and Albanian entrepreneurship in Slovenia (Vadnjal, 2014).

The characteristics that distinguish their businesses from others include: meeting consumer desires and needs, quality and service, a good work atmosphere, honesty, openness and fairness, security, trust, family atmosphere, and the potential for advancement. When asked about the cultural factors influencing business organization, one respondent said, "It's when I trust my employees and suppliers on their word," while another said, "It's when the male part of the family works, while the female part helps. So that the woman has time to maintain the house, is fully financially protected and spared from stress, and, when needed, participates in the business."

Family businesses owned by a man is a centuries-old tradition among all Albanians, and it continues today (Ramadani et al., 2017). There are no special preparations for generational transfer because all the children live and work with their parents practically from their birth, so everything proceeds naturally. Thus, successors gradually learn everything they need to run the business and the family from their fathers and fathers gradually step back, leaving the management to their sons, but they always remain with them as support and advisors. Albanians are mostly Muslims and a smaller number are Catholics, and usually have more children. Therefore, the key challenges are mainly financial, as parents want to ensure equal conditions for work, education, and housing for all their children.

They realize that changes are necessary for the business to survive in the market, but they want to ensure that the core values on which family business is based are not lost. They do not want to lose consistency, and they are cautious in making major decisions, ensuring they are realistic and grounded to avoid putting the business and family at risk.

Three respondents have decided to pass the family business on to the eldest son, while ensuring jobs for the others by opening new branches of the family business or helping them start their own businesses. This is in line with Albanian culture and tradition (Ramadani et al, 2017), passed on to the Albanian national minorities in Croatia and Slovenia (Vadnjal, 2014). Two will transfer the business to the son who demonstrates the greatest ability, desire, and commitment to the family business. Two respondents will deviate from the traditional method only because „more than one child wants to work in the family business“.

Usually, business ownership is promised to the one who takes over the business, but it is not formally transferred until the father's death or until the other siblings are secured. The entire family property tends to be divided equally, especially when all the children work in the family business and contribute to the creation of the family wealth. Only one respondent plans to distribute the property approximately 50% to the son and

25% each to the two daughters, “as it is traditionally expected that their husbands will also receive a larger share of their own family property so that no one is disadvantaged”.

All the entrepreneurs surveyed are aware of new trends like the transfer of the business to the child who wants to run the family business, regardless of gender and birth order, and the transfer of the business to daughters and sons-in-law, whether or not the daughter or son-in-law formally inherits it. The respondents want to be fair to their capable daughters, but if they have sons, they would still prefer to give a dowry to the daughters and help them start their own businesses. These results show that patriarchy among Albanians in Croatia is more pronounced than, for example, in Macedonia, where there is greater social modernization within the Albanian community and where women are gaining more rights and freedoms in the economic sphere (Abdija & Gregov, 2017).

An online survey was completed by 30 respondents, of which 53.3% were men and 46.7% were women. The average age was 35 years, with most having a higher education. None of the respondents were only children, and on average, they had three siblings.

What distinguishes their family business from others in Croatia are culture and tradition (40% of respondents), work habits (33.3%), ownership (10%), cooperation and solidarity with other businesses of their fellow nationals (10%), organizational structure (6.7%), and they also emphasize family unity. The business is most often inherited by the eldest son (66.7%), the son who wants to engage in the family business (6.7%), and “the male child in general” (6.6%). The decision about the successor is usually made jointly by the father and mother (53.3%), or by everyone together (16.7%), while only the father (30%). The factors that most influence the choice of successor are: gender, age, interest, abilities, education, leadership skills, and acceptance by other family members.

Material and financial assets are mostly transferred to the successor or divided among the male family members (56.7%), with sons receiving the business and real estate, and daughters receiving dowries, money, and education (26.7%). Only 16.7% of respondents said the assets are divided equally. Those not in the “race” for inheritance are helped by starting their own businesses (50%) and financial assistance is provided (33.3%).

The majority of younger heirs (56.7%) consider the traditional inheritance method fair because it keeps the business within the family. Others think it is unfair because it is not always the best for the business and does not take into account equality, capability, and merit. The business should be earned, and the eldest son is not always the best option. However, nearly two-thirds (63.3%) of younger respondents want the family business to be inherited in the traditional way.

New trends include transferring the business to the child who wants to engage in the family business (30%), to the son who wants to run the family business (26.7%), to the most capable child (20%), and to the most capable son (13.3%). Nearly three-quarters (73.3%) of respondents consider these new trends better than the traditional methods because it gives every child an opportunity in the business, ensures the survival of the business, and allows it to continue even if there are no sons. Respondents who answered negatively to this question believe that it leads to the loss of tradition and customs and that the business will no longer remain in the family. As a result, the majority of respondents (56.7%) stated that they do not plan to deviate from the traditional way of inheritance.

The answers of the surveyed young heirs are very similar to the answers of interviewed entrepreneurs and confirmed two sociological dimensions of minority entrepreneurship: the ability to maintain identity and cultural heritage, and the sustainability and self-financing of the minority community (OECD, 2010).

CONCLUSION

In Albanian culture, the family business is traditionally inherited by the eldest son, with other sons being provided with jobs and housing, while daughters receive an appropriate dowry. The opinions and attitudes of the interviewed Albanian entrepreneurs in Croatia regarding contemporary factors influencing deviations from the traditional method of inheriting family businesses are positive, as every parent wants to ensure a fair and decent life for their children, based on their wishes and merits. With new trends, they are able to secure capable and educated successors. The opinions and attitudes of the surveyed younger generation are similar to those of the entrepreneurs. Although they are aware of the advantages and disadvantages of the traditional inheritance method and the inevitability of contemporary trends, they would still mostly prefer the traditional way of inheritance, as this ensures continuity and security for the entire family. Of course, this would be under the condition that the remaining assets are divided fairly and that assistance is provided to the others in starting their own businesses and securing housing.

A limitation of this research was the small number of entrepreneurs interviewed and the inability to concurrently interview their wives, sons, and daughters, as originally planned. This is due to cultural reasons, as Albanians view inheritance as a very personal (and sometimes painful) matter and do not discuss it with strangers. Therefore, recommendations for further research include a larger sample, taking into account all cultural and ethical aspects.

The contribution of this research lies in a better understanding of Albanian entrepreneurial culture and tradition, which enables the long-term sustainability of family businesses. This can help all family business owners more objectively assess the role

of traditional values and contemporary trends in inheritance to ensure the long-term sustainability of family businesses.

References

- Abdija, A. i Gregov, Z. (2017). The Attitude towards Women's Entrepreneurship by the Members of the Albanian National Minority in Croatia and Macedonia. *Education for entrepreneurship — E4E: international journal of education for entrepreneurship*, 7(2), 45-66. Available at <https://hrcak.srce.hr/clanak/282709>.
- Alpeza, M. (ed.) (2019). *Business Transfer: A Mini Guide for Entrepreneurs* (2nd ed.). Zagreb: CEPOR. Available at http://forum.biznis-transfer.com/wp-content/uploads/2019/11/Minivodic_CEPOR_web-2019.pdf.
- CEPRA (n. d.). *Inheritance of the Family Business*. Available at <https://biznis-transfer.com/nasljedivanje-obiteljskog-poduzeca>.
- Kružić, D. & Bulog, I. (2012). Family Businesses: Life Cycles, Inheritance, and Sustainability. Faculty of Economics, University of Split.
- Lekaj, A., Gregov, Z. & Varlandy-Supek, M. (2015). The basic characteristics of minority entrepreneurship: Albanian entrepreneurs in Croatia. *Education for entrepreneurship — E4E : international journal of education for entrepreneurship*, 5(2), 69-82. Available at <https://hrcak.srce.hr/149531>.
- Li, P. S. (2001). Immigrants' Propensity to Self-employment: Evidence from Canada. *International Migration Review*, 2(35), 1106-1128. <https://doi.org/10.1111/j.1747-7379.2001.tb00054.x>.
- Nreca, K. & Gregov, Z. (2018). The Role of Women in Family Businesses of the Albanian National Minority in Croatia. *Education for entrepreneurship — E4E: international journal of education for entrepreneurship*, 8 (Special issue 2018), 73-94. Available at <https://hrcak.srce.hr/196916>.
- OECD (2010). *Entrepreneurship and Migrants: Report by the OECD Working Party on SMEs and Entrepreneurship*. OECD. Available at <https://www.european-microfinance.org/sites/default/files/document/file/Entrepreneurship-Migrants-OECD-2010.pdf>.
- OECD/European Commission (2023). *The Missing Entrepreneurs 2023: Policies for Inclusive Entrepreneurship and Self-Employment*. Paris: OECD Publishing. <https://doi.org/10.1787/230efc78-en>.
- Ramadani, V., Bexheti, A., Rexhepi, G., Ratten, V., & Ibraimi, S. (2017). Succession Issues in Albanian Family Businesses: Exploratory Research. *Journal of Balkan and Near Eastern Studies*, 19(3), 294-312. <https://doi.org/10.1080/19448953.2017.1277086>.
- Shuklev, B i Ramadani, V. (2012). *Small Business and Entrepreneurship*. South-East European University Tetovo.
- Vadnjak, J. (2014). The importance of social capital within an ethnic community. *Dve domovini*, 2014(40), 123-137. Available at: http://twohomelands.zrc-sazu.si/uploads/articles/1448445635_Vadnjak_albaninan%20entrepreneurs.pdf.
- Vandor, P. (2021). Research: *Why Immigrants Are More Likely to Become Entrepreneurs*. Available at file:///D:/Datoteke/Preuzimanja/Research_%20Why%20Immigrants%20Are%20More%20Likely%20to%20Become%20Entrepreneurs.pdf.
- Government of the Republic of Croatia. Office for Human Rights and Rights of National Minorities. (n.d.) National Minorities in the Republic of Croatia. Available at <https://ljudskaprava.gov.hr/nacionalne-manjine-u-republici-hrvatskoj/352>.

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ACTIVITIES OF CORPORATE SOCIAL RESPONSIBILITY IN THE SELECTED DIFFERENTLY-SIZED CROATIAN FAMILY BUSINESSES

Abstract

Corporate social responsibility (CSR) has become a key aspect of modern business, as it encompasses the activities that companies carry out in order to achieve positive effects on society, the environment and the economy. Family businesses, which make up a significant part of the Croatian economy, often integrate CSR into their business strategies based on long-term family values and traditions. This research paper explored the activities of CSR in selected Croatian family businesses of various sizes - micro, small, medium and large family businesses. The analysis was based on secondary data collected from various sources, including company websites and relevant publications. The research methodology includes categorizing companies by size and analyzing their CSR activities, challenges, and impact on business success and reputation. The results of the research have shown that the size of the company significantly influences the approach and implementation of CSR. Micro enterprises focus on local communities and the environment through activities such as recycling and waste reduction. Small businesses are implementing more formal CSR programs, including energy efficiency and sustainable resource management. Medium-sized enterprises implement advanced technologies and participate in international sustainability initiatives. Large companies have developed CSR strategies that include the entire value chain and report on their activities through annual reports. Examples from practice have shown how family businesses successfully integrate CSR into their business strategies, such as environmentally sustainable production, support to local communities and innovation. Based on the results of the research, the paper offers recommendations for improving CSR in family businesses of various sizes, including the development of strategic plans, stakeholder engagement, and systems for monitoring and reporting on impacts.

Key words: corporate social responsibility, family businesses, Croatian companies, environmental responsibility, sustainable development

INTRODUCTION

Corporate Social Responsibility (CSR) has become an important aspect of modern business as it includes a wide range of activities that companies undertake to achieve positive effects on society, the environment, and the economy. This concept implies responsible behavior towards employees, the local community, and the environment, as well as ethical business practices and transparency. In the context of family businesses, CSR activities have an additional dimension as they are often based on family values and traditions. Family businesses are a key part of the economic sector in Croatia. Their significance is reflected not only in their contribution to the economy through job creation and fostering local development but also in maintaining social ties and supporting the communities in which they operate.

The primary goal of this paper is to explore CSR activities in selected Croatian family businesses of different sizes — micro, small, medium, and large enterprises. Specifically, the study will examine how company size affects the approach and implementation of CSR and what consequences these activities have on business success and reputation. The research will include desk research and an analysis of CSR activities in selected Croatian family businesses.

Throughout history, the concept of CSR has evolved, transitioning from philanthropic initiatives by individual industrialists in the 19th century to integrated strategic approaches in modern business. Early forms of CSR were motivated by personal values and the desire to improve living conditions, while later, societal demands and regulatory pressures in the 20th century led to the formal definition of these practices (Heald, 1970; Madrakhimova, 2013). Stakeholder theory, the pyramid of corporate responsibility, and the Triple Bottom Line model, among others, have shaped the modern understanding of CSR by emphasizing the importance of economic, social, and environmental sustainability (Freeman, 2010; Carroll, 1991; Elkington, 1998). Today, CSR is considered a key part of business strategy, with a special emphasis on transparency, accountability, and long-term sustainability, thereby contributing to the achievement of sustainable development goals and improving stakeholder relationships (Wilson & Weber, 2020; Ullah et al., 2022). Through this evolutionary process, CSR has transformed from an additional activity into a fundamental component of successful and responsible business operations.

THE ROLE OF CORPORATE SOCIAL RESPONSIBILITY IN MODERN BUSINESS

One of the effects of CSR on the business success of family enterprises is the improvement of reputation and brand image. Family businesses that actively participate in socially responsible initiatives often gain a positive reputation among consumers and stakeholders. The perception of socially responsible behavior positively influences pur-

chasing intentions, as consumers consider such companies to be more ethical and credible (Uhlig et al., 2019). An enhanced reputation can lead to a greater competitive advantage in the market. CSR also plays a crucial role in increasing customer loyalty. Consumers are increasingly aware of social and environmental issues and prefer to do business with companies that demonstrate responsibility toward the community and the environment. Companies that implement CSR activities often experience a rise in customer loyalty, reflected in higher sales and improved financial performance (Liu & Xu, 2021). Loyal customers not only make repeat purchases but also act as brand ambassadors, thereby promoting a positive company image.

CSR also plays a crucial role in employee engagement and fostering innovation. Studies show that employees prefer to work for companies whose values align with their own, which increases motivation, loyalty, and productivity. Engaging employees in CSR initiatives not only improves the work environment but also encourages creativity and innovation. According to Ullah et al. (2022), companies that actively involve employees in CSR activities experience an enhanced ability to attract and retain talent, which is essential for long-term success.

CSR helps businesses become more resilient and sustainable, especially during times of crisis. A strategically oriented CSR approach can reduce the negative effects of crises and help companies remain competitive (Afshan et al., 2021). During the COVID-19 pandemic, many companies used CSR strategies to respond to new challenges and support their communities, which resulted in strengthened stakeholder relationships and increased resilience (Sahibzada et al., 2022).

CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES IN COMPANIES OF DIFFERENT SIZES

This subsection will present CSR activities in companies of different sizes. Micro-enterprises, which employ fewer than ten people, often have limited resources for implementing CSR. Nevertheless, their size can be an advantage as it allows for flexibility and quick decision-making. CSR activities in micro-enterprises are often focused on local communities and the environment. For example, they may engage in recycling, waste reduction, and the use of environmentally friendly materials. Additionally, micro-enterprises often participate in local humanitarian projects and events, strengthening their reputation within the community (Zbучea & Pînzaru, 2017).

Small enterprises, which employ up to 50 people, often face challenges similar to micro-enterprises but have slightly greater capacities for implementing CSR. These companies can introduce more formal CSR programs, such as energy efficiency programs or sustainable resource management initiatives. Zbучea and Pînzaru (2017) highlight that small enterprises often use CSR as a tool for market differentiation, improving customer relationships, and increasing employee loyalty. In practice, this may include pro-

viding educational programs for employees, participating in local environmental initiatives, and transparently reporting on sustainable practices.

Medium-sized enterprises, with between 50 and 250 employees, have greater resources and capacities for more complex and extensive CSR activities. Medium-sized companies often develop strategic CSR plans that include environmental, social, and governance (ESG) aspects. According to Bielawska (2022), medium-sized enterprises can implement advanced technologies to reduce emissions, use renewable energy sources, and promote social responsibility through educational and health programs for their employees. Additionally, they may participate in international sustainability initiatives and standards, increasing their competitiveness in the global market (Bielawska, 2022).

Large enterprises, with more than 250 employees, have the most resources and capacity to implement extensive CSR programs. These companies often have dedicated CSR departments and well-developed strategies that encompass the entire value chain. According to Zbucnea and Pînzaru (2017), large enterprises frequently report on their CSR activities through annual reports, contributing to transparency and stakeholder trust. CSR activities in large companies can include significant investments in renewable energy sources, reducing greenhouse gas emissions, supporting global human rights initiatives, and participating in philanthropic projects worldwide. For example, large enterprises may implement environmental management systems in accordance with the ISO 14001 standard, which involves continuous improvement of environmental performance (Rani & Hooda, 2013).

The implementation of CSR varies depending on the size of the company, but there are common steps that companies of all sizes can take (Bielawska, 2022):

- It is essential to define CSR goals that align with the company's business strategies and values;
- Involving key stakeholders, such as employees, customers, and communities, is crucial for the success of CSR initiatives;
- Companies should develop measures for monitoring and reporting on the impact of their CSR activities.

On January 1, 2024, the European Union introduced new sustainability reporting standards for companies (European Sustainability Reporting Standards — ESRS), replacing the 2023 Corporate Sustainability Reporting Directive (CSRD). The new standards cover 50,000 companies, compared to the 12,000 included under the CSRD, and now also include medium-sized enterprises, not just large ones as before. ESRS requires detailed reporting on the impact of business operations on the environment, society, and governance (ESG goals). The objective of the new standards is to increase transparency, making data easier to review and compare. Additionally, the new standards will encourage companies to systematically monitor and report their environmental and social

impacts, which will help them identify areas for improvement and enhance sustainability (Odgovorno.hr, 2024).

One of the most significant changes in the new standards is the mandatory audit of reports conducted by accredited third parties, ensuring greater accuracy and reliability of data. Furthermore, the digitalization of reporting will facilitate access to information for investors, regulatory bodies, and other stakeholders. This strategy aligns with the broader EU initiative to achieve climate neutrality by 2050 and further promote sustainable development and socially responsible business activities in large and medium-sized enterprises. As a result, companies will be required to provide information on risks and opportunities related to climate change, human rights, and social responsibility (Odgovorno.hr, 2024).

FAMILY BUSINESSES AND CORPORATE SOCIAL RESPONSIBILITY IN FAMILY BUSINESSES IN CROATIA

Family businesses represent a significant part of Croatia's economic landscape. These businesses are characterized by a long tradition, deep roots in local communities, and often the inheritance of business operations from generation to generation. Family businesses in Croatia account for approximately 60-70% of all enterprises and employ a significant portion of the workforce, making them a key element of the national economy (Vidović & Šimić-Banović, 2019). The European Commission defines family businesses as "companies where the majority of decision-making rights belong to the founder or the person who purchased the company and their closest relatives, at least one family member is involved in the management of the company, and in the case of joint-stock companies, the founder/owner of part of the company, along with relatives and heirs, holds at least 25% of decision-making rights." (CEPOR, 2012).

According to Alderson (2015), family businesses are enterprises where ownership and management remain within a single family, with the intention of transferring the business to future generations. A key characteristic of these businesses is the integration of family values and business objectives, which can lead to unique challenges and opportunities in management and business sustainability. The main features of family businesses can be broadly summarized as follows: a high level of family involvement in management and ownership, the integration of family values into business strategies, and specific challenges related to conflict management and business financing (Alderson, 2015; Bujan, 2020; Naz et al., 2023). Family businesses often benefit from a strong internal culture and a long-term business approach, but they require careful management to avoid potential conflicts and ensure sustainability across generations.

The motivations for CSR in family businesses are often rooted in the personal values of the business-owning family. Family businesses tend to adopt long-term perspectives and a high level of commitment to local communities, which encourages in-

vestment in socially responsible initiatives (Cruz et al., 2014). According to Campopiano and De Massis (2015), family businesses often engage in CSR activities to preserve the family's reputation and legacy, which can be just as important as financial success. Additionally, family businesses may be motivated by the desire to create a positive working environment for future generations of the family. Despite many advantages, family businesses face unique challenges in implementing CSR. One of the key challenges is the conflict between personal and business interests, which can make it difficult to balance social responsibility and profitability (Chrisman et al., 2012). Another challenge is the lack of resources, as smaller family businesses often do not have access to the same resources as larger corporations, which can limit their ability to carry out extensive CSR initiatives (Upadhyay & Adhikari, 2022).

Family businesses in Croatia often integrate CSR activities as part of their core business practices. The implementation of CSR includes various activities aimed at improving the quality of life in communities, environmental protection, and ethical business practices. According to Croatia's National Development Strategy 2030, family businesses play a crucial role in promoting sustainable development through investments in local communities, environmental protection, and innovation.

METHODOLOGY AND RESEARCH RESULTS

Family businesses in Croatia approach CSR through various forms of philanthropy, ecological initiatives, and engagement with local communities. This study was conducted on 40 Croatian family businesses of different sizes (micro, small, medium, and large). The first step in the research was identifying Croatian family businesses, which was carried out by searching the official business database on FINA.hr. A sample of family businesses of different sizes was then selected. By analyzing secondary data from different sources, including company websites, publications, and public databases, information was collected on corporate social responsibility practices. Based on this data, key business practices and values, challenges faced by companies, and the impact of these activities on business success and reputation were identified. A categorical analysis was conducted to determine differences in CSR approaches and practices among companies of various sizes (For the analysis of family businesses related to this research in more detail see Petrović, 2024).

Micro Croatian family businesses have fewer than ten employees and primarily focus on ecological initiatives. Small Croatian family businesses, employ up to 50 workers and exhibit diverse CSR practices, such as using biodynamic methods, sustainable technologies, responsible production and products, customer education, social services and support for marginalized groups, local community support, innovative and sustainable projects, the use of recycled materials, and energy-efficient technologies. Medium-sized Croatian family businesses, which employ between 50 and 250 workers de-

monstrate a variety of CSR approaches, successfully integrating sustainability, social responsibility, and innovation into their business strategies. Their commitment to environmental sustainability, social inclusion, and support for local communities not only contributes positively to the environment and society but also enhances reputation and long-term business success. Large Croatian family businesses with more than 250 employees and their CSR activities are more complex due to the greater availability of resources compared to smaller businesses. These companies set standards for other enterprises and demonstrate how business goals can be successfully balanced with social and environmental values.

Ecology, responsibility, innovation, social engagement, community, tradition, and efficiency represent key values that these companies incorporate into their strategies. The integration of ecological practices, such as recycling and sustainable production, helps reduce operational costs and increase market share. Transparency and accountability toward the community and environment strengthen consumer trust and reduce legal risks. Innovation allows businesses to stand out in the market, increase productivity, and adapt to change. A positive work environment, support for the local community, and networking with other businesses improve reputation, employee satisfaction, and open new business opportunities. Maintaining traditional methods ensures product quality and strengthens the brand, while optimizing processes and resources reduces operational costs and improves customer service.

A comparison of CSR activities across businesses of different sizes shows that regardless of size, all companies share the values of ecology, responsibility, and social engagement. The diversity of CSR activities, from using recycled materials to supporting local communities, reflects the broad spectrum of initiatives companies implement to contribute to sustainable development and community well-being.

DISCUSSION OF RESEARCH RESULTS

CSR in family businesses carries distinct characteristics arising from their specific structure and values. The motivations for CSR in family businesses are often deeply rooted in the personal values of the business-owning family. According to Cruz et al. (2014), family businesses tend to adopt long-term perspectives and a high level of commitment to local communities, which fosters investment in socially responsible initiatives. For example, certain companies that were part of the research and belong to the micro-category business, demonstrated a strong commitment to environmental sustainability and community education, reflecting the long-term perspectives and personal values of its owners. Similarly, a small business and large companies included into this research integrate CSR activities through the use of local and organic ingredients and support for local communities, further reinforcing their deeply rooted family values. These bu-

sinesses engage in activities such as donations and participation in local initiatives, showcasing their dedication to long-term goals and the preservation of family heritage.

Despite these advantages, family businesses face unique challenges in implementing CSR. Chrisman et al. (2012) highlight the conflict between personal and business interests as a key challenge. For instance, small family businesses may struggle with limited resources for extensive CSR initiatives. However, despite these challenges, these businesses successfully integrate fundamental CSR practices such as sustainable agriculture and ecological production. Smaller family businesses often exhibit greater flexibility and adaptability compared to large corporations. This flexibility allows them to quickly respond to changes in social and environmental conditions and tailor their CSR activities to the needs of local communities.

Family businesses often maintain strong ties with local communities, enabling them to directly influence socio-economic development. These connections allow them to identify specific community needs and issues and implement targeted CSR activities that bring tangible benefits and inclusivity. Family businesses also have the opportunity to collaborate with non-governmental organizations, academic institutions, and other business entities to expand their impact and resources for CSR activities. Collaboration can grant family businesses access to additional resources, knowledge, and technologies that enhance their CSR efforts. Innovations in technology, such as blockchain and artificial intelligence, also present new opportunities for tracking and improving CSR activities.

CONCLUSION

The integration of CSR in family businesses brings numerous advantages, including enhanced reputation, attraction of loyal customers, improved workplace climate, and long-term business success. The analysis of businesses of different sizes shows that core values such as environmental responsibility, accountability, and social engagement remain consistent regardless of the company's size.

Micro-businesses focus on local initiatives and specific environmental practices, leveraging their flexibility and strong connections with local communities. Small businesses integrate a broader scope of CSR activities, including the use of eco-friendly materials, support for local communities, and customer education. Medium-sized businesses undertake more complex CSR projects, such as employing marginalized groups and implementing recycling programs. Large enterprises utilize substantial resources for extensive CSR initiatives, including the use of renewable energy sources and reducing CO₂ emissions.

Family businesses integrate CSR to preserve their family reputation and legacy, strengthen relationships with local communities, enhance long-term sustainability, and attract loyal customers. The incorporation of CSR helps build a positive reputation, im-

proves workplace conditions, and attracts new talent, all of which contribute to sustained business success.

References

- Afshan, G. & Sahibzada, U. F. (2021). Unpacking strategic corporate social responsibility in the time of crisis: a critical review. *Journal of Global Responsibility*, 13(2), 127-156.
- Alderson, K. (2015). Conflict management and resolution in family-owned businesses. *Journal of Family Business Management*, 5(2), 1-15.
- Bielawska, A. (2022). Socially responsible activity of micro-, small-, and medium-sized enterprises — benefits for the enterprise. *Sustainability*, 14(15), 9603.
- Bujan, I. (2020). Family business in tourism characteristics — the owner's perspective. *Ekonomski pregled*, 71(1), 3-32.
- Campopiano, G., & De Massis, A. (2015). Corporate social responsibility reporting: A content analysis in family and non-family firms. *Journal of Business Ethics*, 129(3), 511-534.
- Chrisman, J. J., Chua, J. H., Pearson, A. W., & Barnett, T. (2012). Family involvement, family influence, and family centered non economic goals in small firms. *Entrepreneurship Theory and Practice*, 36(2), 267-293.
- Cruz, C., Larraza-Kintana, M., Garcés-Galdeano, L., & Berrone, P. (2014). Are family firms really more socially responsible? *Entrepreneurship Theory and Practice*, 38(6), 1295-1316.
- Liu, W., & Xu, Y. (2021). CSR and consumer behavior: A study on the impact of corporate social responsibility on consumer purchase intention. *Journal of Business Ethics*, 169(3), 473-489.
- Madrakhimova, S. F. (2013). Evolution of the concept and definition of CSR. *Global conference on business and finance*, 8(2), 105-109.
- Odgovorno.hr (2023). *Serijal „Pogledaj ambalažu“: KRAŠ mijenja ambalažu za brendove Bajadera, Griotte, Fontana u okviru šireg razvojnog eko-programa*. <https://odgovorno.hr/serijal-pogledaj-ambalazu-kras-mijenja-ambalazu-za-brendove-bajadera-griotte-fontana-u-okviru-sireg-razvojnog-eko-programa>.
- Odgovorno.hr (2024). Nova epoha EU izvještavanja o održivosti poduzeća već odmiče, od 1. siječnja 2024 (The new era of EU corporate sustainability reporting is already advancing, as of 1 January 2024). <https://odgovorno.hr/nova-epoha-eu-izvjestavanja-o-odrzivosti-poduzeca-vec-odmice-od-1-sijecnja-2024>.
- Rani, G., & Hooda, K. (2013). Corporate social responsibility: Review of literature. *International Journal of Social Science & Interdisciplinary Research*, 2(6), 38-44.
- Sahibzada, U. F., et al. (2022). Influence of corporate social responsibility and brand attitude on purchase intention. *Journal of Business Ethics*, 176(1), 95-112.
- Ullah, F., Khan, H., & Long, X. (2022). Corporate social responsibility, sustainable environmental practices and green innovation; perspectives from the Ghanaian manufacturing industry. *International Journal of Corporate Social Responsibility*, 7(1), 1-21.
- Uhlig, J. et al. (2019). The impact of CSR on consumer behavior in the retail sector. *Journal of Business Ethics*.
- Upadhyay, J. P., & Adhikari, P. R. (2022). Corporate social responsibility and customer satisfaction in Nepal. *TRANS Asian Journal of Marketing & Management Research*, 11(5,6), 1-10.
- Vidović, M., & Šimić-Banović, R. (2019). The Influence of Family Ownership on Corporate Social Responsibility: Evidence from Croatia. *Journal of Business Ethics*.

- Wilson, J., & Weber, O. (2020). Scoping the evolution of corporate social responsibility (CSR) research in the sustainable development goals (SDGs) era. *Sustainability*, 12(14), 5544.
- Zbucheá, A., & Píñzarú, F. (2017). Tailoring CSR Strategy to Company Size? *Management Dynamics in the Knowledge Economy*, 5(3), 415-437.

DISCUSSION ON THE COMMISSION'S RECOMMENDATIONS TO MEMBER STATES TO ACHIEVE PROTECTION OF LANDSCAPES FROM SPECULATIONS ON THE LAND MARKET — KRIŽNICA

Abstract

Križnica is the only Croatian inhabited river island with numerous plant and animal species in Pitomača municipality. Križnica was declared the significant landscape by the representative body of the regional selfgovernment, the Virovitica-Podravina County Assembly in 2001, in 2012 has been a Croatian-Hungarian Biosphere Reserve, and as a pentilateral Biosphere Reserve since 2021. The Public institution for the management of protected parts of nature and the ecological network of the Virovitica-Podravina County is obliged to carry out protection activities based on the Strategy and Action Plan for Nature Protection of the Republic of Croatia. Investors within the EU enjoy freedom of movement of capital and freedom of business establishment and The Commission notes that the free movement of capital can be a trigger for the seizure of agricultural land. In communication on the acquisition of agricultural land, the EU law Commission interprets the way to achieve legitimate public interests in accordance with EU law is to help Member States after the expiry of the approved period in the Accession Treaty during which they were allowed to limit the purchase of protected land by EU investors. MSs can regulate their land markets, while respecting fundamental freedoms and non-discrimination. In order to prevent land speculation, preserve agricultural communities and manage the landscape, such investment restrictions are allowed.

Key words: *landscape, Križnica, speculation, Commission's Communication, restrictions*

INTRODUCTION

Križnica is an inhabited island on the river Drava with an area of 12.6 km², in the municipality of Pitomača in the north-east of Croatia, it is a protected part of nature that falls under the provisions of Article 52 of the Constitution of the Republic of Croatia on the special protection of the state and is within the Mura-Drava-Danube biosphere reserve and the Mura-Drava regional park. It has been connected to the mainland for centuries by a hanging pedestrian bridge and scaffolding, which was recently replaced with a new one. The Ministry of Culture and Media of the Republic of Croatia has declared traditional scaffolding in the "landscape" a national treasure and the municipality of Pitomača as the holder of the protection of cultural property as the owner of the

scaffolding, and there are indications of further EU investment in transport infrastructure, and the issue of the holder of the protection of Križnica is intriguing. The public institution for the management of the protected part of nature and the ecological network of the Virovitica-Podravine County with its headquarters in Križnica (further: JU Virovitica Nature) and the Ministry of Environmental Protection and Green Transition are integrated into the process of creating a management plan for JU Virovitica Nature, which can resolve the duality of jurisdiction in connection protection in the Križnica landscape. The member states are competent around acquisition of arable land and protected parts of nature, and it is expedient to foresee the permitted limits of foreign capital investment in Križnica in the management plan according to the Communication of the Commission on the acquisition of agricultural land and on EU law (2017).

KRIŽNICA — ISLAND, PROTECTED LANDSCAPE, PROTECTED LANDSCAPING

Croatian islands are protected parts of nature, there is a distinction in the protection of islands at sea according to the Law on Islands in relation to islands in the water body in accordance with the Law on Nature Protection. Nature protection is carried out by preserving and declaring protected parts of nature respecting the areas of the ecological network established by the EU Directive on Birds (2009/147 EC) and the EU Directive on Habitats (92/43 EEC) and adopted by the Law on Nature Protection. The management system was established in such a way that the national park and the nature park are managed by a separate public institution established by the Government of the Republic of Croatia, while other categories of protection are managed by public institutions of the regional self-government unit, which can transfer the founding rights over them to the local self-government unit on whose territory lies the protected area. The area of the ecological network can be managed by one public institution that is responsible for the entire area of the ecological network, and in the case where a public institution and a ministry manage, the competences are determined according to the local jurisdiction, not for the entire area of the ecological network.

Križnica is in the middle course of the Drava River, under the territorial administration of Pitomača municipality in Virovitica Podravka County and is in the category of regional park according to the Nature Protection Act. Križnica is part of the European network of protected areas for valuable and endangered species Natura 2000, and according to the Nature Protection Strategy and Action Plan, protection activities are carried out by the public institution of the Virovitica-Podravine County under the authority of the Ministry of Nature Protection and Green Transition. In addition, the municipality of Pitomača, as the owner of the pier for the traditional way of transporting passengers and goods from the mainland to the island, is obliged to ensure that this tradition is maintained. Scaffolding in continental Croatia was declared a protected cul-

tural asset by the Ministry of Culture and Media in its decision from March 2024, which also applies to the Križnica scaffolding (under No. Z-7802 in the Register of Cultural Assets of the Republic of Croatia). Although the decision was made one year after the scaffolding was already replaced by a new and more modern solar powered one with EU funding (2023), the activities undertaken should not prevent the municipality of Pitomača from refurbishing the old scaffolding in the ordered tasks of protecting traditional assets. As the bearer of the protection of intangible cultural property, the municipality of Pitomača is obliged to avoid the danger of disappearance, destruction, or excessive commercialization of scaffolding on the Drava to adhere to the historically traditional matrix and appearance of this cultural property.

Protected landscaping

All counties with parts of nature that are entered in the Register are obliged to establish a public institution that will manage them. As a former island of the Pannonian Sea from the geological past, Križnica is an ecological reserve and forms a natural border with Hungary. In the Register of Protected Areas of the Virovitica Podravina County, order no. 444, the locality of Križnica is listed as an important landscape in the western part of the municipality of Pitomača. It is of exceptional aesthetic and biological value, with a constant flow of water from the ground, rare plant, and animal species live there. Shaped like a flower with five petals, the river meanders in large bends as it flows through the lowlands creating backwaters, habitats for many species of fish, as well as endangered and protected bird species. The entire area of the Mura-Drava Regional Park is included in the Natura 2000 ecological network of the area, which is an EU project for the preservation of localities and existing species in these habitats. In addition to being part of the Mura-Drava regional park as part of the course of two rivers, Križnica is also within the Pentalateral Biosphere Reserve, the area of the three rivers Mura, Drava, and Danube under UNESCO protection (2021).

JU Virovitica Nature is responsible for ensuring a clear, harmonized, and enforceable legislative and institutional framework for the implementation of the protection mechanism for Križnica. The Directorate for Nature Protection of the Ministry of Environmental Protection and Green Transition supervises the professional administration when JU Virovitica Nature proposes protection measures and takes care of their proper implementation and is integrated in the adoption of a management plan with a vision of landscape value protection. Protected areas and the ecological network as the basic mechanisms of nature protection can be the same area. When the protected area overlaps with the area of the ecological network in the same area, it is necessary to clearly establish which body carries out which procedures. When managing a protected area, the goal is to preserve the natural, cultural, and social characteristics that led to the area being declared protected, and the goal when managing an ecological network is to maintain or improve the state of conservation of target species and habitats

in that area. The management plan implements the management of protected areas for a period of ten years. For the category of significant landscape protection, the management plan determines management goals, activities and indicators of management efficiency, and a Decision on the measures of protection, preservation, improvement, and use of the protected area can be made. The work of managing the protected area should not overlap with the work covering the area of the ecological network. It is expedient to plan the unification of the mentioned procedures. In the Ministry of Environmental Protection and Green Transition, there are two organizational units for nature protection, in addition to the Administration, there is the Institute for Environmental and Nature Protection. The Institute keeps records on the voluntary system of environmental management by multinational companies, medium and small companies, and state and public institutions, and is obliged to send a report to the European Commission. If the development of the Virovitica Nature Management Plan for the period 2025-2035 is in progress, there is still time to foresee the way to protect the traditional cultural property glassmaking on Križnica, and in addition to the restrictions on the circulation of foreign capital as additional landscape conservation measures proposed by the European Commission in its Communication on the acquisition of agricultural land and EU law (2017).

COMMISSION INTERPRETATIVE COMMUNICATION ON THE ACQUISITION OF FARMLAND AND EUROPEAN UNION LAW (2017/C 350/05, 18.10. 2017)

In its reports, the European Commission highlights the fact of the facilitated access to EU funding in the free movement of capital and business establishment that investors enjoy within the EU. When it uses the terms "stampede on arable land" and "frequent occurrence of speculation on the land market", the European Commission considers it necessary to intervene with protective measures, and these are indicated by analyzes made by its expert services. He also concludes that the free movement of capital can be a trigger for the seizure of agricultural land. Although the Communication on the acquisition of agricultural land and EU law (2017/C 350/05) belongs to the so-called soft law is not binding in nature, it is applied. It is the right of the member states "to take measures that are justified by reasons of public policy or public security" (Art. 65, paragraph 1, point b of the TFEU). In this sense, the principle of free movement of capital does not call into question certain rights of member states (Art. 65 of the TFEU), which includes the right to apply special national tax provisions, to take precautionary and supervisory measures, especially in the areas of taxation and prudential supervision financial institutions.

The Commission's communication clarifies the way to achieve legitimate public interests in accordance with EU law. The communication warns member states of the

danger of losing protected lands after the expiration of the approved period under the Accession Treaty during which member states could limit the purchase of protected lands by EU investors. After the expiration of the approved period under the Accession Treaty, EU investors may still be restricted from purchasing protected land based on this EU act. Such investment restrictions are allowed if efforts are aimed at preventing land speculation, preserving agricultural communities, and managing the landscape (point 3.a of the Communication). In doing so, respect for basic rights and non-discrimination should be preserved, member states are helped to regulate their own land markets with the condition of respect for fundamental freedoms and non-discrimination (item 2 of the Communication). The Member State should explain the restrictive measures with appropriate evidence or analysis of appropriateness and proportionality that the restriction of the freedom of movement of capital can be justified within the framework of EU law (point 4.a of the Communication).

Member states can, based on EU law, enact appropriate policies for their agricultural land markets, provided that the objectives are clearly defined, and the instruments that are selected and proportional to these objectives do not exceed the necessary measure and are not discriminatory (point 5 of the Communication). European legislation does not prescribe the acquisition of agricultural land and member states have the authority and discretion to regulate their land markets (item 2 b and c of the Communication). Therefore, national measures that may hinder the realization of fundamental freedoms are allowed under the following conditions: they are not discriminatory and are justified by legitimate public interest and suitable for achieving the goal without going beyond what is necessary. Also, that they cannot be replaced by less restrictive, alternative means (principle of proportionality). In the process of acquiring, using, or disposing of protected land, the provisions of the Charter of Fundamental Rights of the European Union are considered, for example the right to ownership, the right of access to land. The communication states that the earth is a nurturing and non-renewable resource, therefore small family farms, cultural heritage and sustainable use of natural resources are even more important.

Protection against speculation on the land market according to the Communication of the Commission in Croatia is applicable from July 1, 2023, since this time foreign investors are allowed to freely buy protected parts of nature from their owners after the moratorium for foreigners from the EU Accession Treaty expires (Art. 60. paragraph 2 and Appendix VII).

An example of good practice

Considering the adopted goals of the new territorial cohesion, the policies of territorial cooperation are such that they seek to "transform national issues of land management into European issues and propose a common response at the supranational level to is-

sues that appear in a similar way in several national territories" (Territorial Cooperation in Europe, EU, 2015, p.158).

The study carried out for arable land in Greece usefully informs the effectiveness of agricultural policy with the aim of assessing the consequences resulting from the conversion of arable land. According to Greek law, for the acquisition of real estate in special areas such as a national park, a nature park, a protected landscape, it is necessary for each transfer of land on which it is located, e.g. house, attach a solemn declaration by the contracting parties that the property is not located on the coast, in public ownership or on an archaeological site. If such a statement is not attached to the contract or if it is stated that the real estate is in one of these areas, the transfer should not take place, and the entry in the land register cannot be made (<https://www.elra.eu/contact-point-contribution/greece/legal-restrictions-5>)

CONCLUSION

In today's time when the free movement of capital opens up numerous questions regarding speculation on arable land in EU member states, the possibility of implementing exceptions on the permitted restriction of land traffic from the Commission's Communication has the significance of special protection. Križnica, as an island on a water resource, is of interest to Croatia due to its beauty, wealth, and diversity. It has the status of a protected landscape due to its biodiversity, landscape diversity and geodiversity. It enjoys the special protection of the state mentioned in the provisions of art. 52 of the Constitution of the Republic of Croatia in the manner prescribed by the Law on Nature Protection as a separate law. However, according to the Act on the Protection and Preservation of Cultural Assets, Križnica has the status of a protected landscape in which the scaffolding is part of the declared intangible cultural asset of scaffolding on the Drava. According to the decision of the Ministry of Culture and Media, the holder of protection for scaffolding is the municipality of Pitomača, and Križnica, as a protected part of nature and an ecological network in the same area, is under several categories of protection. The question of the duality of jurisdiction is intriguing, which can be resolved by a management plan. The body responsible for the implementation of measures to protect Križnica as a river island and landscape with cultural value could be unified in the Management Plan of the Virovitica Nature Reserve for the next period from 2025 to 2035. The purpose of managing the protected area and the completeness of the protection goal would be achieved: to preserve the natural, cultural, and social characteristics for which an area was declared protected, as a form of realization of the special protection of the state ordered by the Constitution of the Republic of Croatia.

Bearing in mind the prevention of inappropriate influence of interest groups that seek to replace the participation of civil servants with the decision-making of expert

and supranational bodies, the Law on Lobbying could also be important for the title topic. The provisions of the Law on Lobbying, which the Croatian legislator passed in 2024 in accordance with EU acts on lobbying, help prevent lobbyists from decisively influencing the adoption of acts on the management of protected parts of nature.

References

- Commission Interpretative Communication on the acquisition of farmland and European law*, (2017/C 350/05, 18.10. 2017). [https://eur-lex.europa.eu/legal-content/EN/TEXT/HTML/?uri=CELEX:52017XC1018\(01\)](https://eur-lex.europa.eu/legal-content/EN/TEXT/HTML/?uri=CELEX:52017XC1018(01)).
- Strategija i akcijski plan zaštite prirode* (Strategy and action plan for nature conservation) (NN, no. 72/2017). <https://www.zakon.hr/c/podzakonski-propis/19415/nn-72-17-od-21.07.2017.-strategija-i-akcijski-plan-zastite-prirode-republike-hrvatske-za-razdoblje-od-2017.-do-2025.-godine>.
- European Union (2015). *Territorial cooperation in Europe, a historical perspective*. https://ec.europa.eu/regional_policy/en/information/publications/brochures/2015/territorial-cooperation-in-europe-a-historical-perspective.
- Uredba Vlade RH o ekološkoj mreži i nadležnosti javnih ustanova za upravljanje područjima ekološke mreže* (Decree of the Government of the Republic of Croatia on the ecological network and the competence of public institutions for the management of ecological network areas (NN, no. 80/2013, 15/2018, 14/2019, 80/2019, 127/2019 i 119/2023). https://narodne-novine.nn.hr/clanci/sluzbeni/2019_08_80_1669.html.
- Uredba o proglašenju Regionalnog parka Mura-Drava* (Decree on the proclamation of the Mura-Drava Regional Park) (NN, no. 22/2011). https://narodne-novine.nn.hr/clanci/sluzbeni/2011_02_22_471.html.
- Uredba EMAS* (NN, no. 131/2020).
- Zakon o zaštiti okoliša* (Environmental Protection Act) (NN, no. 118/2018). <https://www.zakon.hr/z/194/zakon-o-zastiti-okolisa>.
- Zakon o izmjenama i dopunama Zakona o ustrojstvu i djelokrugu tijela državne uprave* (Act on amendments to the act on the organisation and scope of competence of state administration bodies) (NN, no. 57/2024). https://narodne-novine.nn.hr/clanci/sluzbeni/2024_05_57_982.html.
- Zakon o zaštiti prirode* (Nature protection act) (NN, no. 155/2023). <https://www.zakon.hr/z/403/zakon-o-zastiti-prirode>.
- Zakon o lobiranju* (The law on lobbying) (NN, no. 36/2024). <https://www.zakon.hr/z/3778/zakon-o-lobiranju>.
- Zakon o otocima* (Islands act) (NN, no. 116/2018, 70/2021). <https://www.zakon.hr/z/638/zakon-o-otocima>.
- Zakon o zaštiti i očuvanju kulturnih dobara* (Law on the protection and preservation of cultural property) (NN, no. 90/2018, 114/2022).
- European Land Registry Network (n.d). Legal restrictions (Greece). <https://www.elra.eu/contact-point-contribution/greece/legal-restrictions-5>.

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PERCEPTION OF ANTI-CORRUPTION MECHANISMS IN CROATIAN PUBLIC PROCUREMENT

Abstract

The public procurement market constitutes a significant part of the Croatian economy, which can be clearly seen from the share of public procurement expenditure in GDP - financial resources of taxpayers that are spent on various common needs, such as roads, hospitals, schools, etc. through expenditure public procurement accounted for 16.6% of GDP in Croatia in 2020. The share is even higher if state-owned companies such as utility companies that provide services, such as water supply and electricity supply, are also taken into account. This puts Croatia in the group of leading countries in terms of the share of public procurement expenditure in GDP in the European Union. Public procurement procedures obviously allocate a significant part of public resources, which makes them very sensitive to corrupt activities, so a strong anti-corruption framework is a key factor in their effective and legal use. Therefore, the Republic of Croatia has made the fight against corruption one of the priority areas of public policies. This paper provides an overview of the public procurement procedures of the current Law on Public Procurement and the anti-corruption mechanism, with a special focus on the effects of public procurement on the economy of the Republic of Croatia.

Key words: public procurement, instruments of public procurement, anti-corruption mechanism, transparency, market competition

INTRODUCTION

Public procurement is a process of acquiring goods, services or works for the state, local self-government, and other public bodies, commercial companies with state ownership, and other entities prescribed by law. It is mostly applied to contracts of higher value. Therefore, a series of rules and regulations aim to regulate public procurement procedures to make them transparent, efficient, and strictly formal and normatively regulated (Brcković et al., 2024). Public procurement in general accounts for a significant portion of public spending, usually up to 15-20% of GDP in many countries, thus making it a critical tool for delivering public services and infrastructure. The transparency

of procurement systems directly impacts economic efficiency, public trust, and the quality of services provided to citizens. Transparent procurement processes help ensure fair competition, prevent corruption, and deliver value for taxpayers' money. They also promote innovation and economic growth by providing opportunities for businesses of all sizes to compete for government contracts. Conversely, corrupted procurement systems can lead to inefficiencies, waste of public funds, and established corruption, diminishing public service delivery and trust in institutions. Recently, many countries have implemented reforms, such as e-procurement systems, to enhance accountability and efficiency. This paper aims to clarify the importance of anti-corruption mechanisms in public procurement process, with a special emphasis on the case of Croatia.

The rest of the paper is structured as follows. In the second section, a literature review on the subject of anti-corruption mechanisms is provided. The third section is aimed towards analyzing the effects of public procurement in Croatia and clarifying the legislative framework of public procurement, whereas section four presents anti-corruption mechanisms in Croatian public procurement. The last section provides concluding remarks and discusses the findings of presented statistical data.

LITERATURE REVIEW

The literature on anti-corruption mechanisms in public procurement highlights the critical role of the transparent and efficient procurement system in reducing corruption risks. Studies focus on the importance of strong legal frameworks, such as anti-bribery laws and regulations, to prevent corrupt activities during tendering and contract awarding processes. Mechanisms such as e-procurement and open contracting have been shown to increase transparency, making it more difficult for corrupt actors to manipulate procurement outcomes. Additionally, the involvement of independent oversight bodies, such as auditing institutions and anti-corruption agencies, is frequently cited as an essential tool for monitoring procurement activities. Overall, there are significant differences between countries' anticorruption measures. Placek et al. (2019) analyses anti-corruption policies by considering Bulgaria and the Czech Republic, in which they reveal significant differences in the effectiveness of anti-corruption measures. While the Czech Republic demonstrates a relatively more advanced anti-corruption framework, Bulgaria faces more severe challenges related to political patronage and judicial independence. The paper provides a conclusion that although both countries are engaged in anti-corruption reforms, persistent issues such as political interference and inadequate enforcement mechanisms remain significant barriers.

While focusing on the Croatian construction sector, Podumljak and David-Barrett (2015) produced a detailed report investigating the public procurement of construction works in Croatia, focusing on the key factors that facilitate corruption in the sector. Their main findings include corrupt practices in the Croatian construction industry, with

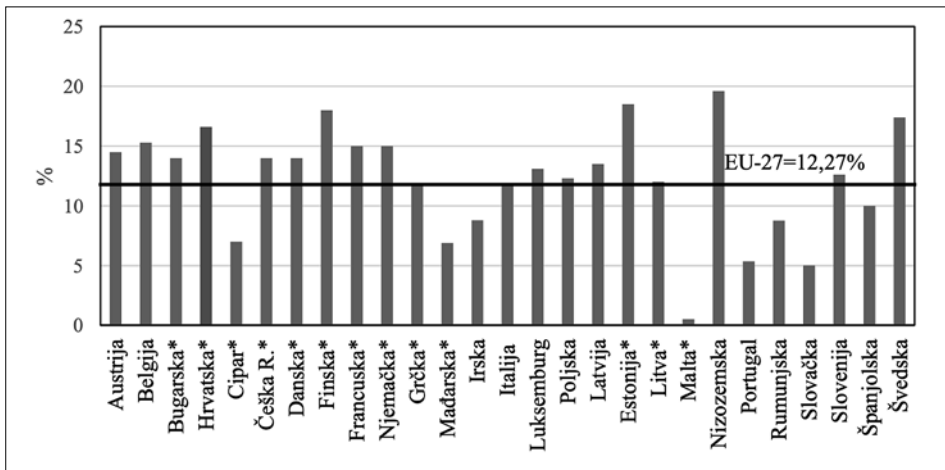
procurement practices being influenced mostly by political patronage, lack of transparency, and weak regulatory oversight. The authors argue that public procurement in Croatia is particularly prone to corruption due to inadequate enforcement of anti-corruption measures, fragmented legal frameworks, and the interplay between political elites and private contractors. The vast study of corruption effects on economic growth was conducted by Spyroitos and Panagiotidis (2022). Their paper includes a detailed literature review with major findings on corruption-economic growth models. According to the empirical research, an increase in corruption by one unit reduces GDP pc by 0.15% to 1.5% (Spyroitos & Panagiotidis, 2022). By correlating GDP growth rates and the corruption perception index, some researchers found out that there are countries with high GDP growth even though they have a very high corruption perception index. However, there is a preponderance of research that links the reduction of GDP growth under the influence of corruption (Chêne & Hodess, 2014).

HOW LARGE IS PUBLIC PROCUREMENT IN CROATIA?

The public procurement market makes up a significant part of the Croatian economy—taxpayers' resources spent on various common needs, such as roads, hospitals, schools, etc. through public procurement expenditures, accounted for 16.6% of GDP in Croatia in 2020 (Brcković et al., 2024). In 2022, the percentage of Gross Domestic Product as Public Procurement Expenditure was 20.59%, according to the Global Public Procurement Database of The World Bank. This share is even higher if state-owned companies such as utility companies that provide services like water and electricity supply, are also taken into account. This puts Croatia in the group of leading countries in terms of the share of public procurement expenditure in GDP in the European Union (Brcković et al., 2024). Considering that public procurement typically accounts for 13% to 20% of GDP, it is certain that a transparent public procurement procedure is of utmost importance.

Effects of public procurement on the economy of the Republic of Croatia

The Croatian economy, affected by a seven-year recession as a result of the global financial and economic crisis that began in 2007 in the USA and gained global proportions in 2008, only showed signs of recovery in 2015. The recovery from the recession was significantly facilitated by improvements in the European and world economy and the improved integration of Croatian companies on the foreign market as a result of Croatia's accession to the European Union. The recovery of the Croatian economy is indicated by the average annual GDP growth of 3.16% in the period from 2015 to 2019. However, the new economic crisis caused by the COVID-19 pandemic in 2020 left consequences for economic growth, causing a drop in domestic and foreign demand. The 8.1% drop in GDP in 2020 was largely influenced by the drop in the value of service

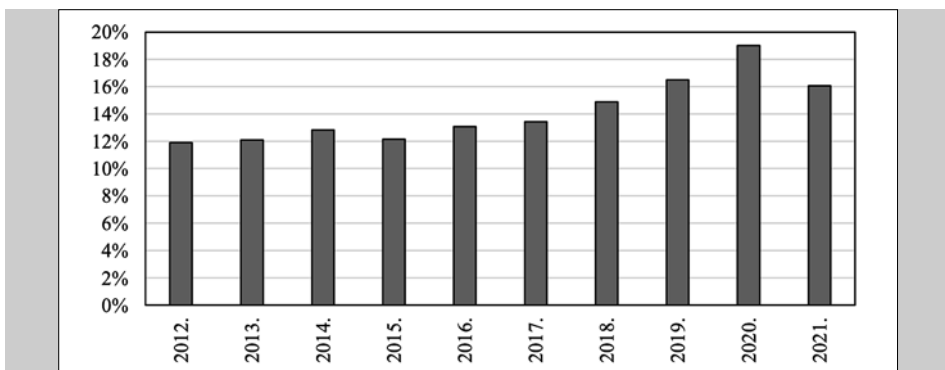


Graph 1 — Share of public procurement expenditure in GDP, EU-27 (2020 & 2021).

Source: created by the authors based on data from The World Bank, Global Public Procurement Database (*2020 data).

exports as a result of a significant drop in tourism results. The closing of national borders and the drastic reduction of tourist activities on a global level resulted in the realization of only about 45% of the income from tourism in 2019. In 2021, however, less rigorous measures related to the health crisis in all countries of the world affected the recovery of tourism and economic activity in Croatia, which led to a GDP growth of 10.4% compared to 2020.

As previously highlighted, the public procurement market makes up a significant part of the Croatian economy. This puts Croatia in the group of leading countries in terms of the share of public procurement expenditure in GDP in the European Union (Graph 1).



Graph 2 — Share of public procurement expenditure in Croatian GDP (2012—2021).

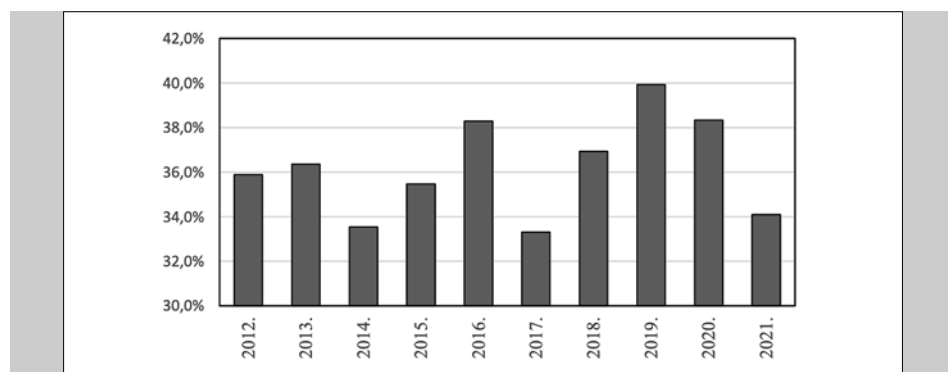
Source: created by authors based on the data from the Statistical Report on Public Procurement 2008—2022 and the Croatian Chamber of Commerce 2022.

Analyzing the trend of public procurement expenditures in the GDP of the Republic of Croatia in the period from 2012 to 2021 (Graph 2), an increase in the share from 11.9% to 16.1% can be observed. The largest share was recorded in 2020 (19.0%), when public procurement expenditures increased by 8.8% compared to 2019.

In the period from 2012 to 2021, as can be seen from the data on Graph 2, the share of public procurement in GDP increased by 4.2%. This indicates economic growth and investment growth, which leads to an increase in the competitiveness of the Croatian economy. Public procurement is a reflection of established relations between the private and public sectors, so the growth of its share in GDP can be an indicator of their competitive ability for businessmen to ensure greater success in market competition. On the other hand, in this relationship, the public sector plays the role of an entrepreneur who, applying the principle of a good businessman and providing equal opportunities to everyone, has the opportunity to choose the most economically advantageous offer.

Public procurement expenditure is distributed between the central government, lower central levels and local self-government, which is estimated to be responsible for more than half of public procurement expenditure (OECD, 2011). In the total expenditures of the state budget of the Republic of Croatia, public procurement expenditures in the Republic of Croatia account for 34.1% in 2021, and the trend of decreasing their share from previous years has continued (Graph 3) as a result of limited financial resources.

Considering the size of public procurement expenditures in GDP and the state budget, it is quite clear that public procurement has a significant impact on the economy. By purchasing goods, services and works from the private sector, public procurement affects the business of entrepreneurs, their growth, employment growth in the private sector, etc.



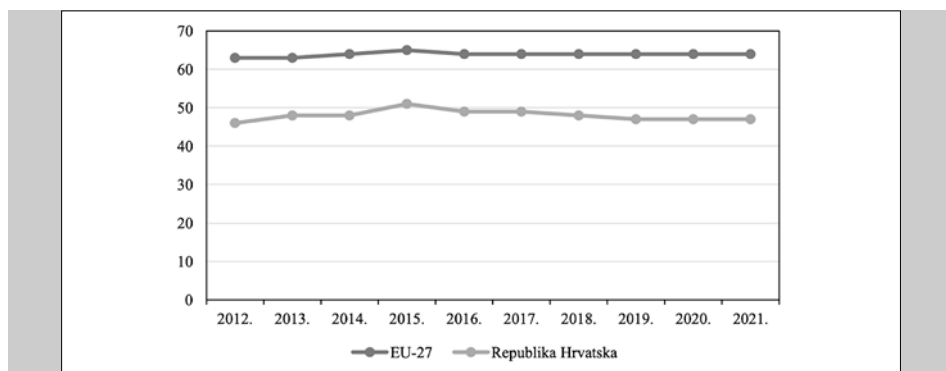
Graph 3 — Share of public procurement expenditures in total state budget expenditures in Croatia (2012—2021). Source: created by authors based on the data from the Statistical Report on Public Procurement 2008—2022 and the Croatian Chamber of Commerce 2022.

Legislative framework of public procurement in the Republic of Croatia

Encouraging public procurement efficiency is one of the main reasons for public procurement reform around the world. The Law on Public Procurement from 2016 with application from January 1, 2017 is the basic legal act that governs the rules of public procurement. In addition to this legal act, public procurement is directly or indirectly regulated by many different laws harmonized with the regulatory framework of public procurement in the EU. Formal legal regulation of public procurement is unquestionable. However, the question arises of the quality of the codification of public procurement procedures, which is also important in many ways, and which is reflected in the economic, administrative and many other effects of public procurement. Legislative solutions in public procurement procedures can have a direct effect on the level of competitiveness of the national economy, rational management of public funds and the related quality and level of public goods and services, the level of participation of entrepreneurs in public procurement, transparency and prevention of corrupt activities in public procurement, encouraging green transitions, etc. (Šprajc, 2006). This leads to the need to constantly question the effectiveness of legislative measures applied in public procurement and their adaptation to challenges and trends in the environment. Public procurement procedures allocate a significant part of public resources, which makes them very sensitive to corrupt activities, so a strong anti-corruption framework is a key factor in their effective and legal use (Turudić, 2017). The Republic of Croatia has made the fight against corruption one of the priority areas of public policies. Open public procurement is seen as a way of encouraging market competition and competition in public procurement, attracting small and medium-sized enterprises and increasing transparency.

PERCEPTION OF ANTI-CORRUPTION MECHANISMS IN CROATIAN PUBLIC PROCUREMENT

Etymologically, the term 'corruption' comes from the Latin word 'rumpere' which literally means breaking or tearing, suggesting that something is fundamentally broken. However, this is not an ordinary interruption, but at least two people participate in this interruption or breaking, for bribery there must be two participants - cum rumpere. Corruption is a consensual operation (Derenčinović, 2001, p. 35), defined as any abuse of rights or authority over the means or rights of others for the purpose of one's own gain or the acquisition of private benefits. In its simplest definition, corruption is the abuse of public position for private gain. The definition by Transparency International (Kühn & Sherman, 2012) is similar, according to which corruption is the abuse of entrusted power for private gain. Corruption is considered to be any form of unethical use of public reputation for private gain (by bribing or granting privileges) and any action by civil servants or officials that is different from the prescribed and usual, all with



Graph 4 — Corruption perception index in Croatia and EU-27, 2012—2021.

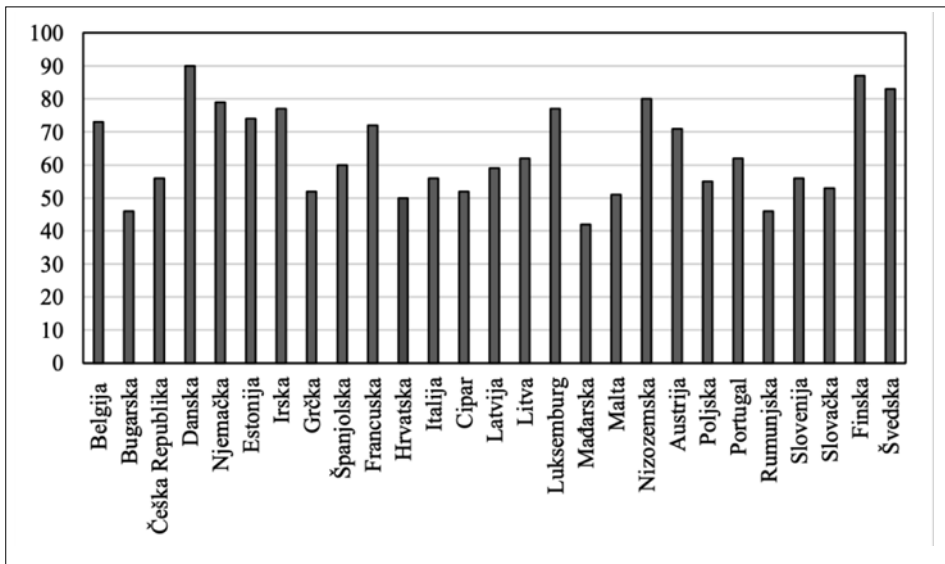
Source: Eurostat 2023, Corruption Perception Index by Transparency International.

the intention of providing advantages in exchange for benefit or profit. It is particularly characteristic of corruption that it always involves at least two people, contains elements of mutual obligations and benefits of those who participate in corruption, and includes persons who have the ability to influence the making of important and significant decisions.

Budak (2006) pointed to the suppression of corruption as one of the key criteria for Croatia's entry into the European Union. However, a decade after full membership in the European Union, a high level of corruption is still present in Croatia. According to the Corruption Perceptions Index (CPI), which ranks 180 countries on a scale from 100 (no corruption) to 0 (high corruption), in 2022 Croatia was in 57th place (with 50 points) out of 180 of countries included in the research, which indicates a medium-high level of corruption (Transparency International, 2023). Croatia improved its position by joining the European Union. However, compared to the European Union average, it can be seen that the index of perceived corruption in the Republic of Croatia is significantly below the EU-27 average (Graph 4).

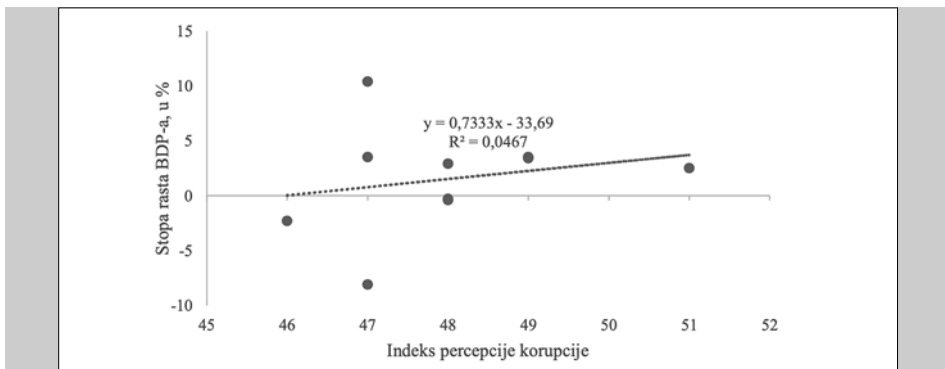
Compared to other member states of the European Union, according to the index of perceived corruption, the Republic of Croatia was at the very bottom in 2021. Only Bulgaria, Hungary and Romania have a lower index of perceived corruption compared to Croatia (Graph 5).

By comparing the GDP growth rate in the Republic of Croatia and the corruption perception index between 2012 and 2021, a positive but weak correlation can be observed (Pearson's correlation coefficient, $r = 0.216$), so it can be said that the increase in corruption (the growth of the corruption perception index) corresponds to the fall in GDP, but with an insignificant effect. The weak connection between the corruption index and GDP is also indicated by the scatter diagram shown in Graph 6, from which the almost negligible influence of the corruption perception index on GDP can be read.



Graph 5 — Corruption perception index in EU-27, 2021.

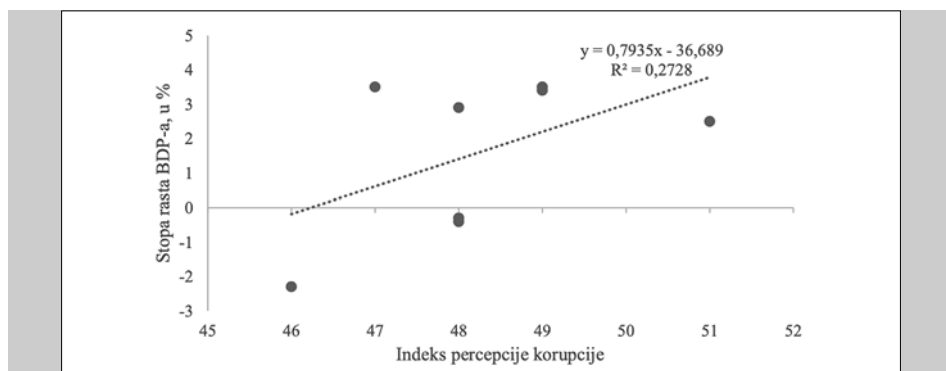
Source: Eurostat 2023a, Corruption Perception Index by Transparency International.



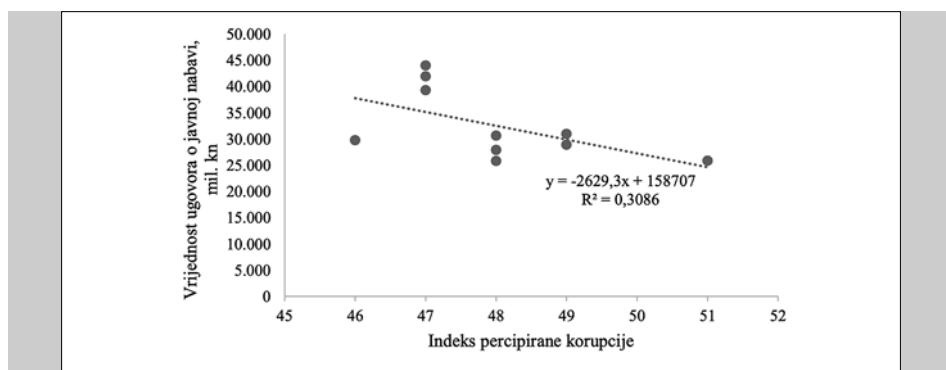
Graph 6 — Scatter diagram of the corruption perception index and GDP in the Republic of Croatia, 2012—2021. Source: created by authors based on the data from the Transparency International 2023 and the Croatian Chamber of Commerce 2022.

If, however, the data for 2020 and 2021 are excluded from the calculation, in which the GDP was strongly influenced by the economic crisis caused by the COVID-19 pandemic, the correlation is much stronger.

Comparing the corruption perception index and the value of public procurement contracts concluded in the period from 2012 to 2021 shows a negative correlation between these two variables with medium strength ($r = 0.5555$), which means that with an increase in the corruption perception index the value of concluded contracts in public procurement increased. The scatter diagram also shows the correlation between



Graph 7 — Scatter diagram of the corruption perception index and GDP in the Republic of Croatia, 2012—2019. Source: created by authors based on the data from the Transparency International 2023 and the Croatian Chamber of Commerce 2022.



Graph 8 — Scatter diagram of the corruption perception index and the value of concluded public procurement contracts in the Republic of Croatia, 2012—2021. Source: created by authors based on the data from the Statistical Report on Public Procurement 2012—2022 and the Croatian Chamber of Commerce 2022.

the corruption perception index and the value of public procurement contracts in ($r^2 = 0,3086$) (Graph 8), so it can be concluded that the reduction of corruption reduces the value of concluded contracts in the Republic of Croatia.

CONCLUSION

Suppression of public procurement corruption is one of the key issues facing governments in the effective functioning of public administration. The measures necessary to prevent corruption in the public procurement system include the strengthening of the legal framework, which implies strict control of all public procurement procedures, the strengthening of control mechanisms (prevention, training, sanctions), cooperation with other supervisory bodies (external supervision and audit institutions, for example),

education on anti-corruption measures and ethical issues, strengthening awareness of the importance of preventing corruption in the public procurement system, and encouraging the use of e-procurement and the establishment of central bodies for public procurement. Research indicates corruption in Croatian public procurement (Ateljević & Budak, 2010; Budak & Rajh, 2011), but even bigger issue is distrust in the system. The study by Budak and Rajh (2011) revealed that about 75% of the Croatian adult population believes that public employees and elected government representatives in Croatia receive bribes as part of public procurement contracts. The same study also states that improving the work of institutions, primarily reducing corruption, potentially has a significantly greater effect on the economy than access to the EU market itself.

According to the OECD report (2022), Croatia has invested significant efforts in reducing the possibility of undertaking corrupt activities and limiting discretion in public decision-making. At the central level, certain standards of integrity are applied, and public officials are obliged to declare personal assets and interests. The transparency and control of public procurement have been increased, the effectiveness of law enforcement agencies has been strengthened, and records have been established on the effective prosecution of corruption. The State Commission for Control of Public Procurement Procedures was established, as well as a number of specialized institutions operating in the field of preventive anti-corruption policy (State Audit Office, etc.). Among the shortcomings are the absence of some elements of the functional framework for the fight against corruption, for example, a code of conduct for persons in the highest executive positions, as well as comprehensive codes of conduct for elected officials at the regional and local level, a framework that regulates lobbying, an operational whistleblower protection system, and innovative mechanisms to facilitate the use of out-of-court dispute resolution (OECD, 2022).

Corruption represents a danger for the effective functioning of the state government, its bodies and organizations, for orderly business operations, for the performance of services that serve citizens in their daily lives, and finally, for democracy itself and the rule of law. Therefore, the claim that corruption threatens the fundamental values of modern citizenship and democratic society, which is based on respect for the law, equality of citizens before the law and realization of civil rights and freedoms like never before in human history, is argued. It is widespread, it exists all over the world, both in highly developed countries and in developing countries, and in some places its history is so long that it is considered a generally accepted tradition in a certain culture of behavior. Corruption, however, has a harmful impact on social and economic development, restricting market freedoms, slowing down economic growth by reducing the share of investment in GDP, deepening inequality and poverty in society, and a destructive impact on socio-economic development through reducing the accumulation of human resources is cited, capital, investments, political stability, and thus GDP growth (Letunić, 2011). It is also necessary to point out that in the literature, there are

opposite points of view that do not correlate corruption with economic growth. Further efforts should also be aimed at easing the perception of business entities and the public in general about the prevailing level of corruption.

References

- Ateljević, J., & Budak, J. (2010). Corruption and public procurement: example from Croatia. *Journal of Balkan and Near Eastern Studies*, 12(4), 375-397. <https://doi.org/10.1080/19448953.2010.531202>.
- Brcković, G., Čolig, M., & Mjeda, T. (2024). Analysis of public procurement characteristics in the Republic of Croatia. *Obrazovanje za poduzetništvo — E4E*, 14(1), 100-112. <https://doi.org/10.38190/oep.14.1.9>.
- Budak, J. (2006). Korupcija u Hrvatskoj: percepcije rastu, problemi ostaju (Corruption in Croatia: perceptions are growing, problems remain). *Privredna kretanja i ekonomska politika*, 16(106), 66-98.
- Budak, J., & Rajh, E. (2011). Korupcija u Hrvatskoj: stvarna korupcijska iskustva građana (Corruption in Croatia: Real corrupt experiences of citizens). Ekonomski institut. Zagreb.
- Chêne, M., & Hodess, R.B. (2014). *The impact of corruption on growth and inequality*.
- Derenčinović, D. (2001). *Mit (o) korupciji* (Myth (about) corruption). Nocchi.
- Eurostat (2023). *Corruption perceptions index* (source: Transparency International).
- Kühn, S., & Sherman L.B. (2014). *Curbing corruption in public procurement. A practical guide*. Transparency International. Berlin.
- Letunić, P. (2011). Korupcija i društveno-ekonomski razvoj (Corruption and socio-economic development). *Politička misao*, 48(2), 186-204.
- OECD. (2011). *Public procurement for sustainable and inclusive growth. Enabling reform through evidence and peer reviews*.
- OECD. (2022). *Fair market conditions for competitiveness in the Adriatic region. Croatia country profile*.
- Placek, M., Pucek, M. & Ochrana, F. (2019). Identifying corruption risk: A comparison of Bulgaria and the Czech Republic. *Journal of Comparative Policy Analysis: Research and Practice*, 21(4), pp. 366-384.
- Podumljak, M., David-Barret, E. (2015). *The public procurement of construction works: The case of Croatia. Anti-corruption policies revisited*. Partnership for Social Development, Zagreb.
- Spyroitos, E., & Panagiotidis, M. (2022). The impact of corruption on economic growth in developing countries and a comparative analysis of corruption measurement indicators. *Cogent Economics i Finance*, 10(1).
- Šprajc, I. (2006). Kritička analiza važnijih novina u Zakonu o javnoj nabavi (Critical analysis of major novelties in the Public Procurement Act). *Hrvatska i komparativna javna uprava*. 6(1), pp. 93-121.
- Transparency International. (2023). *Corruption perceptions index*. Transparency International. Berlin.
- Turudić, M. (2017). *Pravo javne nabave* (Public procurement law). Narodne novine.

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ENTITY FRAMEWORK AND DAPPER IN ADVANCED WEB ENVIRONMENTS

Abstract

This paper focuses on comparing the performance of two popular data access tools in advanced web environments — Entity Framework and Dapper. The research aimed to assess the performance of these tools in combination with other widely used libraries such as MediatR, FluentValidation, AutoMapper, and a generic repository. Entity Framework, developed by Microsoft, is an object-relational mapping tool that facilitates interaction between application code and a database through an abstraction layer. It enables developers to manipulate data using objects instead of writing complex SQL queries. On the other hand, Dapper is a simpler object mapping tool to a database known for its fast execution and ease of use. Performance measurements of these code patterns will be conducted using Entity Framework and Dapper. By comparing execution times and other relevant metrics, the results revealed differences in speed between these two tools in various scenarios.

Key words: *SQL, .NET, C#, API, Entity Framework, back-end, Dapper, generics, and CRUD*

INTRODUCTION

The focus of this paper is on comparing the performance of two widely used data access tools in advanced internet environments: Entity Framework and Dapper. The primary goal of this research was to evaluate the performance of these tools when integrated with other popular libraries, such as MediatR, FluentValidation, AutoMapper, and a generic repository pattern. The introductory section provides an overview of Entity Framework and Dapper, highlighting their definitions and characteristics. Entity Framework, developed by Microsoft, is an object-relational mapping (ORM) tool that simplifies interactions between application code and databases through an abstraction layer. It enables developers to work with data using objects rather than complex SQL queries. On the other hand, Dapper is a lightweight ORM known for its speed and simplicity in executing database operations. Following this overview, the paper examines their performance in various use-case scenarios. Code samples simulating typical tasks in web applications — such as data management, validation, mapping, and transaction handling — were implemented using advanced libraries like MediatR, FluentValidation, AutoMapper, and a generic repository pattern. Subsequent performance measurements

of these code samples were conducted using both Entity Framework and Dapper. By comparing execution times and other relevant metrics, the study revealed differences in speed between the two tools under various conditions. Based on the results, the research concludes that Dapper significantly outperforms Entity Framework in query execution and data manipulation. However, Entity Framework has its strengths in offering rich functionality and support for more complex data modelling. This paper provides recommendations for selecting the appropriate tool based on specific project requirements, with an emphasis on internet environments and the use of advanced libraries.

ANALYSIS OF TECHNOLOGIES USED IN THE APPLICATION

Entity framework as a database communication tool

Entity Framework Core (EF Core) is a modern and lightweight data access technology that plays a central role in the .NET ecosystem. It enables developers to interact with databases using .NET objects and LINQ, abstracting away the complexities of SQL. This object-relational mapper (ORM) facilitates cleaner code, better maintainability, and increased development speed by allowing developers to remain within the object-oriented paradigm [5]. Over time, EF Core has grown in both functionality and performance, becoming a go-to solution for building cross-platform and cloud-native applications. Recent versions of EF Core have introduced a wealth of features that enhance performance and developer experience. For instance, EF Core 6.0 achieved a significant performance improvement — around 70% — on the TechEmpower Fortunes benchmark when compared to EF Core 5.0 [15]. These improvements stem from enhanced query translation, optimized execution plans, and reduced allocations during runtime.

One notable addition in EF Core 8 is the support for JSON columns. This feature enables developers to store and query JSON data directly within relational databases like SQL Server and PostgreSQL. By doing so, it simplifies the handling of semi-structured data, bridging the gap between traditional relational models and NoSQL-like flexibility [13]. This hybrid approach empowers developers to model complex scenarios without breaking normalization or introducing unnecessary schema complexity.

Moreover, EF Core 9 introduces a powerful optimization: the reduction of network roundtrips during the SaveChanges operation. In practical terms, this can lead to a 74% reduction in execution time for certain write operations [14]. This is particularly beneficial for applications that handle high-throughput data operations, such as enterprise web portals or transactional systems. Developers using EF Core benefit from its deep integration into the ASP.NET Core ecosystem, which is well illustrated in Lock's work [2]. Lock emphasizes how ASP.NET Core's middleware and dependency injection systems work seamlessly with EF Core, enabling developers to build scalable and maintainable web applications.

While EF Core is a preferred choice for many, alternative micro-ORMs like Dapper are also relevant. Rowell compares EF Core and Dapper, demonstrating that Dapper provides performance advantages in scenarios where control over SQL and lightweight data access is critical [18]. EF Core remains the go-to for applications requiring complex data relationships and a full-featured ORM experience.

To fully utilize EF Core's capabilities, developers must also be proficient in C# features such as async programming, generics, and lambda expressions. Skeet provides in-depth coverage of C# internals, which are essential for writing performant and idiomatic EF Core queries [4]. The built-in migration mechanism in EF Core remains a cornerstone feature, providing developers with a streamlined way to manage database schema changes. Instead of writing manual scripts, developers can define model changes in code and automatically apply them to the database using simple CLI commands or integrated tooling [22]. This feature is not only convenient but also crucial for maintaining consistency and reliability in continuous integration/continuous deployment (CI/CD) pipelines.

Entity Framework Core is not only widely praised for its flexibility, but also for its support of modern development techniques such as code-first and database-first approaches. These methods allow developers to either begin with the database schema or with the object model, depending on project requirements. According to Ryadel, understanding the distinctions and benefits of each approach is critical for optimizing the development workflow [19]. Tools like AutoMapper are often used alongside EF Core to simplify data transformations between domain models and view models. As highlighted by PragimTech, AutoMapper integration within ASP.NET Core streamlines development and reduces boilerplate code [23].

EF Core also supports the use of validation frameworks such as FluentValidation, which can be integrated into ASP.NET Core applications. As C# Corner notes, FluentValidation enables developers to define validation logic in a clean and maintainable manner, improving overall data integrity [24]. Generics in C# further enhance EF Core usage by enabling reusable repository patterns and services. Shekh Ali emphasizes that generics help enforce type safety and reduce code duplication when interacting with EF Core data models [20]. Based on Microsoft's documentation, various community resources and blogs help developers understand and utilize EF Core's features more effectively. These resources cover everything from migration strategies to best practices for asynchronous programming [7].

Implementation of entity framework in the application

For Entity Framework to function correctly, it requires a database context and entity models. Entity models are C# classes defined with parameters in the code. In the code-first approach, Entity Framework generates database tables based on the entity models, naming the tables after the model (class) and the columns according to the mo-

del's parameters. In the database-first approach, this process is reversed: Entity Framework generates C# classes based on table names and parameters based on column names. It is crucial to note that both approaches consider properties such as value types, keys, whether a field can be nullable, maximum length, and decimal precision.

Code 1 shows a model that has foreign keys to two tables and how this is implemented in Entity Framework, illustrating a one-to-many relationship.

```
public partial class Emisija
{
    public int Id { get; set; }
    public string Naziv { get; set; } = null!;
    public string? Opis { get; set; }
    public DateTime? DatumIvrijemePrikazivanja { get; set; }
    public int TvPostajald { get; set; }
    public int Zanrld { get; set; }
    public virtual TvPostaja TvPostaja { get; set; } = null!;
    public virtual Zanr Zanr { get; set; } = null!;
}
```

Code 1 — Entity Model 'Emisija'

However, the "TvPostaja" entity (shown in Code 2) has a collection of 'Emisija' to allow Entity Framework to retrieve a list of related entries without explicitly writing SQL join statements.

```
public partial class TvPostaja
{
    public int Id { get; set; }
    public string Naziv { get; set; } = null!;
    public virtual ICollection<Emisija> Emisije { get; } = new List<Emisija>();
}
```

Code 2 — Entity Model 'TvPostaja'

The database context represents a session between the application and the database. It provides an interface for managing entities, mapping, executing queries, and saving changes to the database. The database context is typically defined as a class that inherits from the "DbContext" class in Entity Framework.

Code 3 demonstrates how Entity Framework automatically generates the database context ("DbContext") for entities like "Emisija" and "TvPostaja," which can be modified as needed.


```
modelBuilder.Entity<Emisija>(entity =>
{
    entity.HasKey(e => e.Id).HasName("PK__tmp_ms_x__3214EC07ED16B515");
    entity.ToTable("Emisija");
    entity.Property(e => e.DatumVrijemePrikazivanja)
        .HasColumnType("datetime")
        .HasColumnName("DatumVrijemePrikazivanja");
    entity.Property(e => e.Naziv).HasMaxLength(50);
    entity.Property(e => e.Opis).HasMaxLength(200);

    entity.HasOne(d => d.TvPostaja).WithMany(p => p.Emisije)
        .HasForeignKey(d => d.TvPostajaId)
        .OnDelete(DeleteBehavior.ClientSetNull)
        .HasConstraintName("TvPostajaId");

    entity.HasOne(d => d.Zanr).WithMany(p => p.Emisije)
        .HasForeignKey(d => d.ZanrId)
        .OnDelete(DeleteBehavior.ClientSetNull)
        .HasConstraintName("ZanrId");
});

modelBuilder.Entity<TvPostaja>(entity =>
{
    entity.HasKey(e => e.Id).HasName("PK__tmp_ms_x__3214EC0700E72BB4");
    entity.ToTable("TvPostaja");
    entity.Property(e => e.Naziv)
        .HasMaxLength(20)
        .IsFixedLength();
});
```

Code 3 — 'TvProgramContext' for 'Emisija' and 'TvPostaja'

This implementation showcases how Entity Framework facilitates database interactions, enabling developers to work within an object-oriented paradigm, enhancing development speed and efficiency.

Using entity framework in application code

Code 4 demonstrates how to retrieve a list of 'Emisija' (broadcasts) both with and without filtering conditions. Additionally, it utilizes features such as **ProjectTo** and **AsNoTracking**.

```
List<DohvatiEmisijeResponseEFC> result;
if (!request.NazivPart.IsNullOrEmpty())
{
    result = await _context.Emisije
        .Where(e => e.Naziv.Contains(request.NazivPart))
        .ProjectTo<DohvatiEmisijeResponseEFC>(_mapper.ConfigurationProvider)
        .AsNoTracking()
        .ToListAsync(cancellationToken);
}
result = await _context.Emisije
    .ProjectTo<DohvatiEmisijeResponseEFC>(_mapper.ConfigurationProvider)
    .AsNoTracking()
    .ToListAsync(cancellationToken);
return result ?? throw new EntityNotFoundException();
```

Code 4 — Example of Using Entity Framework to Retrieve Data from the Database

In Entity Framework, the **AsNoTracking** method is used to disable change tracking for entities retrieved from the database. By default, Entity Framework tracks changes to entities and automatically updates the database according to those changes. However, in certain scenarios, entities might be retrieved solely for reading purposes, without the need for the additional overhead of tracking changes. This means any modifications made to those entities will not be saved to the database when the **SaveChanges** method is called.

Additionally, a custom exception **EntityNotFoundException** is used, which has the message "Entity not found."

When retrieving a list of broadcasts without any conditions, Entity Framework generates the following SQL code:

```
SELECT [e].[Id], [e].[Naziv], [e].[Opis], [e].[DatumIVrijemePrikazivanja]
FROM [Emisija] AS [e]
```

Code 5 — SQL Query from the Entity Framework Example for Broadcasts Without a Filter

The **ProjectTo** method is responsible for specifying each column. If this function were not implemented, the SQL code would look like this:

```
SELECT [e].[Id], [e].[DatumVrijemePrikazivanja], [e].[Naziv], [e].[Opis],  
[e].[TvPostajald], [e].[ZanrId]  
FROM [Emisija] AS [e]
```

Code 6 — SQL Query from the Entity Framework Example
Without Specified Output Model for Broadcasts

This applies to both the filtered and non-filtered calls. **ProjectTo** is an **AutoMapper** extension function for the **IQueryable** interface, invoked to automatically identify only the necessary parameters for the output model and map the data to it.

When the method is called with a filter, an obvious difference is seen in Code 7. Here, a **WHERE** SQL clause is used to filter data by name.

```
SELECT [e].[Id], [e].[Naziv], [e].[Opis], [e].[DatumVrijemePrikazivanja]  
FROM [Emisija] AS [e]  
WHERE (@__request_NazivPart_0 LIKE N'') OR CHARINDEX(@__request_Naziv-  
Part_0, [e].[Naziv]) > 0
```

Code 7 — SQL Query from the Entity Framework Example for Broadcasts with a Filter

Code 8 illustrates an example of saving data to the database using the **Add** method. After making changes, the **SaveChanges** method must be called to actually commit these changes to the database.

```
_context.Emisije.Add(emisija);  
_context.SaveChanges();
```

Code 8 — SQL Query from the Entity Framework Example for Adding a Broadcast

In the rest of this study, these examples are used within a generic repository with asynchronous Entity Framework functions for database communication.

Dapper as a database communication tool

Dapper is an open-source .NET ORM known for its performance and ease of use. It allows the execution of raw SQL code directly on the database, offering more flexibility in crafting SQL queries compared to Entity Framework. It also supports calling SQL stored procedures. For more advanced features, Dapper enables mapping data from the database to specified models (classes).

Code 9. example demonstrates the use of Dapper, a simple Object-Relational Mapping (ORM) tool for .NET, to retrieve a single record from a database using an SQL

query. The process starts by creating a new instance of `SqlConnection` using a connection string, which contains the necessary details to connect to the database. The connection is then opened using the `Open()` method.

Next, the SQL query is defined in the variable `sql`, which is designed to fetch a record from the `Emisije` table where the `Id` matches a provided value. Parameters for the SQL query are set using an anonymous object; in this case, the object parameters include a property `Id` that maps to the `@Id` parameter in the SQL query. The value for `id` is passed to the method and is used to filter the results.

The query is executed using Dapper's `QuerySingleOrDefault<T>` method, which runs the SQL query and returns a single record or null if no record is found. This method automatically maps the data from the query result to an instance of the `Emisija` class. This illustrates how Dapper can be used for efficiently executing SQL queries while automatically mapping the results to .NET objects in the application.

Dapper recognizes the classes passed to it and automatically maps their values to the corresponding alias locations in the generated SQL string.

```
using (var connection = new SqlConnection(_connectionString))
{
    connection.Open();
    string sql = "SELECT * FROM Emisije WHERE Id = @Id";
    var parameters = new { Id = id };
    return connection.QuerySingleOrDefault<Emisija>(sql, parameters);
}
```

Code 9 — Example of the use of Dapper to retrieve a single record from a database using a parameterized SQL query and map the result to a .NET object

When adding a broadcast to the database, data mapping is done in the same way, but the function that performs the call returns the number of changes (rows) affected by the process shown in Code 10

```
using (var connection = new SqlConnection(_connectionString))
{
    connection.Open();
    string sql = "INSERT INTO Emisije (Naziv, Datum, Opis) VALUES (@Naziv, @Datum, @Opis)";
    int numOfChanges = connection.Execute(sql, emisija);
}
```

Code 10 — Example of Adding a Single Broadcast

Dapper does not have a dedicated function for each type of SQL command; instead, the developer writes raw SQL and references the class with parameters when needed. This approach provides great flexibility but also requires more manual SQL management.

Entity Framework is superior in terms of the number of functionalities it offers without the need to write raw SQL code. However, Dapper's straightforwardness and high performance make it an excellent choice for scenarios where direct SQL control and optimized execution speed are prioritized.

Automapper for data mapping

AutoMapper is a popular library used for object mapping in .NET projects. It facilitates the automatic transfer of data from one object to another, simplifying the process of moving data between different layers or models. After installing AutoMapper, the first step is to configure it, which is typically done during the application's configuration. During setup, you can define how objects will be mapped from one model to another, inheriting from the **AutoMapper.Profile** class. AutoMapper is a powerful library in .NET that simplifies the process of object-to-object mapping. It automatically maps properties between two objects, reducing the amount of manual code needed to transfer data between models, view models, or data transfer objects (DTOs).

Basic concepts of automapper

Profiles: AutoMapper uses profiles to define mapping configurations. A profile is a class that inherits from **Profile** and contains the mapping rules for objects.

Mapping Configuration: Before using AutoMapper, mappings between objects need to be configured, specifying how properties in the source object correspond to properties in the destination object.

Mapping Functions:

- **Map:** Directly maps properties from a source object to a destination object.
- **ProjectTo:** Used in LINQ queries to project data from a source model into a destination model, usually when querying a database with Entity Framework.

Example of Using AutoMapper Functions

First, create a class that inherits from **Profile** to define the mapping configuration. This is typically done when setting up the application, usually in the **Startup** or **Program** class for ASP.NET Core applications.

```
public class EmisijeProfile : Profile
{
    public EmisijeProfile()
    {
```

```
// Define a mapping between the source model 'Emisija' and the destination
model 'EmisijaDTO'
CreateMap<Emisija, EmisijaDTO>()
    .ForMember(dest => dest.Id, opt => opt.MapFrom(src => src.Id))
    .ForMember(dest => dest.Naziv, opt => opt.MapFrom(src => src.Naziv))
    .ForMember(dest => dest.Opis, opt => opt.MapFrom(src => src.Opis))
    .ForMember(dest => dest.Datuml vrijemePrikazivanja, opt => opt.Map-
From(src => src.Datuml vrijemePrikazivanja));
}
}
```

Code 11 — Configuring AutoMapper

The Map function is called on an instance of **IMapper**. It maps data from a source object to a destination object based on the defined configuration.

```
public class EmisijaService
{
    private readonly IMapper _mapper;

    public EmisijaService(IMapper mapper)
    {
        _mapper = mapper;
    }

    public EmisijaDTO GetEmisijaDTO(Emisija emisija)
    {
        // Use AutoMapper to map 'Emisija' to 'EmisijaDTO'
        EmisijaDTO response = _mapper.Map<EmisijaDTO>(emisija);
        return response;
    }
}
```

Code 12 — Using the Map Function

In this example, the Map function takes an **Emisija** object and converts it to an **EmisijaDTO** object using the mapping configuration defined in the **EmisijeProfile**.

Using the **ProjectTo** Function

ProjectTo is typically used when querying data from a database using LINQ. It projects the data into the specified destination model, minimizing the amount of data retrieved by selecting only the necessary columns.

```
public async Task<List<EmisijaDTO>> GetEmisijeAsync()
{
    // Query the database and project the results to 'EmisijaDTO' using AutoMapper
    List<EmisijaDTO> emisije = await _context.Emisije
        .ProjectTo<EmisijaDTO>(_mapper.ConfigurationProvider)
        .ToListAsync();
    return emisije;
}
```

Code 13 — Using the ProjectTo Function

AutoMapper's primary functions, `Map` and `ProjectTo`, simplify the process of mapping data between objects in a .NET application. The `Map` function is used for direct object-to-object mapping, while `ProjectTo` is commonly used in database queries to project data into a specific model. By reducing boilerplate code, AutoMapper makes data transformations more efficient and easier to maintain.

Generic programming in C#

Generic programming is an important concept in C# that enables code reuse and provides flexibility when working with different data types. It allows the definition and use of generic classes, methods, and delegates, facilitating the writing of general-purpose code that can be applied to various data types. As one source puts it: "Generics allow you to write general-purpose code that's type-safe at compile time using the same type in multiple places without knowing what that type is beforehand. When generics were first introduced, their primary use was for collections, but in modern C# code, they crop up everywhere."

The following example demonstrates a part of an Entity Framework repository that implements the `IEFCRepository` interface. Both the class and the interface are generic.

```
public class EFCRepository<T> : IEFCRepository<T> where T : class
{
    private readonly TvProgramContext _context;
    public EFCRepository(TvProgramContext context)
    {
        _context = context;
    }
    public DbSet<T> Table()
    {
        return _context.Set<T>();
    }
    public async Task AddAsync(T entity)
```

```
{  
    await Table().AddAsync(entity);  
}  
}
```

Code 14 — Generic Entity Framework Repository

In this code, the `T` represents a type that is specified when creating an instance of the repository. The constraint where `T : class` indicates that `T` can only be a class. This restriction ensures that the repository can be used to access database tables (which are represented by classes in Entity Framework). By specifying the entity type, the desired table in the database can be accessed, and operations such as `AddAsync` can be executed. The advantage of this "more complex" repository is that it eliminates the need to rewrite functions for each table. Instead, the developer simply selects the desired entity and operates on it as if it has its own repository with all the necessary functions. This approach adheres to the DRY (Don't Repeat Yourself) principle, promoting code reuse and reducing redundancy. By using generics, this repository can handle multiple types, ensuring that the code is flexible, reusable, and easy to maintain across different tables within the database.

PERFORMANCE COMPARISON OF ENTITY FRAMEWORK AND DAPPER

The performance of Entity Framework and Dapper was measured using the BenchmarkDotNet library in a separate project. The tests were conducted at the HTTP request level to obtain realistic results, ensuring that no part of the application was skipped. In the code example below, a benchmark function was used to measure the performance of Dapper (Code 15). The same process was repeated for Entity Framework to call the appropriate controller for comparison.

```
private HttpClient _httpClient;  
[GlobalSetup]  
public void GlobalSetup()  
{  
    _httpClient = new HttpClient();  
    _httpClient.BaseAddress = new Uri("https://localhost:7233");  
}  
[Benchmark]  
public async Task Dapper()  
{  
    for (int i = 0; i < 100; i++)  
    {
```



```

        var request = new HttpRequestMessage(HttpMethod.Post, "/api/emisijedapper/dodaj");
        string bodyContent = $"{{\"naziv\": \"novo{i}\", \"opis\": \"novo{i}\", \"datumIvrjemePrikazivanja\": \"2023-07-12T06:26:59.931Z\", \"tvPostajId\": 1, \"zanrId\": 1}}";
        var content = new StringContent(bodyContent, Encoding.UTF8, "application/json");
        request.Content = content;
        var response = await _httpClient.SendAsync(request);
        response.EnsureSuccessStatusCode();
    }
}

```

Code 15 — Benchmark Dapper Function

In the constructor, the base path is set, and the rest of the request is defined within the function. The loop is used to execute the same request 100 times for Dapper to obtain more precise results and to clearly identify the performance differences.

PERFORMANCE TESTING RESULTS

The following tables present the results of various operations measured in terms of execution time and allocated memory.

Table 1 — Results for Listing All Broadcasts

Function	Time	Allocated Memory
Dapper	558.5 ms	6.22 MB
Entity Framework	1,673.6 ms	6.2 MB

Table 2 — Results for Listing Broadcasts with Name Filter

Function	Time	Allocated Memory
Dapper	544.4 ms	506.4 KB
Entity Framework	1,574.5 ms	486.95 KB

Table 3 — Results for Fetching a Broadcast by ID

Function	Time	Allocated Memory
Dapper	523.4 ms	500.51 KB
Entity Framework	1,605.9 ms	479.05 KB

Table 4 — Results for Adding a Broadcast

Function	Time	Allocated Memory
Dapper	642.1 ms	554.17 KB
Entity Framework	1,875.1 ms	555.3 KB

Table 5 — Results for Editing a Broadcast

Function	Time	Allocated Memory
Dapper	480.6 ms	559.52 KB
Entity Framework	1,473.0 ms	557.56 KB

Table 6 — Results for Deleting a Broadcast

Function	Time	Allocated Memory
Dapper	4.797 s	570.04 KB
Entity Framework	7.918 s	496.18 KB

ANALYSIS OF THE RESULTS

The results show that Dapper is significantly faster than Entity Framework, with execution times almost halved in many cases. While Entity Framework uses slightly more memory, this difference is generally negligible. Dapper's simplicity and efficiency in executing database queries stem from its micro-ORM design, which minimizes object mapping and data access operations. However, Entity Framework, being a more comprehensive ORM, provides extensive object mapping and advanced features, which can lead to increased latency, particularly with complex queries and larger transactions.

CONCLUSION

The comparative analysis reveals that Dapper is significantly faster than Entity Framework across various operations. However, Entity Framework offers a richer set of features and provides a higher level of abstraction that simplifies development, especially for complex applications with intricate data models. While Dapper's minimalist approach makes it an excellent choice for simple and performance-critical queries, Entity Framework is more suited to scenarios requiring advanced data modelling, code-first development, and sophisticated database management tools. Dapper is preferable for high-performance needs and scenarios where direct SQL control is essential. Entity Framework is ideal for projects that benefit from its powerful ORM features, higher-level abstractions, and ease of database management. The choice between Dapper and Entity Framework should be based on the specific requirements of the project, considering factors such as performance, complexity, and the need for advanced ORM features.

The decision between these two ORM tools may also be influenced by the development team's familiarity and expertise with the .NET ecosystem. Entity Framework's seamless integration with other Microsoft technologies and its extensive community support can significantly reduce the learning curve for new developers or teams already experienced with .NET. This integration fosters a more collaborative and productive development environment, especially in larger projects or teams that rely on Microsoft's stack.

Entity Framework's comprehensive data handling capabilities, such as its migration workflows, data seeding, and sophisticated LINQ querying abilities, offer substantial benefits for long-term project maintenance and scalability. These features make it an attractive option for enterprises or applications where the database schema evolves frequently.

The choice between Dapper and Entity Framework also hinges on the project's future scalability requirements and the need for robust data manipulation capabilities. For applications that anticipate rapid growth or require regular updates to the database schema without extensive manual intervention, Entity Framework provides tools that can manage these changes more efficiently. Therefore, while Dapper offers superior performance for specific scenarios, Entity Framework delivers a compelling blend of functionality, ease of use, and adaptability, making it a versatile choice for a wide range of .NET development projects.

References

Books

- Anbazzhagan, P. (2017). *Mastering Entity Framework Core 2.0 Dive Into Entities, Relationships, Querying, Performance Optimization, and More, to Learn Efficient Data-driven Development*. Packt Publishing. ISBN: 9781788296212.
- Lock, A. (2023). *ASP.NET Core in Action, Third Edition*. Manning Publications Co. ISBN: 9781638352587.
- Stehling, B. (2007). *Pro ASP.NET for SQL Server High Performance Data Access for Web Developers*. Apress. ISBN: 9781430202936.
- Jagger, A., Perry N., Sestoft P. (2010). *Annotated C# Standard*; Elsevier Science. ISBN: 9780080550534.
- Smith, J. P. (2021). *Entity Framework Core in Action*. Manning Publications Co. ISBN: 161729456X.

Online sources

- Asynchronous Programming. (n.d.). *Async and Await in C#*. Microsoft. <https://learn.microsoft.com/en-us/dotnet/csharp/programming-guide/concepts/async>.
- Asynchronous Programming Best Practices. (n.d.). *Using Asynchronous Methods in ASP.NET*. Microsoft. <https://learn.microsoft.com/en-us/aspnet/core/fundamentals>.
- AutoMapper Documentation. (n.d.). *AutoMapper in .NET*. <https://automapper.org>.
- BenchmarkDotNet Documentation. (n.d.). *BenchmarkDotNet: Powerful .NET Library for Benchmarking*. <https://benchmarkdotnet.org>.
- C# Corner. (2023, August 2). Overview of Fluent Validation in ASP.NET MVC. <https://www.c-sharpcorner.com/article/overview-of-fluent-validation-in-asp-net-mvc>.
- Dapper Documentation. (n.d.). *Dapper — a simple object mapper for NET*. <https://dapper-tutorial.net>.
- Entity Framework Core Performance Considerations. (n.d.). *Performance Improvements in EF Core*. Microsoft. <https://learn.microsoft.com/en-us/ef/core/performance>.

- Kula, S. (2024, October 21). Exploring the Latest Features of Entity Framework Core in .NET 8. Devonblog. <https://devonblog.com/continuous-delivery/exploring-the-latest-features-of-entity-framework-core-in-net-8>.
- Microsoft. (2022, July 12). Announcing Entity Framework Core 7 Preview 6: Performance Edition. NET Blog. <https://devblogs.microsoft.com/dotnet/announcing-ef-core-7-preview6-performance-optimizations>.
- Microsoft. (n.d.-a). What's New in EF Core 6.0. Microsoft Learn. <https://learn.microsoft.com/en-us/ef/core/what-is-new/ef-core-6.0/whatsnew>.
- Microsoft. (n.d.-b). Tutorial: Get started with EF Core in an ASP.NET MVC web app. Microsoft Learn. <https://learn.microsoft.com/en-us/aspnet/core/data/ef-mvc/intro?view=aspnetcore-9.0>.
- Microsoft Docs. (n.d.). *Entity Framework Core*. <https://learn.microsoft.com/en-us/ef/core>.
- Online article. (n.d.). *Why Dapper is the Fastest ORM in .NET*. <https://dapper-tutorial.net/knowledge-base>.
- Ryadel. (2023, July 30). *Code First vs Model First vs Database First — ORM Comparison in ASP.NET Core EF*. <https://www.ryadel.com/en/code-first-model-first-database-first-vs-comparison-orm-asp-net-core-entity-framework-ef-data>.
- Shekh Ali. (2023, August 3). *Generics in C#*. <https://www.shekhali.com/generics-in-csharp>.
- Medium. (2023, July 3). *WTF is Synchronous and Asynchronous?*. <https://medium.com/from-the-scratch/wtf-is-synchronous-and-asynchronous-1a75afd039df>.
- Microsoft Docs. (2023, August 1). *Code First Migrations in Team Environments*. <https://learn.microsoft.com/en-us/ef/ef6/modeling/code-first/migrations/teams>.
- PragimTech. (2023, August 2). *Using AutoMapper in ASP.NET Core*. <https://www.pragimtech.com/blog/blazor/using-automapper-in-asp-net-core>.
- C# Corner. (2023, August 2). *Overview of Fluent Validation in ASP.NET MVC*. <https://www.c-sharpcorner.com/article/overview-of-fluent-validation-in-asp-net-mvc>.
- YouTube. (2023, August 4). *AutoMapper in ASP.NET Core*. <https://www.youtube.com/watch?v=bgoGtkmUAQg>.

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OVERVIEW OF THE LEGAL FRAMEWORK FOR INTRA-EUROPEAN YOUTH LABOUR MIGRATIONS

Abstract

This paper explores the legal and policy framework governing intra-European youth labour migration, with a focus on Croatia's migration trends since its EU accession. The analysis situates Croatia's youth migration within the broader context of the EU's primary and secondary legal provisions, emphasizing the fundamental right to free movement and its impact on labour mobility. It also examines the transitional restrictions imposed on Croatian workers post-accession and their phased removal, which significantly influenced migration patterns. Secondary EU legislation further supports labour mobility through regulations on social security coordination, recognition of qualifications, and labour market integration. The paper discusses unique provisions benefiting young workers, such as broader interpretations of worker status by the Court of Justice of the EU and programs like Erasmus+ that promote cross-border professional exchanges. Migration statistics reveal a surge in Croatian emigration to the EU, particularly during the period when major host countries lifted restrictions, despite challenges, including political resistance to migration and debates on social security coordination. The paper concludes that the EU's legal framework has facilitated youth labour mobility, contributing to professional growth and societal integration for Croatian migrants.

Key words: Intra-European Labour Migration; Youth Mobility; Free Movement of Workers; Croatian Workers

INTRODUCTION

This paper is part of the Workmobil¹ project, which aims to understand and analyse the phenomenon of contemporary intra-European labour migration of young people from a demographic, sociological and psychological perspective. The goal of the first work package of the project is to study the scope and structure of labour migration from and to Croatia in the last 5 years, with a special focus on the migration of young

¹ Intra-European Youth Labour Migrations in the Context of Contemporary Career Theories (WORKMOBIL) — Founded by EU — NextGenerationEU.

workers. In the framework of this goal, the current paper covers the policies and regulations governing labour migration from Croatia to the EU and vice versa.

The Workmobil project will predominately be using quantitative and qualitative research methodology to analyse the employment intentions within the framework of the recent career self-regulation model (Hirschi & Koen, 2021). It is focused on: migration of youth workers from Croatia to EU and their motivation for working abroad; the intention to return to Croatia of young workers who have been working in EU for some time; and the reasons for the migration of young European workers to Croatia. However, this introductory work strand serves to put the remainder of the project in a more complete legal and policy framework. Therefore, the paper presents a brief overview of the legal framework in place that regulates labour migrations, identifies several special conditions that have been envisaged in EU legislation for young workers and draws conclusions on the impact of the legal system on youth migration.

LEGAL FRAMEWORK — PRIMARY LAW

The right to free movement of workers is a fundamental principle enshrined in EU's primary law in the Treaty on the Functioning of the European Union (TFEU)². Article 45 of the TFEU guarantees that EU citizens can seek employment in any Member State, reside in the host country for work-related purposes, and enjoy equal treatment in employment conditions, social benefits, and tax advantages. These rights extend to family members, fostering comprehensive support for mobile workers. These conditions, which may be understood as major privileges, are undoubtedly conducive to more labour migration especially for young people, because they provide both highly desirable perspectives for finding work and much needed security though the protection of their rights.

Non-discrimination is a key aspect of these rights, reinforced by Articles 18, 20, and 21 of the TFEU. These provisions establish Union citizenship, a novelty in the EU law first introduced in the Maastricht Treaty in 1992, which grants EU citizens broader rights to reside and work across Member States. Over the years, the Court of Justice of the European Union (CJEU) has interpreted these provisions expansively, ensuring that limitations imposed by secondary legislation are proportionate and justified (Jaspers, Pennings & Peters, 2019). The CJEU established³ that Article 20 TFEU confers a general right to residency, which can only be restricted by secondary legislation if such restrictions are proportionate. This interpretation constitutes an important factor in facilitating the free movement of workers within the EU. However, the principle of free mo-

² <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12012E/TXT:en:PDF>.

³ Case C-34/09, *Gerardo Ruiz Zambrano v Office national de l'emploi (ONEm)*, ECLI:EU:C:2011:124.

vement is not without limitations. Article 45(3) TFEU permits Member States to impose certain restrictions, which will be analyzed in detail later in the discussion.

Various factors may influence young people's decision to migrate for work. The analysis of main determinants of migration showed that the most significant factor in explaining emigration flows between new Member States (those acceding to the EU in 2004, 2007 and 2013) and the core EU countries is accession to the principle of free movement of workers obtained by EU membership, increasing emigration flows by 40% (Draženović, Kunovac & Pripužić, 2018).

The second source of primary law consists of the accession treaties, which are directly relevant to the experience of Croatian workers migrating to EU Member States following Croatia's accession to the EU. Temporary derogations on free access of Croatian workers to the labour markets of other Member States, agreed in the Accession Treaty of Croatia to the European Union⁴, enable EU-27 Member States to gradually introduce free movement for workers over a seven-year period (European Commission, 2013). Derogations apply to workers, they do not apply to self-employed persons and companies providing services. They do not restrict the rights to travel and live in another Member State. Thus, in the first seven years of Croatia's EU membership, Croatian workers could not move freely to all EU Member States to look for work, as they had certain obstacles in some of them, such as the requirement to obtain a work permit.

In the first phase (1 July 2013 — 30 June 2015), national law regulated access of workers from Croatia to their labour markets. The majority of traditional receiving countries for Croatian workers introduced restrictions — Germany, Austria, France, Italy, Spain, Belgium, the UK. However, a major breakthrough occurred in the second three-year phase (1 July 2015 — 30 June 2018), in which those Member States that wanted to continue applying restrictions had to notify the Commission beforehand, otherwise EU law granting free movement of workers applied. Germany, the Member State with by far the largest contingent of Croatian workers, decided in 2015 to lift its restrictions. This was followed by several other receiving states and it had a significant impact on the volume of labour migration starting in 2016. Finally, it is worth noting that only Austria kept restrictions in the third two-year phase (1 July 2018 — 30 June 2020), in which a Member State may maintain restrictions only in the event of serious disturbances of its labour market, or a threat of such disturbances, and after notifying the Commission. Therefore, we can conclude that from 2018 onwards, Croatian workers had almost unlimited opportunities to look for work in the EU and in doing so they were enjoying full protection under EU law.

⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012J/TXT>.

LEGAL FRAMEWORK - SECONDARY LAW

The main secondary sources of EU law governing the freedom of movement for workers can be classified into three categories. The first are acts designed to ensure the freedom of movement, the right to reside and access to employment. Most important acts in this category are:

- Regulation 492/2011 on freedom of movement for workers within the Union⁵,
- Regulation 2016/589 on European network of employment services (EURES), workers' access to mobility services and the further integration of labour markets⁶,
- Regulation 2019/1149 establishing a European Labour Authority⁷,
- Directive 2004/38/EC on the right of citizens of the Union and their family members to move and reside freely within the territory of the Member States⁸ and
- Directive 2014/54/EU on measures facilitating the exercise of rights conferred on workers in the context of freedom of movement for workers⁹.

Through secondary law the EU has elaborated in greater detail the freedom of movement, made steps to further integrate the labour markets and created several networks and agencies for that purpose. One of particular relevance is the European Labour Authority (ELA), established in 2019 and located in Bratislava, whose mission is to contribute to ensuring fair and effective labour mobility across the EU and to assist Member States and the European Commission in the coordination of social security systems in the EU.

The next category of secondary sources refers to acts that prevent the loss of social rights across the EU and legislation that is relevant for determining the applicable law. Here, the most salient acts are:

- Regulation 883/2004 on the coordination of social security systems¹⁰ and Regulation 987/2009 laying down the procedure for implementing Regulation 883/2004¹¹,
- Regulation 1231/2010 extending Regulations 883 and 987 to nationals of third countries¹²,

⁵ <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:141:0001:0012:EN:PDF>.

⁶ <https://eur-lex.europa.eu/eli/reg/2016/589/oj>.

⁷ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32019R1149>.

⁸ <https://eur-lex.europa.eu/eli/dir/2004/38/oj>.

⁹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32014L0054>.

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32004R0883>.

¹¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009R0987>.

¹² <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010R1231>.

- Regulation 593/2008 on the law applicable to contractual obligations (Rome I)¹³,
- Regulation 2019/1238 on a pan-European Personal Pension Product (PEPP)¹⁴,
- Directive 2011/24/EU on the application of patients' rights in cross-border healthcare¹⁵,
- Directive 98/49/EC on safeguarding the supplementary pension rights of employed and self-employed persons moving within the Community¹⁶ and
- Directive 2014/50/EU on minimum requirements for enhancing worker mobility¹⁷.

Arguably, this is the most controversial part of EU legislation that regulates movement of workers. Migration in many Member States became highly politicised as migration flows increased in the early 2000s with EU enlargement, followed by the financial crisis in 2008/2009. Hostile attitudes grew towards migration, as a real or perceived threat to the welfare state in many well-developed Member States (Golkyner, 220).

In particular, Regulation 883 on the coordination of social security systems stands out as a document in the middle of long-standing disputes among Member States, where clear lines emerged between receiving countries and emitting countries. Main elements of contention are family benefits, unemployment benefits and rules pertaining to the posting of workers. As an example, there are concerns that more developed countries should pay the maximum amount of child benefits from their welfare systems to migrant workers whose children still reside in their country of origin, where the level of development is much lower. However, most studies show that the uptake of welfare benefits is lower for migrants than nationals and that there is no evidence that migrants abuse welfare benefits in destination countries (Barslund & Busse, 2014).

The last segment of secondary sources enables the education of migrants' children and recognition of professional qualifications, regulated primarily by:

- Directive 77/486/EEC on the education of the children of migrant workers¹⁸,
- Directive 2005/36/EC on the recognition of professional qualifications¹⁹ and
- Directive 2018/958 on a proportionality test before adoption of new regulation of professions²⁰.

¹³ <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32008R0593>.

¹⁴ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019R1238>.

¹⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32011L0024>.

¹⁶ <https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A31998L0049>.

¹⁷ <https://eur-lex.europa.eu/eli/dir/2014/50/oj>.

¹⁸ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31977L0486>.

¹⁹ <https://eur-lex.europa.eu/eli/dir/2005/36/oj>.

²⁰ <https://eur-lex.europa.eu/eli/dir/2018/958/oj>.

At first glance, the existence of a dedicated directive on the recognition of professional qualifications seems pivotal for facilitating labour mobility, as it seeks to prevent Member States from imposing disproportionate barriers on individuals from one EU Member State seeking to practice a regulated profession in another. Nevertheless, a significant number of professions remain regulated at the national level. Recent data reveal that only approximately 6% of citizens relocating to another Member State utilize the professional qualifications recognition systems (European Court of Auditors, 2024). One can conclude that there is ample room for improvement of this system at the EU level.

In addition to primary and secondary sources, the case-law of the CJEU serves as a supplementary source of EU law. The Court has interpreted many provisions of primary and secondary law in a generous and purposeful way, and has played a crucial role in extending the concept of free movement.

LIMITATIONS TO THE FREEDOM OF MOVEMENT

As mentioned previously, there are limitations to the full freedom of movement of workers, which are present both in primary and secondary law. Article 45 (3) of UFEU contains general derogations on public policy, public security and public health, whereas Article 45 (4) of UFEU contains specific derogation on employment in the public service. The meaning of these exceptions is determined by the CJEU, which applies a functional not institutional concept (Vukorepa, 2018). The CJEU has narrowly interpreted these derogations, requiring Member States to justify any restrictions on free movement²¹. Furthermore, Regulation 492/2011, Article 3(1) creates a carve-out for linguistic knowledge required due to the nature of the post to be filled. Regulation 492/2011, Article 6(2) determines that a national who holds an offer in his name from an employer in a Member State other than that of which he is a national may have to undergo a vocational test, if the employer expressly requests this when making his offer of employment.

The fact that public service exception is regulated in primary law clearly demonstrates the interest of individual Member States to protect their national administration systems. However, restrictive interpretation by the CJEU limits it to those roles that exercise a significant degree of public authority, such as judges, police, the military, diplomats, senior civil servants or politicians. Still, there are cases in which Member States try to keep posts reserved for nationals through difficult recognition of foreign professional qualifications and of previous professional experience and seniority for access to posts and for determining working conditions; language requirements; inaccessible recruitment procedures; other issues like residence, status and coordination of social

²¹ Case C-149/79 *Commission v Belgium*, ECLI:EU:C:1980:297.

security schemes (Jaspers, Pennings & Peters, 2019). For example, on top of public service derogation, young migrants may encounter language barriers for certain jobs, especially if the language requirement is part of a wider national policy to promote the use of the specific national language as a means of expressing national identity and culture.

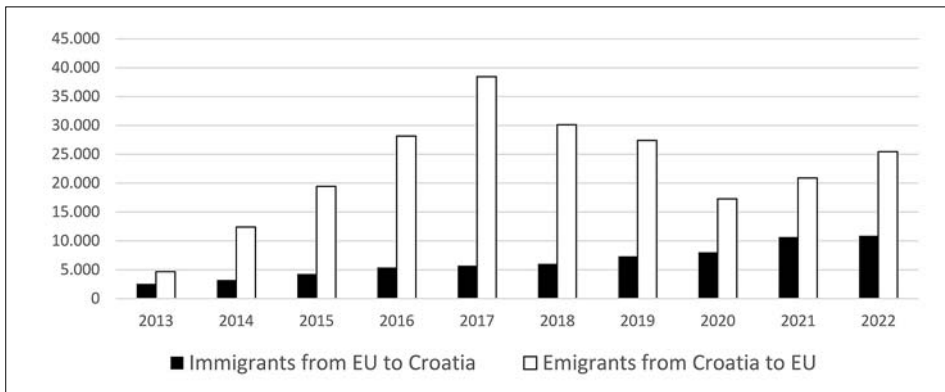
Therefore, generally speaking, in the past 11 years, young workers from Croatia have had more limited possibilities to be employed by the public service of other EU Member States than finding work in their private sector.

SPECIAL CONDITIONS FOR YOUNG WORKERS

The previous sections have outlined the substance of EU law protecting migrant workers. This section focuses more specifically on the categories of persons to whom this law applies. The CJEU ruled in *Hoekstra Case*²² that the definition of the term ‘worker’ was a matter for the EU law and not national law. The Court also ruled that a worker remained a worker whether or not they were actually employed — embracing a variety of other possible circumstances, such as the possibility of illness or retirement. Furthermore, the Court asserted that any person who pursues employment activities which are effective and genuine, to the exclusion of the activities on such a small scale as to be regarded as solely marginal and ancillary, must be regarded as a worker. Thus, broader definitions of workers adopted by the Court, such as including trainees, have clearly benefitted younger migrant workers whose employment arrangements often do not fall into more traditional categories. At the same time, various models of non-standard work have recently grown in importance, but are hard to define, such as hybrid work or modern nomads. They are also frequently done by younger people, and it is expected that the CJEU will assume a broader interpretative approach on this issue in the future (Vukorepa, 2018).

Before concluding, it is important to emphasise that primary EU law, under Article 47 of the TFEU, contains a provision by which Member States are encouraged to promote the exchange of young workers. In practice, the most visible such programme is Erasmus +, with a budget of €26.2 billion in the period 2021-2027, that plays a key role in supporting education, training, youth, and sport across Europe (European Commission, 2020). While the original Erasmus programme, launched in 1987, was initially focused only on student exchanges, Erasmus + offers young workers opportunities for professional development through international training courses, study visits, and job shadowing, fostering cross-border networking and collaboration.

²² Mrs M.K.H. Hoekstra (née Unger) v Bestuur der Bedrijfsvereniging voor Detailhandel en Ambachten (Administration of the Industrial Board for Retail Trades and Businesses), ECLI:EU:C:1964:19.



Graph 1 — Immigrant and emigrant population to/from Croatia from/to EU.

Source: Croatian Bureau of Statistics, 7.2.1. Immigrant and emigrant population to/from Republic of Croatia, by country of origin/destination.

MIGRATION STATISTICS

While the Workmobil project will have a more comprehensive statistical analysis of youth labour migration to and from Croatia, for the purposes of this paper, Graph 1 shows immigrant and emigrant population to and from Croatia in the first 10 years since its accession into the EU. There is a visible trend of a slowly and constantly increasing number of immigrants into Croatia from the EU, but the numbers are quite low. On the other hand, the number of persons leaving Croatia for EU Member States is much higher, and has peaked in the three-year period between 2016 and 2018, right after Germany and several other countries lifted the restrictions on the freedom of movement for Croatian citizens.

CONCLUSION

The main goal of this paper was to present the legal framework that regulates freedom of movement of workers in the EU and assess its impact on labour mobility. The analysis and core migration data have shown that Croatia's youth labour migrants have benefitted from the opportunities presented in EU law and thereby increased their migration into EU Member States since Croatia's accession. Immigration into Croatia has also increased in the same period but to a lesser extent. EU's legal framework had a positive impact on labour mobility, although its implementation is still marked by issues of contention, in particular political opposition to migration and concerns regarding the coordination of social security systems. Freedom of movement is also not absolute as it contains restrictions including temporary derogations in the first seven years of Croatia's EU membership. Finally, the paper identified several special conditions towards young migrants, which have further facilitated labour migration.

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References

- Barslund, M., & Busse, M. (2014). Too much or too little labour mobility? State of play and policy issues. *Intereconomics*, 49(3), 116-120.
- Croatian Bureau of Statistics (2023). Croatian Bureau of Statistics. <https://www.dzs.hr>.
- Draženović, I., Kunovac, M., & Pripužić, D. (2018). Dynamics and determinants of migration: the case of Croatia and experience of new EU member states. *Dubrovnik Economic Conference*. Croatian National Bank.
- European Commission. (2015). *Report from the Commission to the Council on the functioning of the transitional arrangements on free movement of workers from Croatia (First phase: 1 July 2013 - 30 June 2015)*, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0233>.
- European Commission, Directorate-General for Employment, Social Affairs and Inclusion, Hassan, E., Siöland, L., Akbaba, B., Cinova, D., Gasperini, M., & Geraci, M. (2024). *Annual report on intra-EU labour mobility 2023*, Publications Office of the European Union. <https://data.europa.eu/doi/10.2767/59413>.
- European Commission (2020). *Erasmus+ programme guide*. https://ec.europa.eu/programmes/erasmus-plus/programme-guide/erasmus_en.
- European Court of Auditors (2024). *The recognition of professional qualifications in the EU. Special Report*. https://www.eca.europa.eu/ECAPublications/SR-2024-10/SR-2024-10_EN.pdf.
- Golykner, O. (2020). EU coordination of social security from the point of view of EU integration theory. *European Journal of Social Security*, 22(2), 110-137.
- Hirschi, A., & Koen, J. (2021). Contemporary career orientations and career self-management: A review and integration. *Journal of Vocational Behavior*, 126, 103505. [10.1016/j.jvb.2020.103505](https://doi.org/10.1016/j.jvb.2020.103505).
- Jaspers, T., Pennings, F., & Peters, S. (2019). *European Labour Law* (2nd edition). Intersentia.
- Vukorepa, I. (2018). Migracije i pravo na rad u Europskoj uniji (Migration and the right to work in the European Union). *Zbornik PFZG*, 68(1).

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IMPLEMENTING AN ONLINE TEACHING/LEARNING MODEL — EDUCATIONAL CHALLENGES AND SUSTAINABLE GOALS

Abstract

In order to launch a shared Erasmus+ Project under the key action — Cooperation for innovation and the exchange of good practices — six higher education institutions, from Estonia, Ireland, Poland, Portugal, Romania and Spain, came together in a project venture named ‘Mathematics on-line learning model in Engineering education’ (EngiMath). Within the framework of this project, the partners developed a pedagogical model that focused on student interaction within the learning environment, while adhering to mathematical boundaries as well as addressing several social, language, cultural, and national concerns. All the EngiMath project deliverables were structured using an ADDIE (Analyse, Design, Develop, Implement, Evaluate) model and an adaptation of the PAR (Present, Apply, Review) for online learning. This induced the sequential structure of each lesson by introducing new subjects, allowing the student to apply the concepts, in an interactive way, followed by a review and practical applications. This structure may be applied several times within a lesson to maximize the learning potential. The distinct development stages that brought this project to a remarkable and fruitful conclusion — from the study of educational needs to its application and usage, even allowing an open and live test — will be discussed.

Key words: *innovation, sustainability, educational materials, technology, research projects, interactive learning materials, online learning, distance learning, Mathematics.*

INTRODUCTION

The development of competencies for a competitive workforce has been an important topic in the academic world in recent decades (Velasco et al., 2014). Higher Education Institutions (HEI), particularly those devoted to STEM (Science, Technology, Engineering and Mathematics) education strive to prepare their students for today’s global workplace since there is also a growing variety of skills that STEM students should have (Royal Academy of Engineering, 2019, 2024). According to Fisher et al. (2014), it is standard procedure for these institutions to integrate mathematical knowledge and abilities into STEM and, in particular, engineering education. Nonetheless, there appears

to be little agreement among scholars over the type of mathematical abilities that a STEM student need to gain during their academic career (Engelbrecht et al., 2017). The recurrent problems when dealing with mathematics teaching and learning are well documented not only in EU, but also worldwide (e.g. OECD, 2023b, 2023a, She et al., 2018; World Economic Forum, 2024). Here, the use of Information and Communications Technology (ICT) support revealed several alternative educational procedures and practices, giving space for the development of numerous projects like, for example, "Future Mathematics" (Kinnari-Korpela & Rinneheimo, 2017), "LearnIT" (CENFIM, 2018), "Open Discovery of STEM Laboratories" (Persano Adorno et al., 2018) or "Ma-tActiva" (Babo et al., 2017), among many others, and led to the emergence of the Erasmus+ EngiMath in late 2018 (Soares et al., 2019).

This project focused on fundamental engineering mathematics and highlighted student participation in an open online learning environment. In accordance with UNESCO's concept of Open Educational Resources (OER), a centralized system of OER was created, developing easily available and flexible learning resources. Its action plan adhered to the Sustainable Development Goals (SDGs), particularly SDG 4, promoting international cooperation in higher education to improve educational capacity, access, and quality assurance (UNESCO, 2016).

THE ONLINE LEARNING MODE

Considering that numerous studies have demonstrated that students still frequently feel uneasy when being pushed towards e-learning models, since they perceive the lack of personal support (EngiMath, 2022), the developed "learning model" highlights the process as it has grown, step by step, with an explained design model that was sequentially used and modified to meet the needs of learners and academics.

Using partners' experiences and several distinct project activities, the online mathematical pedagogical model for Engineering Mathematics' courses was developed to offer academics a framework for creating dynamic and interesting learning experiences, based on the ADDIE (Analysis of Design Development Implementation and Evaluation) model (Moradmand et al., 2014). This methodical approach is a dynamic and adaptable framework for creating powerful teaching and learning resources, following its five major steps: 1) Need analysis; (2) Design; (3) Development; (4) Implementation; and (5) Evaluation. In addition, the project has adapted the PAR (Present, Apply, Review) model for online learning (Petty, 2004), in order to include an element of teacher presence to support online learners. This induced the sequential structure of each lesson by presenting new subjects, allowing the student to apply the concepts, in an interactive way, followed by a review and practical applications. This structure was utilized several times within a lesson to maximize the learning potential.

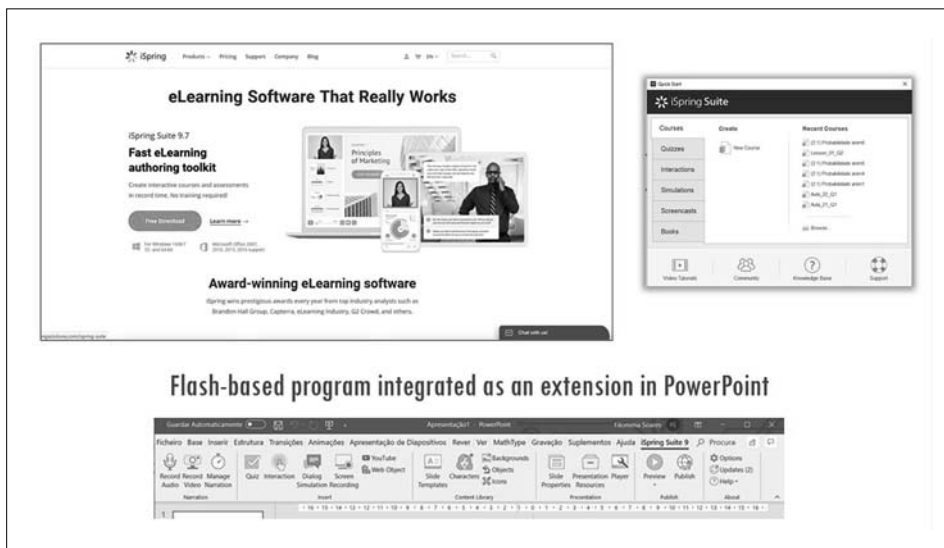


Figure 1 — iSpring features

Regarding the model assessment features, a detailed study was carried out by all project partners and it was published in the end of 2021 (Bocanet et al., 2021). The impact of the model is enhanced awareness of teaching and designing online mathematics programs. The model is transferable between other education domains of learning. Given the exponential growth of the “digital influence” in the education sector, it was felt that the upgraded model has great importance and a positive impact.

CONTEXT AND SELECTIONS

The first hard task was to agree on the common core of the course. Even with the global educational system the European community aims to implement, this mission seems far from being accomplished. Despite all partner programs had 60 ECTS per year, for the Mathematics’ courses in the first year of study, these ECTS vary in each partner institution from 10 to 28. In this regard, partners were compelled to exert effort in order to establish a compromise foundation for collaborating on the course common core that was “Introduction to Linear Algebra”.

The development of all the theoretical, practical and assessment materials and activities was distributed between partners, according to the Project Proposal. All project resources were developed in English and translated into the other six project languages: Catalan, Estonian, Polish, Portuguese, Romanian and Spanish.

Scorm packages were developed using iSpring (<https://www.ispringsolutions.com/>), a flash-based program was integrated as an extension in PowerPoint (Fig.1). It presented the learning materials in the form of a flash slide that can contain images, animations, videos and audio. For mathematic text editing, the iSpring Visuals



Figure 2 — Formative questions for interactive quizzes

9 included a built-in equation editor, similar to MathEquation from MS Office tools, that allowed the direct construction and insertion of equations in the interaction text.

DEVELOPMENT PROCESS

The development process started with PowerPoint presentations general and specific design. In a summarized way, it comprised determining the background and navigation, creating a home menu, making an introduction, building a material menu, and developing formative questions (Fig.2) inserted in the middle of a lesson or in the last section named “Try it”, a kind of self-assessment quiz per lesson.

All navigation in the system is free, through several “movement” options (animation by animation, slide by slide, section by section, etc.) giving the freedom to go forward and backward, as the user pleases.

An in-depth overview of all the guidelines and procedures, involved in the overall production of these educational materials, was shared and disseminated through several activities and reports (Soares et al., 2020).

ENGIMATH COURSE

In a very succinct and descriptive way, there are 26 lessons, developed in English by the Portuguese team, with more than 350 slides having more than 4000 animations (Fig. 3). All these lessons presented distinct sections in the vertical navigation bar (between 2 and 7, depending on the subject), ending with an interactive quiz named “Try it”.

Lessons were inserted in the project coordinator system Moodle (Estonian partner — TTK/UAS — <https://moodle.ttk.ee/>), as SCORM Packages, where all the materials are available and opened via Secure inter connection distinct Moodle institutional platforms.

For practical purposes, more than 3000 questions were developed in English and inserted in the TTK/UAS Moodle platform by the Estonian team. This corresponds to

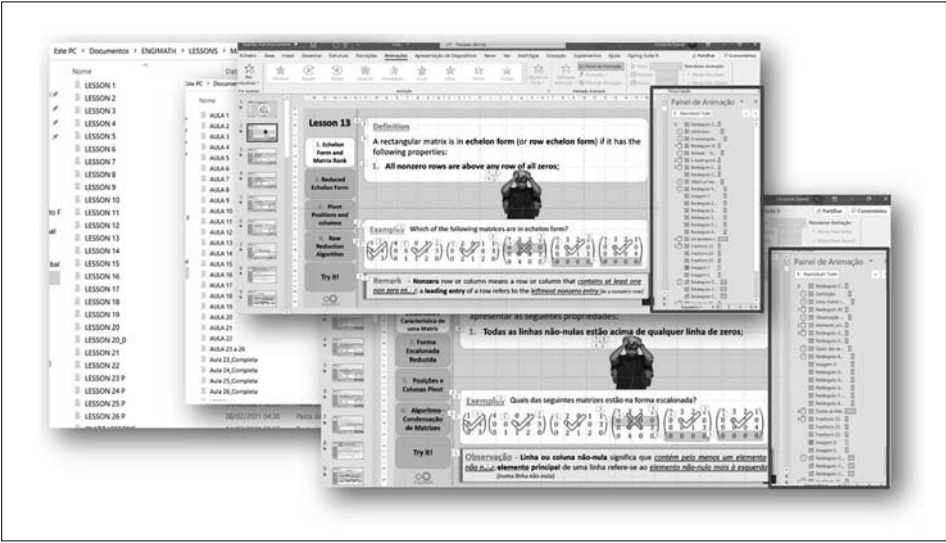


Figure 3 — Lessons core-animated and interactive PowerPoint presentations



Figure 4 — Practical question — an example

more than 100 questions per lesson, all with a step-by-step proposed solution. Notice that this proposed solution is shown to the students even if they get the correct answer. Every lesson had two practical random quizzes of 4-6 questions (selected from 8-12 subsections each with, at least, 10 different questions), constructed using Moodle Quiz with the STACK plug-in (see example in Fig.4).

For assessment purposes, the Estonian team has developed a sectioned question bank, independent from the practice, where assessment tests are randomly created, also using Moodle quiz feature. Each “question” has three difficulty levels and the tests are randomly composed, picking different level questions in a balanced way. All question banks (practical and assessment) were translated into the six project languages and inserted/connected to the corresponding course, being an important part of the course core. All lessons, practical exercises and assessment quizzes were tested through several piloting rounds and the results analysis were extremely positive (see, for instance, (Uukkivi et al., 2020)) and led to continuous small improvements.

REUSABLE AND SUSTAINABLE RESULTS

Just one click away, this course, in its seven distinct languages, can be accessed through the project coordinator system Moodle — TTK (<https://moodle.ttkk.ee/>), using the following credentials:

Username: lovelace; Password: MathEng123?

All these courses can be accessed and used (even downloaded and inserted into any online course on a Moodle platform) through the links on the project website: <https://sites.google.com/ttkk.ee/engimath/results/results-of-io2> The EngiMath website furthermore offers a feedback form to collect all users' insights and suggestions. All inputs are much appreciated by the project partners: Feedback form link (<https://forms.gle/uWEfbVYHMuR8wr3R6>)

FINAL COMMENTS

Important details about the priorities and goals for the pedagogical design of the shared program materials have been revealed by the results and findings of all the course development and linked research. On-line assessment tools in the project were continuously improved and processed with the best available resources, nevertheless there is a general feeling among all partners that the equivalence of the human assessor is not yet possible, at least in the Mathematics area. All the project EngiMath work and materials have an enormous potential to be used and reused by all, covering a wide range of languages. However, in addition to the institutions that are part of the project, few have enjoyed it and use all the available materials. At a time when global educational concerns are focused on sustainability and inclusion, the existence of open educational resources of tested scientific and pedagogical quality, within the reach of all who wish to use, improve and reuse them seems an important positive factor to be disseminated towards the development of true Education For All (EFA) (UNESCO, 1990).

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References

- Babo, L., Azevedo, J., Torres, C., & Lopes, A. P. (2017). Formative assessment in higher education: Detection and improvement on learning level. *EDULEARN17 Proceedings*, 1, 862-870. <https://doi.org/10.21125/EDULEARN.2017.1187>.
- Bocanet, V. I., Brown, K., Uukkivi, A., Soares, F., Lopes, A. P., Cellmer, A., Serrat, C., Feniser, C., Serdean, F. M., Safiulina, E., Kelly, G., Cymerman, J., Kierkosz, I., Sushch, V., Latõnina, M., Labanova, O., Montserrat Bruguera, M., Pantazi, C., & Rosa Estela, M. (2021). Change in Gap Perception within Current Practices in Assessing Students Learning Mathematics. *Sustainability* 2021, Vol. 13, Page 4495, 13(8), 4495. <https://doi.org/10.3390/SU13084495>.

- CENFIM. (2018). *LearnIT-Learning tools and routes for Individual Training*. UNEVOC Publications. <https://unevoc.unesco.org/home/UNEVOC+Publications/akt=detail/lang=en/qs=6390>.
- Engelbrecht, J., Bergsten, C., & Kågesten, O. (2017). Conceptual and procedural approaches to mathematics in the engineering curriculum: views of qualified engineers*. *European Journal of Engineering Education*, 42(5), 570-586. <https://doi.org/10.1080/03043797.2017.1343278>.
- EngiMath. (2022). *Mathematics on-line learning model: final report*. <https://sites.google.com/tktk.ee/engimath/results/results-of-io3>.
- Fisher, D. R., Bagiati, A., & Sarma, S. E. (2014). Fostering 21st Century Skills in Engineering Undergraduates through Co-Curricular Involvement. *ASEE Annual Conference and Exposition, Conference Proceedings*. <https://doi.org/10.18260/1-2--20514>.
- Kinnari-Korpela, H., & Rinneheimo, K.-M. (2017). Future Mathematics project: Enhancing learning and teaching of engineering mathematics with technology. *EDULEARN17 Proceedings*, 1, 1524-1528. <https://doi.org/10.21125/EDULEARN.2017.1323>.
- Moradmand, N., Datta, A., & Oakley, G. (2014). The design and implementation of an educational multimedia Mathematics software: Using ADDIE to guide instructional system design. *The Journal of Applied Instructional Design*, 4(1), 37-49. <https://research-repository.uwa.edu.au/en/publications/the-design-and-implementation-of-an-educational-multimedia-mathem>.
- OECD. (2023a). *PISA 2022 Mathematics framework*. <https://doi.org/10.1787/7EA9EE19-EN>.
- OECD. (2023b). *PISA 2022 results (Volume D)*. <https://doi.org/10.1787/53F23881-EN>.
- Persano Adorno, D., Pizzolato, N., Fazio, C., Battaglia, O. R., Dziabenko, O., Tsourlidaki, E., Volungevičienė, A., Žvinienė, V., & Lössenko, J. (2018). The first year of the “open discovery of stem laboratories” (ODL) project. *Journal of Physics: Conference Series*, 1076(1), 012015. <https://doi.org/10.1088/1742-6596/1076/1/012015>.
- Petty, Geoffrey. (2004). *Teaching today: A practical guide*. Nelson Thornes.
- Royal Academy of Engineering. (2019). *Engineering skills for the future - The 2013 Perkins Review revisited*. <https://www.raeng.org.uk/publications/reports/engineering-skills-for-the-future>.
- Royal Academy of Engineering. (2024). *Engineers 2030: redefining the engineer of the 21st century Future skills needs — a review of the literature*. <https://raeng.org.uk/media/03hjujfc/literature-review-on-engineering-education-and-skills-policy-2.pdf>.
- She, H. C., Stacey, K., & Schmidt, W. H. (2018). Science and Mathematics Literacy: PISA for Better School Education. *International Journal of Science and Mathematics Education*, 16(1), 1-5. <https://doi.org/10.1007/S10763-018-9911-1/FIGURES/2>.
- Soares, F., Lopes, A. P., Cellmer, A., Uukkivi, A., Rebollar, C., Varela, C., Feniser, C., Bravo, E., Safiulina, E., Kelly, G., Bilbao, J., Cymerman, J., Brown, K., Latõnina, M., Garcia, O., Labanova, O., & Bocanet, V. (2020). Developing interactive e-contents for a Mathematic ERASMUS project — challenges and experiences. *INTED2020 Proceedings*, 1, 477-485. <https://doi.org/10.21125/INTED.2020.0203>.
- Soares, F., Lopes, A. P., Cellmer, A., Uukkivi, A., Rebollar, C., Varela, C., Feniser, C., Safiulina, E., Bravo, E., Kelly, G., Bilbao, J., Cymerman, J., Brown, K., Latõnina, M., Labanova, O., Garcia, O., & Bocanet, V. (2019). Development of a Mathematics On-line Project in Engineering Education. *Open Education Studies*, 1(1), 257-261. <https://doi.org/10.1515/EDU-2019-0019>.
- UNESCO. (1990). *World Declaration on Education for All and Framework for Action to Meet Basic Learning Needs*. <https://unesdoc.unesco.org/ark:/48223/pf0000127583>.

- UNESCO. (2016). *Education 2030: Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all* — UNESCO Digital Library. <https://unesdoc.unesco.org/ark:/48223/pf0000245656>.
- Uukkivi, A., Labanova, O., Safiulina, E., Latõnina, M., Bocanet, V., Feniser, C., Serdean, F., Lopes, A. P., Soares, F., Brown, K., Kelly, G., Martin, E., Cellmer, A., Cymerman, J., Sushch, V., Kierkosz, I., Bilbao, J., Bravo, E., Garcia, O., ... Rebollar, C. (2020). On-line course on engineering mathematics: Students' experience with pilot course material. *SEFI 48th Annual Conference Engaging Engineering Education, Proceedings*, 1138-1145.
- Velasco, P. J., Learreta, B., Kober, C., & Tan, I. (2014). Faculty Perspective on Competency Development in Higher Education: An International Study. *Higher Learning Research Communications*, 4(4), 85. <https://doi.org/10.18870/hlrc.v4i4.223>.
- World Economic Forum. (2024, January). *OECD PISA Results: Maths and reading skills in "unprecedented drop"* | World Economic Forum. <https://www.weforum.org/agenda/2023/12/oecd-pisa-results-maths-reading-skills-education>.

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CAREER TRANSITION OUTCOMES OF ADOLESCENTS: FROM RESEARCH FINDINGS TO PRACTICAL IMPLICATIONS

Abstract

This study investigates how high school career readiness, parental support, psychological and contextual factors influence career outcomes such as satisfaction, engagement, and performance in higher education and employment. We followed graduation high-school students through career transition when they mainly enrolled educational programs or jobs of their first choice, as data suggest. Findings indicate that higher career adaptability and lower decision-making difficulties positively affect career transitions, with contextual factors such as parental support and school motivation playing significant roles. Practical implications emphasize the need to foster career readiness, encourage school motivation, and educate parents to better support their children's career development.

Key words: Career transitions, career outcomes, adolescence, career interventions

INTRODUCTION

In Croatia, a critical career decision comes at 18, as students finish high school and plan their next steps. During high school, they must identify their preferences, set career goals, and choose between further education or entering the workforce. By graduation, they take the state exam, complete studies, and prepare for higher education or employment. The following year involves adapting to new environments, developing skills, and building relationships. Success in this transition leads to career satisfaction, motivation, and alignment with their chosen path. To better understand this complex process, we conducted a three-year longitudinal study, following students from their third year of high school through their entry into higher education or the workforce.

Adolescence is characterized by the exploration stage of career development (Super, 1953). It is the most turbulent stage (Arnett, 2000) as it includes the transition from school to work. The primary developmental tasks are crystallization of vocational pre-

ferences, specification of a specific career goal (occupation), and its implementation through education and employment in the desired occupation (Super, 1953). Successfully completing these developmental tasks leads to the construction and realization of a complete vocational identity. Young people who have successfully achieved the goals of this developmental stage experience positive states related to their study or work — they are highly motivated for their job or studies, engaged, satisfied, highly productive and successful, display positive work behaviour, are dedicated to their work or school, and maintain good relationships with their colleagues and supervisors/professors.

Despite theories of career development emphasizing the importance of career readiness in achieving optimal career outcomes (Super, 1953), research has shown only moderate relation of different aspects of career readiness to career outcomes. For example, career adaptability has shown only moderate correlation with job satisfaction (Maggiore et al., 2013) and work engagement (Rossier et al., 2012), and certain statuses of vocational identity are somewhat associated with different levels of work engagement (Luyckx et al., 2010). Studies conducted on samples of Croatian high school students also found weak correlations between various aspects of career readiness and career outcomes (Šverko & Babarović, 2019).

Other personal characteristics and life circumstances also contribute to career outcomes. Extraversion and conscientiousness showed moderate relation to work engagement and other positive career outcomes (Rossier et al., 2012; Šverko & Babarović, 2019), while positive orientation toward the future mediated the relationship between career adaptability and life satisfaction (Santilli et al., 2016) and the relationship between career adaptability and clarity of career goals (Ginevra et al., 2016). Intellectual capacities are associated to educational and occupational achievement and related to career outcomes (Dubow et al., 2006; Vuolo et al., 2014) and career maturity (Tan, 1989; Negru-Subtirica & Pop, 2016). Studies that focused on broader life circumstances, have confirmed the adverse effects of low socio-economic status on career outcomes (e.g., Fouad & Brown, 2000; Turner & Lapan, 2003) as well as importance of social support for career development (Keller & Whiston, 2008; Šimunović, 2023).

RESEARCH GOALS

The aim of this study is to examine the importance of constructs from various domains that may have facilitating or limiting effects on career development in adolescence (Šverko & Babarović, 2019b). During high school we focus on career readiness (career adaptability and difficulties in making career decisions) and other psychological and contextual determinants of career development (psychological capital, school motivation and achievement, parental career-related behaviours, and family educational and

socio-economic background), while a year after graduation we explore the outcomes of career transition.

METHOD

Participants and procedure

Participants were high school students, which we have followed for a two-year period, from the last grade of high school to a year after career transition. Students responded to the online questionnaires during regular school hours, in school computer classrooms (N=603 students). However, a year later students were no longer at their primary educational institutions and we approached them by e-mails and invited them to participate following the link to questionnaires, for which incentives were offered. The response rate was low, and we reached out to 288 students.

The data collection was part of a broader project *Free Career Choice*, for which all consents were collected in advance (from Ministry of science and education, from Ethical board of Institute Pilar, from school principals, from parents and from students themselves).

Instruments

Career transition outcomes

Study/Job Satisfaction was assessed with a 4-item Likert scale measuring overall satisfaction with one's studies or job. Items reflect general satisfaction in studies or job (e.g., 'Are you satisfied with your current university studies?', and 'Are you satisfied with your current job?'). It's unidimensional structure and high reliability were confirmed in prior research (Šverko & Babarović, 2019).

Self-Reported Job/Study Performance was measured using a 5-item Likert scale evaluating subjective achievement (e.g., 'Compared to other students in your program, how would you rate your success as a student?' or 'Compared to your colleagues, how would you rate your success as a worker?'). This scale demonstrated a clear unidimensional structure and good reliability in previous applications (Šverko & Babarović, 2019).

Study/Work Engagement was assessed with the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002), previously validated in Croatia (Slišković et al., 2016; Šverko & Babarović, 2019). In this sample, the total score was used as a measure of engagement in university studies and work.

Career readiness

The Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012b) measures adaptability resources, with a total score indicating overall career adaptability and four facets indicating career concern, career control, career curiosity, and career confidence, each represented by six items (24 items total, 1 to 5 Likert type scale). Previous studies ha-

ve shown excellent psychometric properties in international and Croatian samples (e.g., Šverko & Babarović, 2016).

The Career Decision-making Difficulties Questionnaire — Revised (CDDQ-R; Gati et al., 1996) assesses career decision-making difficulties across three categories: Lack of Readiness, Lack of Information and Inconsistent Information. The CDDQ-R has 32 items rated on a 9-point scale, with higher scores indicating greater difficulties. It shows good validity and reliability (e.g., Gati et al., 1996; Mau, 2004), including in Croatian samples (Babarović & Šverko, 2019).

Psychological and contextual variables

Compound Psychological Capital Scale (CPC-12R; Dudašová et al., 2021) measures four dimensions of psychological capital: hope, optimism, resilience, and self-efficacy, using 12 items rated on a 6-point Likert scale. The higher total score indicates greater psychological capital. The scale shows excellent psychometric properties (Dudašová et al., 2021).

The Multidimensional School/Work Motivation Scale (Gagné et al., 2015) was used to measure motivation for work and school in the framework of Self-Determination Theory. The scale measures six motivational facets: amotivation, extrinsic (material and social), introjected, identified, and intrinsic motivation. It consists of 19 items, with 7-point Likert type scale. The scale has confirmed psychometric properties both in international and in Croatian samples (Gagné et al., 2015).

Grade Point Average (GPA) was used to indicate academic achievement in high school.

Parental Career-specific Behaviour scale (PCB; Dietrich & Kracke, 2009) was used to measure parental career support, interference, and lack of engagement. The scale consists of 15 items, with 5 items measuring each parental behavior on a 5-point scale. The original scale showed good construct validity and reliability (Dietrich & Kracke, 2009), also in samples of Croatian adolescents (Šimunović, 2023).

Parental educational level was expressed as an average of maternal and paternal educational level (1=elementary education, 7=doctoral degree). Self-perceived family socioeconomic status was assessed using MacArthur Scale of Subjective Social Status — youth version (Goodman et al., 2001) which shows 10-rung ladder on which students place their family based on their perception of their standing relative to other people in Croatian society, considering factors such as education, employment status, and income (Popović, 2025).

RESULTS

Among 288 students who responded to the invitation to participate in T2, the total of 86% enrolled in university studies, 12% got a job, while 2% had not found their place neither in the higher education system nor at the labour market (NEETs). The total of

	SAT	ENG	ACH	AD	DIFF	GPA	AMOT	INTR	SES	PED	SUP	INTF	LACK	PC
Satisfaction (SAT)	(.89)													
Engagement (ENG)	.70**	(.93)												
Achievement (ACH)	.40**	.47**	(.85)											
Career Adaptability (AD)	.27**	.35**	.27**	(.95)										
Career Decision-Making Diff. (DIF)	-.25**	-.32**	-.21**	-.41**	(.96)									
Academic achievement (GPA)	.14*	.12	.13*	.17**	-.08	-								
Amotivation for school (AMOT)	-.15	-.25**	-.09	-.35**	.20**	-.22**	(.86)							
Intrinsic school motivation (INTR)	.13*	.32**	.09	.14**	-.09*	.16**	-.37**	(.84)						
Socio-economic status (SES)	.02	.02	.04	.07	-.06	.04	-.01	.05	-					
Parental educational level (PED)	.01	.00	-.02	-.02	.03	.10*	.04	-.03	.32	(.69)				
Parental support (SUP)	.23**	.21**	.20**	.34**	-.24**	.03	-.27**	.06	.11**	.02	(.90)			
Parental interference (INTF)	-.04	-.07	-.05	-.19**	.36**	-.08*	.14**	-.02	.09*	.15**	-.15**	(.91)		
Parental lack of engagement. (LACK)	-.15*	-.16**	-.14**	-.25**	.40**	-.06	.20**	.00	-.06	-.04	-.46**	.52**	(.92)	
Psychological Capital (PC)	.27**	.27**	.21**	.58**	-.42**	.08	-.16**	.09*	.15**	-.03	.35**	-.12**	-.23**	(.93)
N	259	257	254	595	586	602	600	600	590	586	585	585	585	584
k	4	17	5	24	32	1	3	3	1	2	4	4	4	12
Min	1.00	0.00	1.40	2.21	1.00	2.40	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.58
Max	4.00	5.53	5.00	5.00	9.00	5.00	5.00	5.00	10.00	7.00	5.00	5.00	5.00	6.00
M	3.14	3.33	3.66	3.97	4.44	4.21	2.14	2.47	6.21	4.38	3.91	2.36	1.93	4.51
Sd	0.69	0.98	0.65	0.57	1.44	0.55	0.86	0.83	1.48	1.15	0.89	1.09	0.95	0.93

Table 1 — Correlations between career transition outcomes, career readiness and contextual variables. Note. Reliability coefficients are presented in diagonal (Alpha).

79% of university freshmen and 60% of work novices reported that they realized the desired career goals. Almost all university students (92%) easily enrolled in university studies, and the only listed problems were grades and results on admission exam. Similarly, the total of 78% employees easily got a job, and they even didn't report any problems regarding getting a job.

We further examined how career readiness and certain contextual factors contributed to career transition outcomes. As presented in Table 1, satisfaction, engagement, and performance in studies or job were weakly related to career adaptability and career decision making difficulties, and to psychological capital and career-related parental support. Engagement was also positively related to intrinsic school motivation and negatively related to amotivation for school.

Results of hierarchical regression analyses (Table 2) show that satisfaction, engagement and performance were explained both with career adaptability and career decision making difficulties, indicating that better career transition outcomes were achieved if students during high school expressed greater career adaptability and lesser career decision-making difficulties ($\text{adj}R^2$ were .09, .15 and .07, respectively). On the other hand, when psychological and contextual determinants were also considered, the importance of career readiness dropped and the contribution of parental support for satisfaction ($\beta=.16$, $p<.05$), internal school motivation for engagement ($\beta=.28$, $p<.05$) and GPA for performance in studies and work ($\beta=.14$, $p<.05$) came forward. Incremental contribution of psychological and contextual determinants for explaining engagement and satisfaction was observed (R^2 change was .10, $p<.01$ and .06, $p<.05$, respectively), although for performance it was negligible (R^2 change was .04, $p>.05$).

	Study/work satisfaction		Study/work engagement		Study/work performance	
Career Adaptability	.20**	.11	.27**	.23**	.20**	.16
Career decision-making difficulties	-.17**	-.13	-.21**	-.18**	-.13	-.11
GPA		.11		.04		.14*
Amotivation for school		.02		-.01		.08
Internal motivation for school		.11		.28**		.06
Subjective SES		-.05		-.05		-.03
Parental educational level		-.02		-.02		-.05
Parental support		.16*		.14		.14
Parental interference		.08		.06		.07
Parental lack of engagement		-.06		-.03		-.06
Psychological Capital		.09		-.01		-.02
R	.31***	.40***	.41**	.51***	.28***	.35***
Adjusted R ²	.09	.11	.15	.22	.07	.08
R ² change		.06*		.10**		.04

Table 2 — Contribution of career readiness and contextual variables for career transition outcomes

DISCUSSION

The results of this study provide valuable insights into career outcomes for adolescents transitioning from high school to higher education or the workforce. Most students achieved positive career outcomes, with 86% enrolling in university studies and 12% securing a job. The overall satisfaction with career outcomes, with 79% of university freshmen and 60% of work novices, speaks to the relative efficacy of the career transition process.

The weak relationships observed between satisfaction, engagement, and performance with career adaptability and career decision-making difficulties suggest that these are not the sole determinants of successful transition. Rather, psychological capital and parental support appear to be important factors, influencing students' ability to navigate their transitions more effectively (Savickas, 2005; Bandura, 2001). Therefore, while career readiness (such as career adaptability) is important, the psychological and emotional resources students bring with them, including their parents' involvement, can have a greater impact on their career outcomes.

The observed contribution of parental support underscores the role of familial involvement in shaping career satisfaction. Supportive families can provide students with the emotional and logistical resources necessary to navigate complex transitions. Additionally, school motivation and academic achievement, also played a crucial role in future engagement and performance. Internal motivation for school enhances students' persistence and effort in academic tasks by helping them find personal meaning in learning (Deci & Ryan, 2000).

In conclusion, while career adaptability and decision-making skills are important predictors of career success, personal resources, such as internal motivation and parental support, are equally or even more important for future career outcomes. However, this study is based on voluntary participation, which may limit the generalizability of the findings, particularly when having in mind large attrition in the last point of measurement. Future research should continue to explore how these psychological and contextual factors interact and how they can be leveraged to support students who may be at risk of poor career outcomes.

The findings from this study have important implications for educators, policymakers, career counsellors, and parents. Schools should implement programs that enhance career adaptability and reduce decision-making difficulties. It is also important to foster greater parental involvement by offering workshops and seminars to educate parents on how to support their children without being overly involved. It is important to focus on enhancing intrinsic motivation by helping students find personal meaning in school activities and by connecting learning with real-world career applications, along with activities promoting self-reflection and goal setting for encouraging greater academic engagement. Policymakers should invest in career transition programs, particularly those that integrate career readiness and psychological support. Providing access to career counselling services, especially for at-risk students, could enhance overall career outcomes.

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References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480. <https://doi.org/10.1037/0003-066X.55.5.469>.
- Babarović, T. & Šverko, I. (2018). The validity of career decision-making difficulties questionnaire in Croatia. *Journal of Career Assessment*. <https://doi.org/10.1177/1069072717748960>.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1-26.
- Dietrich, J., & Kracke, B. (2009). Career-specific parental behaviors in adolescents' development. *Journal of Vocational Behavior*, 75(2), 109-119.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01.
- Dubow, E. F., Huesmann, L. R., Boxer, P., Pulkkinen, L., & Kokko, K. (2006). Middle childhood and adolescent contextual and personal predictors of adult educational and occupational outcomes: A mediational model in two countries. *Developmental psychology*, 42(5), 937.

- Dudasova, L., Prochazka, J., Vaculik, M., & Lorenz, T. (2021). Measuring psychological capital: Revision of the compound psychological capital scale (CPC-12). *PLoS ONE* 16(3): e0247114. <https://doi.org/10.1371/journal.pone.0247114>.
- Fouad, N. A., & Brown, M. T. (2000). Role of race and social class in development: Implications for counselling psychology. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counselling psychology* (pp. 379-408). John Wiley.
- Gagné, M., Forest, J., Vansteenkiste, M., Crevier-Braud, L., Van den Broeck, A., Aspel, A. K., ... & Westbye, C. (2015). The Multidimensional Work Motivation Scale: Validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology*, 24(2), 178-196. <https://doi.org/10.1080/1359432X.2013.877892>.
- Gati, I., Krausz, M., & Osipow, S. H. (1996). A taxonomy of difficulties in career decision-making. *Journal of Counseling Psychology*, 43, 510-526.
- Ginevra, M. C., Pallini, S., Vecchio, G. M., Nota, L., & Soresi, S. (2016). Future orientation and attitudes mediate career adaptability and decidedness. *Journal of Vocational Behavior*, 95, 102-110.
- Goodman, E., Adler, N. E., Kawachi, I., Frazier, A. L., Huang, B., & Colditz, G. A. (2001). Adolescents' perceptions of social status: Development and evaluation of a new indicator. *Pediatrics*, 108(2), e31-e31.
- Keller, B. K., & Whiston, S. C. (2008). The role of parental influences on young adolescents' career development. *Journal of Career Assessment*, 16(2), 198-217.
- Luyckx, K., Duriez, B., Klimstra, T., & De Witte, H. (2010). Identity statuses in young adult employees. *Journal of Vocational Behavior*, 77(3), 339-349.
- Maggiori, C., Johnston, C., Krings, F., Massoudi, K., & Rossier, J. (2013). The role of career adaptability and work conditions on general and professional well-being. *Journal of Vocational Behavior*, 83, 437-449.
- Negru-Subtirica, O., & Pop, E. I. (2016). Longitudinal links between career adaptability and academic achievement in adolescence. *Journal of Vocational Behavior*, 93, 163-170.
- Popović, D. (2025). *Identities in Context model — Socioeconomic Gap in Educational and Vocational Outcomes — Doctoral dissertation*. University of Zagreb, Faculty of Humanities and Social Sciences.
- Rossier, J., Zecca, G., Staufer, S. D., Maggiori, C., & Dauwalder, J. P. (2012). Career Adapt-Abilities Scale in a French-speaking Swiss sample: Psychometric properties and relationships to personality and work engagement. *Journal of Vocational Behavior*, 80, 734-743.
- Santilli, S., Marconetti, J., Rochat, S., Rossier, J., & Nota, L. (2017). Career adaptability, hope, optimism, and life satisfaction in Italian and Swiss adolescents. *Journal of Career Development*, 44(1), 62-76.
- Savickas, M. L. (2005). The theory and practice of career construction. *Career Development and Counseling: Putting Theory and Research to Work*, 42-70.
- Savickas, M. L., & Porfeli, E. J. (2012). Career adapt-abilities scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, 80(3), 661-673. <https://doi.org/10.1016/j.jvb.2012.01.011>.
- Schaufeli, W.B., Salanova, M., González-romá, V. et al. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies* 3, 71-92. <https://doi.org/10.1023/A:1015630930326>.
- Super, D. E. (1953). A theory of vocational development. *American Psychologist*, 8, 185-190.

- Šimunović, M. (2023). Career-specific parental behaviors and career adapting responses in Croatian early and late adolescents. *British Journal of Guidance & Counselling*, 52(3), 378-391. <https://doi.org/10.1080/03069885.2023.2212321>.
- Šverko, I., & Babarović, T. (2016). Integrating personality and career adaptability into vocational interest space. *Journal of Vocational Behavior*, 94, 89-103.
- Šverko, I., & Babarović, T. (2019a). Applying career construction model of adaptation to career transition in adolescence: A two-study paper. *Journal of Vocational Behavior*, 111, 59-73. <https://doi.org/10.1016/j.jvb.2018.10.011>.
- Šverko, I., & Babarović, T. (2019b). Protective and risk factors in career development. *Indian Journal of Career and Livelihood Planning*, 8(1), 36-44.
- Tan, E. (1989). The career maturity of Singaporean adolescents—where do we stand and what can be done? *Singapore Journal of Education*, 10(2), 40-50.
- Turner, S. L., & Lapan, R. T. (2003). The measurement of career interests among at-risk inner-city and middle-class suburban adolescents. *Journal of Career Assessment*, 11(4), 405-420.
- Vuolo, M., Mortimer, J. T., & Staff, J. (2014). Adolescent precursors of pathways from school to work. *Journal of Research on Adolescence*, 24(1), 145-162.

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EARLY CAREER RESEARCHERS' WORK CONDITIONS AND WELL-BEING: MENTORS' PERSPECTIVES

Abstract

Recent studies demonstrate alarming levels of mental health risks and declining well-being among early career researchers (ECR). Besides a moral imperative deriving from the duty of care that employers have toward ECRs, these alarming rates of poor ECRs' well-being must be addressed as they are fundamental for the future of scientific progress. The way researchers experience their work is important not only for them as individuals, but also for the functioning of their organization and for their scientific output: Existing research suggests that work psychosocial factors (i.e., fair work conditions and social support) significantly impact future research performance. In this context, relationships with mentors play an especially important role and can have strong influences on ECRs' progress, well-being, and mental health. In order to gain better understanding of the mentors' perspectives on the processes that enable ECRs to thrive (vs. languish) at work, in this study we employed qualitative methodology and interviewed 24 mentors of ECRs working in Croatian scientific institutions. The analysis of the qualitative data included a five-step process and provided more detailed insights into the mentors' experiences and perspectives on the interplay between ECRs' work conditions and work-related well-being, as well as on the availability of mentors' resources, and the systemic barriers they face. The need for formalized training and more institutional support was particularly emphasized.

Key words: mentorship, early career researchers, well-being, qualitative study

In the academic context, mentorship refers to a formal working agreement between a more experienced researcher (the mentor) and a less experienced early career researcher (ECR), typically a PhD candidate, or a postdoctoral researcher (Tuma & Dolan, 2024). Mentors' roles tend to be providing professional guidance on various aspects of research processes, such as research design and methodology, ethical issues, publishing, networking, teaching, and navigating the complexities of academic environment. In addition to these essential aspects, mentoring can also encompass emotional support, providing understanding, and helping mentees build resilience, confidence, and a sense of belonging in academia (Pfund et al., 2016).

Hence, for ECRs, mentoring is crucial in promoting academic achievement, career development, and personal growth (Bice et al., 2021; Johnson & Ridley, 2018; 2024; Tu-

ma & Dolan, 2024). Existing research shows positive associations between high quality mentor-ECR relationships and ECRs' self-efficacy, job satisfaction and positive mental health (Cardilini, Risely & Richardson, 2021; Zhang et al., 2022; Devos et al., 2017). In contrast, low quality or conflicting relationship tends to foster burnout, hinder career progress, and lead to early attrition from academia (Brill et al., 2014; Kis et al., 2022). Moreover, in their longitudinal study, Bice et al. (2021) demonstrated that when doctoral students have close and intense collaboration with mentors (i.e. multiple projects, frequent communication), they are more likely to be more productive and successful faculty members.

This is particularly relevant considering the recent insights on alarming levels of mental health risks and declining well-being among ECRs, who tend to deal with specific challenges in their early academic journeys, including high workloads and job precarity, and risks of mental health issues. More concretely, recent research indicates that ECRs are up to three times more likely to experience symptoms of depression and anxiety compared to the general highly educated population (Satinsky et al., 2021). Such challenges are not limited to specific countries or institutions but reflect systemic issues within academia globally (González-Rico et al., 2016; OECD, 2021).

For mentors, the process of guiding doctoral candidates and early researchers offers both opportunities and challenges, requiring a balance of academic expertise, emotional intelligence, and administrative competence (Nicholls et al., 2022). However, the context within which mentorship occurs can greatly influence its effectiveness, with institutional structures, complex interpersonal dynamics, lack of or inconsistent training, and systemic barriers all playing important roles (Nicholls et al., 2022; Owan, Ameh & Anam, 2024).

Despite the existing consistent recognition of the quality of mentorship as a critical factor in ECRs' well-being and career success, there is less insight on mentors' perspectives and the institutional conditions (resources and challenges) that affect mentoring practices. In order to gain more in-depth insight into these processes, this qualitative study examines mentors' perspectives and practices, as well as the institutional resources and challenges they encounter, in the context of ECRs' well-being. In this way, this study aims to provide a nuanced understanding of the experiences and understandings of mentors, particularly within the underexplored context of Croatian academia.

METHOD

Participants

The study included 24 mentors (18 women, 6 men) with an average age of 51.18 years (range from 41 to 66 years). Participants were recruited from various academic institutions, i.e., universities and public research institutes in six different cities in Croatia, who worked in different scientific fields, including 3 from natural sciences (NS), 2 from

engineering and technology (ET), 4 from medical and health sciences (MH), 3 from agricultural sciences (AS), 8 from social sciences (SS), and 3 from the humanities (H). The mentors were also heterogeneous in terms of their academic (PhD degree gained 1986-2014) and mentoring experience that ranges from 3 to 30 years (mean 14 years of experience), and in terms of the number of mentored PhD candidates that ranged from 2 to 31 (mean=7).

Procedure

The study represents results from a first phase of a broader four-year RESEARCH project *Well-Being and Mental Health of Early Career Researchers in Croatia: A Longitudinal Study* (ECR-WELL), funded by the Croatian Science foundation (grant number IP-2022-10-3567). By reviewing the websites of various universities and faculties in the Republic of Croatia, we identified university professors with experience in mentoring doctoral candidates. These potential participants were invited to participate in the study via email that included a written informed consent form consisting of comprehensive information about the study, with a particular emphasis on recording procedures, data privacy, confidentiality, and access to the research conclusions. All participants had the option to withdraw from the study at any point. Since all participants were over the age of 18, they provided verbal (as well as written) consent for participation in accordance with the applicable laws, regulations, and ethical guidelines for research involving human participants in Croatia.

The research team developed the semi-structured interview guide to ensure a systematic and consistent approach to data collection. The guide included questions reflecting relevant research topics: a) Experiences and perceptions of the mentor role; b) Mentoring resources; c) Challenges of mentorship, and d) Development of mentorship. We collected the data through semi-structured interviews, which we conducted online using the MS Teams application. The total duration of all interviews was 1346 minutes, with an average interview duration of 56.08 minutes.

Data Analysis

The qualitative data collected was analysed using NVivo 15 software, which facilitates the organization, coding, and thematic analysis of qualitative data (Allsop et al., 2022). In the qualitative analysis of conducted interviews with mentors, we followed a five-phase approach (Beekhuizen & Bazeley, 2024; Bingham, 2023). This approach ensures a systematic, transparent, and thorough examination of data, allowing for the identification of key themes, patterns, and meanings emerging from participants' experiences.

Phases of Analysis

The first phase involved transcription and data organization to enable a detailed analysis of the data. The data were categorized based on essential characteristics (e.g., ty-

pe of participant, location, duration) to facilitate data management and the initial stages of analysis. The organized data were then imported into NVivo 15, a qualitative data analysis software. Second phase encompasses thematic categorization, based on the research objectives, into main themes: a) Experiences and perceptions of the mentor role; b) Mentoring resources; c) Challenges of mentorship, and d) Development of mentorship. In the third phase, we conducted open coding-inductive coding of the data within the established thematic categories, allowing for the identification of more specific themes and concepts (Bingham, 2023). The fourth phase focused on pattern identification and theme development to synthesize the data into coherent themes that represent the study's key findings. Finally, in the fifth phase we did theoretical linkage and interpretation, with connecting the key themes with existing theory and literature.

RESULTS AND DISCUSSION

Understanding the Mentoring Role

Based on the interviews in the study, it seems that mentorship entails a dual responsibility: fostering the academic and professional growth of ECRs (mentees) while simultaneously navigating institutional expectations. Mentors in the study consistently emphasized this dual role and described their efforts to balance providing structured guidance with institution and individual needs that foster independence in their mentees. One mentor articulated this balance in this way: "I think they need clear tasks, but they also need freedom... By the end of their doctorate, they should be independent researchers."

While many mentors emphasize the value of tailored support based on the specific needs of ECRs, they also stress the importance of individualised operational plans, goal-setting, and clear timelines. As one mentor noted, "For each doctoral candidate, I create a small operational plan."; however, other mentors follow a more "organic" way of working: "The mentor doesn't follow a strict plan but works more intuitively, allowing things to develop organically somehow... It depends on how much support I think they need."

This perspective aligns with existing literature that emphasizes the importance of supporting ECRs' development through structured yet adaptive mentorship (Crisp & Cruz, 2009; Geesa, McConnell & Brown, 2022).

Motivation for Mentorship

Mentors generally have autonomy in deciding whether to mentor doctoral *candidates*, although mentorship is often viewed as an inherent part of academic work and a key criterion for career advancement. In addition to their autonomous motivation, this external factor motivates mentors to engage in mentorship roles, often driven by requests from students or colleagues. As one mentor explained, "Autonomy in deciding whet-

her I want to take on a student or not is entirely mine." However, mentors note that mentorship is often not formally recognized within working hours, and can represent a significant workload, but that it is included in career promotion evaluations: "Mentoring is not included in my working hours and is essentially my personal responsibility... Evaluations for career advancement also take into account the number of doctoral candidates I have mentored."

Mentor-ECR Relationship

Mentors perceive the relationship with ECRs as central to the doctoral process. Building trust, providing support, and maintaining professionalism are key aspects of effective mentorship. Open communication and a safe environment allow ECRs to express themselves, while clear professional boundaries ensure a balance between support and authority. Most mentors emphasize that their primary role is to guide ECRs through their research journey, offering clear guidance and constructive feedback to foster independence. While some mentors highlight the importance of emotional support, others prioritize professional guidance.

"For me, the most important thing is that doctoral candidates feel respected, valued, and know that they have my support. Without that support, they cannot work productively, and I cannot be a satisfied mentor."

"Support does not mean doing their work for them but rather helping them recognize their own potential and develop independence. That's why it is important to have clear boundaries."

Professional Boundaries

Clear expectations and boundaries are essential for a productive mentor-ECR relationship. Mentors highlight that establishing clear responsibilities from the beginning of the mentorship reduces misunderstandings and creates a transparent working environment. However, mentors acknowledge that boundaries may blur depending on the specific needs and situations of ECRs.

"Being a friendly mentor while maintaining a professional relationship is sometimes a challenge, but it's necessary for success."

"The key is to communicate expectations in the first few months — make it clear that I'm not available at night or on weekends".

Emotional Support

The extent of emotional support provided by mentors varies. Some mentors view emotional support as integral to maintaining ECRs' motivation, particularly during challenging phases of the PhD process. Others prefer to maintain a strictly professional relationship, emphasizing that the role of the mentor is not to act as a therapist. Nevertheless, many mentors recognize that ECRs face significant emotional challenges, such as

personal crises, and support them through empathetic communication and encouragement.

"They go through illness, divorce, childbirth, a thousand things... because all of that affects how much time they can devote to their doctorate."

"One of the most important aspects of mentoring is emotional support. When a doctoral candidate feels seen and heard, that's already half the battle."

Experience-Based Mentorship

Mentoring styles are often influenced by the mentors' own experiences as doctoral students. Mentors who experienced supportive mentorships tend to want to replicate this model, while those with negative experiences seek to avoid repeating the negative experiences they had. One mentor shared, "My mentor was never available, so I've made it a point to always be there for my doctoral students." This approach highlights the role of reflection in shaping mentorship practices. In contrast, another mentor shared: "I was fortunate to have an exceptionally supportive mentor. That's why I strive to be like them — accessible, patient, and always open for conversation."

Resources in Mentoring

Personal Resources

Mentors rely on personal traits and competencies such as empathy, adaptability, and creativity. Their ability to adjust their mentorship style according to the needs of ECRs is seen as a key factor in successful mentorship. Many mentors believe that creativity enables them to overcome challenges in research projects. One mentor stated, "Creativity is key — I design new approaches to research, and my doctoral students follow them."

Social Resources

Mentors emphasize the importance of social support through collaboration with colleagues and networking within the academic community. Collaborations with other mentors allow for the exchange of ideas and shared solutions. Networking opportunities for ECRs through conferences and project work are also highlighted as essential for their development.

"Colleagues always step in if something gets stuck."

Organizational Resources

Institutional support is critical for effective mentorship. Mentors note that the doctoral school's activity schedules, administrative support, and annual project funding for ECRs can facilitate the mentorship process. However, mentors highlight the need for greater

administrative support, as administrative burdens often reduce the time available for research and mentorship for both ECRs and mentors.

"There are resources for administrative tasks, but they are insufficient to provide quality support to the mentor."

Organisational resources also include access to physical and technological resources, which significantly impacts the effectiveness of mentorship. Some mentors appreciate the availability of offices, laboratories, libraries, and research tools, while others report challenges such as outdated laboratory equipment and a lack of sufficient workspace for doctoral students.

"It is very important to me that the doctoral student has access to the laboratory because it is crucial for research."

"It seems like we have the equipment, but it is outdated compared to foreign laboratories."

Challenges in Mentoring

Work Overload

Mentoring is often perceived as an additional responsibility that extends beyond regular working hours. Mentors struggle to balance mentoring with teaching, research, and administrative duties, resulting in increased workload. As one mentor put it, "We're expected to mentor, but we're not supported in doing so. We don't have fewer teaching hours or less administration to handle." The heavy workload leads some mentors conducting mentoring activities on weekends or outside regular hours.

ECR Dependency

Some mentors encounter ECRs who are overly dependent on guidance, requiring additional support to develop independence. This poses a challenge, as mentors aim to foster autonomy in ECRs while balancing their own workload. Mentors emphasize the need for ECRs to develop self-reliance, noting that students who "wait for instructions" tend to progress more slowly.

Lack of Formal Training for Mentors

The absence of formal mentorship training is consistently identified as a systemic issue. Most mentors rely on personal experience to guide ECRs, leading to variability in mentoring quality. While some mentors have attended workshops organized by the Croatian Science Foundation or universities, these are not systematically available. Mentors call for continuous, high-quality training that addresses key topics such as communication skills, boundary-setting, and stress management.

"I think there should be training for mentors because we learn as we go. We don't have formal preparation, and mentoring is a demanding job."

"I would like mentor training to be more accessible. As it stands, we rely on our own experience, and that isn't always the best solution."

Rewarding Aspects of Mentorship

Mentors highlight the personal and professional rewards of mentorship. Despite the challenges, mentors find satisfaction in their mentees' growth and achievements. One mentor noted, "The best part of mentorship is seeing them succeed. When they come with ideas and are excited about experiments, it's incredibly rewarding." Supporting ECRs' development fosters a sense of purpose and accomplishment. Mentors also report learning new research methods and perspectives from their ECRs, leading to professional growth. "I've learned the most from my doctoral students. They keep me up-to-date with new topics and methods," said one mentor. Mentors express satisfaction when ECRs achieve key milestones, such as publishing articles or defending dissertations. Moments of growth and insight in ECRs are seen as the most rewarding aspect of mentorship. "The most rewarding part is seeing my students grow into colleagues," one mentor explained, highlighting the emotional and professional fulfilment that mentorship provides.

Recommendations for System Improvement

1. **Reduce Administrative Burdens** Mentors recommend reducing the administrative load to create more time for mentorship. Enhanced administrative support and streamlined processes would free up mentors to focus on ECR development.
2. **Formalize Mentorship Training** Mentors emphasize the need for systematic, continuous training programs that cover key topics like boundary-setting, communication, and support for ECR well-being.
3. **Enhance Institutional Support** Institutions should recognize and reward mentorship as a key academic responsibility. This includes reducing teaching loads and supporting mentorship through financial resources and dedicated time.
4. **Monitor Mentor-ECR Relationships** Institutional monitoring of mentor-ECR relationships could prevent potential misuse of power and ensure positive and fair experiences for ECRs, fostering healthier academic environments.

CONCLUSION

This study demonstrates the complexities and multidimensionality of mentorship roles in supporting ECRs in the Croatian academic system. The findings showed the dual role of mentors as educators and supporters, the systemic barriers they face, and the need for formalized training and more institutional support. Addressing these challenges

is crucial not only for enhancing the mentorship experience but also for fostering the well-being and career development of ECRs. Future research should focus on developing evidence-based mentorship programs tailored to the unique challenges of academic settings.

References

- Bice, M. R., Hollman, A., Ball, J., & Hollman, T. (2021). Mentorship: An assessment of faculty scholarly production, mode of doctoral work, and mentorship. *American Journal of Distance Education*, 36(3), 208-226. <https://doi.org/10.1080/08923647.2021.1941724>.
- Blickenstaff, J. C. (2005). Women and science careers: Leaky pipeline or gender filter? *Gender and Education*, 17(4), 369-386. <https://doi.org/10.1080/09540250500145072>.
- Brill, J. L., Balcanoff, K. K., Land, D., Gogarty, M., & Turner, F. (2014). Best practices in doctoral retention: Mentoring. *Higher Learning Research Communications*, 4(2), 26-37.
- Cardilini, A. P. A., Risely, A., & Richardson, M. F. (2021). Supervising the PhD: identifying common mismatches in expectations between candidate and supervisor to improve research training outcomes. *Higher Education Research & Development*, 41(3), 613-627. <https://doi.org/10.1080/07294360.2021.1874887>.
- Crisp, G., & Cruz, I. (2009). Mentoring college students: A critical review of the literature between 1990 and 2007. *Research in Higher Education*, 50(6), 525-545. <https://doi.org/10.1007/s11162-009-9130-2>.
- Devos, C., Boudrenghien, G., Van der Linden, N., Azzi, A., Frenay, M., Galand, B., & Klein, O. (2017). Doctoral students' experiences leading to completion or attrition: A matter of resilience? *Higher Education Research & Development*, 36(3), 429-442. <https://doi.org/10.1080/07294360.2016.1176999>.
- Geesa, R. L., McConnell, K. R., & Brown, R. D. (2022). Mentorship for doctor of education candidates: Exploring sustainability, networking, and expected outcomes within a mentoring program. *Journal of Research on Leadership Education*, 17(3), 291-309. <https://doi.org/10.1177/19427751211013853>.
- Johnson, W. B., & Ridley, C. R. (2018). *The elements of mentoring (3rd ed.)*. Palgrave Macmillan.
- Kis, A., Tur, E.M., Lakens, D., Vaesen, K., & Houkes, W. (2022). Leaving academia: PhD attrition and unhealthy research environments. *PLoS ONE*, 17(10), e0274976. <https://doi.org/10.1371/journal.pone.0274976>.
- Owan, V. J., Ameh, E., & Anam, E. G. (2024). Collaboration and institutional culture as mediators linking mentorship and institutional support to academics' research productivity. *Educational Research for Policy and Practice*, 23(1), 19-44. <https://doi.org/10.1007/s10671-023-09354-3fowan>.
- Pfund, C., House, S. C., Asquith, P., Fleming, M. F., Buhr, K. A., Burnham, E. L., Eichenberger Gilmore, J. M., Huskins, W. C., McGee, R., Schurr, K., Shapiro, E. D., Spencer, K. C., & Sorkness, C. A. (2014). Training mentors of clinical and translational research scholars: a randomized controlled trial. *Academic medicine: Journal of the Association of American Medical Colleges*, 89(5), 774-782. <https://doi.org/10.1097/ACM.0000000000000218>.
- Posselt, J. (2018). Normalizing struggle: Dimensions of faculty support for doctoral students and implications for persistence and well-being. *The Journal of Higher Education*, 1-26. <https://doi.org/10.1080/00221546.2018.1449080>.

Tuma, T. T., & Dolan, E. L. (2024). What makes a good match? Predictors of quality mentorship among doctoral students. *CBE — Life Sciences Education*, 23(2), ar20.

Zhang, F., Litson, K., & Feldon, D.F. (2022). Social predictors of doctoral student mental health and well-being. *PLoS ONE*, 17(9), e0274273. <https://doi.org/10.1371/journal.pone.0274273>.

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THE INFLUENCE OF POST-MATERIALISTIC VALUES ON THE CHOICE OF INFORMATION CHANNELS: THE EXAMPLE OF CHIROPRACTIC

Abstract

In the last few decades, the number of individuals utilizing complementary and alternative treatment methods (CAM) has significantly increased. In most countries, especially in the West, CAM practices are regulated by law in the same manner as conventional medical services, however, this is not the case in Croatia. In Croatia, there are no regulations defining who can provide CAM services, nor is specific education required for it. For this reason, it is important to identify the socio-cultural and socio-demographic characteristics of individuals interested in chiropractic, and explore the channels through which they obtain information about chiropractic, as a representative of complementary treatment methods. Post-materialistic values highlight the significance of personal growth, such as prioritizing one's health, and reinforcing individuality, self-assurance, and consequently, individual accountability. The latter is characteristic of chiropractic treatments, as active participation in one's own healing process is an integral part of them. Getting reliable information about chiropractic is essential to understanding it, so it is important to determine the types of information channels and media content used, as well as attitudes and characteristics of individual users of chiropractic treatments, chiropractors themselves, and healthcare professionals regarding the use of complementary treatment methods.

Key words: alternative medicine, CAM, chiropractic, complementary medicine, post-materialism

INTRODUCTION

Over the past few decades, the utilization of complementary and alternative medicine (CAM) has grown substantially worldwide. In many countries, particularly in the West, CAM practices are regulated under legal frameworks similar to those governing conventional medical services. However, this is not the case in Croatia, where no regulations define who is authorized to provide CAM services, nor are there specific educational requirements for practitioners. This regulatory gap underscores the importance of exploring the socio-cultural and demographic characteristics of individuals interes-

ted in CAM, particularly chiropractic, as a representative of complementary treatment methods.

Chiropractic care, like many CAM practices, aligns closely with postmaterialist values that emphasize personal growth, health prioritization, and self-accountability. These values resonate with the active participation required in chiropractic treatments, where patients play a significant role in their own healing processes. Understanding the attitudes and behaviors of chiropractic users, healthcare professionals, and chiropractors themselves can provide insights into how these therapies are perceived and integrated into health-seeking behaviors.

An essential component of this exploration is the role of information channels. Reliable access to accurate information about chiropractic care is crucial for fostering informed decisions and understanding its potential benefits and risks. Identifying the media content and communication platforms used by CAM users, as well as examining the attitudes of stakeholders, can illuminate the broader societal trends influencing CAM adoption.

This study aims to address these gaps by examining the sociocultural profiles driving interest in chiropractic care (post-materialists vs. materialists), and the types of information sources they rely on. By focusing on chiropractic as a key CAM practice, this study contributes to a better understanding of how CAM methods can be safely and effectively integrated into healthcare, particularly in unregulated contexts like Croatia.

COMPLEMENTARY AND ALTERNATIVE MEDICINE (CAM)

Complementary and alternative medicine (CAM) encompasses a broad and continually evolving range of healthcare practices that lie outside traditional biomedical systems. Unlike conventional medical methods that are firmly embedded in public health structures, CAM functions either alongside or as alternatives to standard healthcare models (WHO, 2019). CAM methods can be divided into five categories (Koithan, 2009): mind-body therapies, biologically-based therapies, manipulative and body-based methods, energy therapies, and whole medical systems/alternative medical systems.

Mind-body medicine emphasizes the interconnectedness of thoughts, emotions, and physical health. It leverages mental and emotional processes to enhance overall wellness. Examples of mind-body therapies include meditation, guided imagery, relaxation techniques, hypnosis, biofeedback, prayer, expressive arts (such as dance, art, and music), and breathwork (Koithan, 2009).

Biologically-based therapies are defined as interventions involving substances derived from nature. These therapies are widely used, with research suggesting that over 95% of Americans have utilized them at some point. This category includes botanicals, extracts from animals, vitamins, minerals, fatty acids, amino acids, proteins, prebiotics, probiotics, complete diets, and functional foods (Koithan, 2009), although they are not

universally considered CAM methods. Their widespread use suggests that the categorization may overlap (Ernst, 2000).

In 1998, body-based therapies accounted for more than half of visits to CAM practitioners, and since then the number of visits to this method has increased greatly and chiropractic has become the most widespread complementary and alternative method (Lefebvre, Peterson, & Haas, 2012), with about 70,000 members in the USA alone (Chapman-Smith, 2010). These therapies include osteopathic manipulation, chiropractic care, massage, and reflexology. Any treatment involving the movement or manipulation of the body — focusing on structures like bones, joints, soft tissues, or the circulatory and lymphatic systems — falls into this category (Koithan, 2009).

Energy therapies aim to influence energy fields to support healing and health. They are categorized into (1) biofield therapies — these address energy fields surrounding and penetrating the body using techniques like Reiki, Music therapy, EFT healing, Theata Healing, Cognitive Behavior Therapy, and Touch Therapy; and (2) bioelectromagnetic-based therapies — these utilize unconventional electromagnetic fields, including pulsed, magnetic, and alternating or direct currents, for therapeutic purposes (Rogers & Phillips, 2021).

Whole medical systems are comprehensive frameworks of health care developed independently or alongside conventional medicine. These include systems like Traditional Chinese Medicine (TCM), which encompasses acupuncture, Chinese herbs, tai chi, and qi gong; Ayurvedic Medicine; classical homeopathy; and indigenous healing practices. These approaches prioritize addressing imbalances in the patient's overall constitution rather than focusing solely on localized diseases. Their diagnostic and treatment methods are patient-centered rather than disease-focused. Patients engage with these therapeutic domains to varying extents, influenced by cultural, economic, and social factors. Health care providers recommend them based on available evidence, professional experience, patient preferences, and safety considerations. Future discussions will address patterns of use, reimbursement, delivery challenges, and decision-making processes surrounding these therapies (Koithan, 2009).

Although these methods are becoming popular in Croatia, they are still insufficiently researched. One of the rare studies on this topic in Croatia was conducted in 2014 at the Health Center in Čakovec, where the aim was to investigate the use of CAM methods in patients in family medicine (Vitale, Mundar, Sović, Bergman-Marković & Janev Holcer, 2014). The results showed that 82% of respondents use some form of CAM. The most commonly used are medicinal herbs (87%), followed by bioenergy (29%), diet therapy (28%), chiropractic (22%), homeopathy and acupuncture (11%). Vitamin and mineral supplements are used by 77% of respondents. CAM is most often used there for the treatment of diseases of the respiratory system, urinary system, musculoskeletal pain, and to improve general condition. Statistically, there were more people who use CAM and did not inform their primary care physician about it, which indicates a pos-

sible weaker communication between family medicine physicians and healthcare users. The authors agreed that the results point to the need for overall education of health workers and the population about the good and bad effects of complementary and alternative medicine (Vitale et al., 2014).

In Croatia, CAM methods are not regulated, nor is it determined who can practice them. The absence of legal and regulatory frameworks in Croatia defining who can provide those services, coupled with the lack of mandatory education requirements for practitioners, poses significant scientific and public health concerns. Patient safety is a primary issue, as unqualified individuals may offer treatments without sufficient knowledge of CAM practices or medical principles, increasing the likelihood of harm. Misdiagnoses or delays in recognizing serious conditions are particularly concerning, as these can postpone critical biomedical interventions, leading to worse health outcomes. Additionally, unregulated CAM practice may result in the inappropriate use of therapies, such as improper dosages of natural supplements or unverified energy treatments, causing adverse effects.

Another concern is the potential lack of evidence-based practice in unregulated environments. Practitioners without oversight may promote therapies unsupported by scientific evidence, misleading patients and fostering false hope. The absence of standardized protocols further complicates the ability to ensure the safety, efficacy, and consistency of these treatments. Public health challenges also arise from this lack of regulation, including the potential spread of misinformation, which can undermine trust in evidence-based medicine and create confusion about legitimate healthcare options. This fragmentation of care may result in poorer health outcomes, particularly when unregulated CAM practices conflict with conventional medical advice.

POST-MATERIALIST VALUES AND CAM

The decision to utilize complementary and alternative medicine (CAM) therapies, including chiropractic care, is strongly influenced by sociocultural changes, particularly the distinction between materialistic and post-materialist value systems. Sociologist Ronald Inglehart's concept of post-materialism describes a value orientation that emphasizes personal growth, self-expression, and life quality over financial or material priorities (Inglehart 1977; Inglehart, 1997). A defining feature of post-materialist values is their emphasis on self-care and well-being as central to life satisfaction (Axén, Hestbaek & Leboeuf-Yde, 2019). People who adopt these values are more likely to actively engage in their healthcare, pursuing preventive strategies and exploring alternative therapies such as CAM. By contrast, materialistic values are centered on economic stability, physical safety, and meeting basic needs — concerns that dominated earlier stages of socioeconomic development (Axén, Hestbaek & Leboeuf-Yde, 2019).

For individuals with post-materialist values, healthcare extends beyond practical necessity to become an essential aspect of personal development. Choosing CAM reflects not only health goals but also personal identity and autonomy. These decisions often stem from a desire to bypass the perceived shortcomings of conventional medicine, such as reliance on pharmaceuticals or invasive procedures, in favor of natural, non-invasive, and individualized approaches (Schwartz & Rubel, 2005).

In economically less stable settings, materialistic values tend to dominate, aligning closely with the principles of conventional biomedical healthcare. Individuals driven by these values often adopt a more cautious and pragmatic approach to health, preferring treatments that are scientifically validated and focused on addressing immediate physical concerns, such as curing illnesses or alleviating symptoms. This perspective prioritizes practical, solution-oriented healthcare over preventive or holistic strategies. Nevertheless, it is essential to note that many individuals incorporate both materialistic and post-materialist values, resulting in a hybrid approach to health management. These people may rely on conventional medicine for acute or critical conditions while turning to CAM for preventive care, stress reduction, or chronic issues that conventional approaches may not fully address. Schwartz and Rubel (2005) describe this trend as a growing societal inclination toward integrating diverse healthcare modalities to cater to individual needs. The rising acceptance of CAM practices, including chiropractic care, is not solely a critique of conventional medicine but also a manifestation of deeper cultural shifts favoring post-materialist and postmodernist perspectives.

INFORMATION CHANNELS FOR INFORMING ABOUT CAM

Health literacy, defined as the ability to access, understand, process, and effectively use health information to make appropriate decisions, plays a pivotal role in shaping how individuals approach complementary and alternative medicine (CAM). Among rural populations, consistent with their demographic characteristics, CAM users often rely on self-directed methods rather than seeking services from trained alternative practitioners. The primary sources of information about these therapies are typically informal, with word of mouth and media being the most common channels. Usage of CAM among these individuals is often sporadic, and some users do not actively investigate its potential effects or risks. When they do seek information, it is usually derived from informal and non-validated sources (Weinert, Nichols & Shreffler-Grant, 2020).

The internet, particularly social media, has emerged as a dominant platform for accessing health-related information, including details about specific health conditions and potential treatments (Tang & Yang, 2012). Social media has significantly altered the landscape of health communication, transitioning from a unidirectional flow of information from professionals to patients to a dynamic, dialogic exchange. This platform enables healthcare practitioners, policymakers, and patients to monitor, engage with,

and contribute to ongoing health-related discussions online. Statistics indicate that approximately 72% of internet users actively search for health information online, with social media serving as a key source for such content (Y. Ng, Verhoeff & Steen, 2023).

A critical factor influencing the dissemination and reception of CAM-related information on social media is source credibility. This concept reflects the extent to which content creators or social media influencers are regarded as knowledgeable, trustworthy, and reliable. Research highlights that credibility significantly impacts how users perceive and act on information regarding CAM. Influencers or content creators perceived as honest, empathetic, and demonstrating integrity can foster trust among their audiences, leading to higher acceptance of their recommendations. This trustworthiness plays a direct role in users' willingness to consider CAM practices, particularly when the information appears to resonate with their personal beliefs and values (Gulpinar et al., 2023).

CONCLUSIONS

Post-materialistic values influence the choice of CAM treatment methods — individuals with post-materialist values will more easily opt for CAM those with prevalently materialistic values. The pathways through which individuals access information about CAM are diverse and evolving, heavily influenced by the rise of digital and social media platforms. While these channels offer opportunities for greater engagement and dialogue, they also present challenges related to the validation and reliability of information. Understanding these dynamics is crucial for stakeholders aiming to provide accurate and trustworthy health communication about CAM therapies.

Without clear legal and ethical regulations, there is no accountability for CAM practitioners who may engage in negligence or malpractice. Vulnerable populations, such as those seeking alternative treatments for chronic or terminal conditions, are especially at risk of exploitation by unscrupulous providers. This lack of regulation represents a missed opportunity for integrating CAM into the broader healthcare system. In regulated environments, properly trained CAM practitioners can collaborate with conventional medical providers to deliver holistic care, but such interdisciplinary efforts are hindered in Croatia. The absence of oversight also complicates scientific research and the validation of CAM practices, limiting the potential benefits that complementary approaches could offer to public health.

To address these issues, Croatia would benefit from establishing certification requirements to ensure practitioners have the necessary qualifications, alongside regulatory frameworks to define permissible CAM practices and enforce ethical standards. Public education campaigns could help promote informed decision-making, while increased support for research could identify evidence-based CAM practices suitable for integration into mainstream healthcare. Without these measures, the unregulated CAM

landscape poses risks to patient safety, undermines public trust in healthcare systems, and diminishes the potential for effective complementary treatments.

References

- Axén, I., Hestbaek, L., & Leboeuf-Yde, C. (2019). Chiropractic maintenance care — what's new? A systematic review of the literature. *Chiropractic & Manual Therapies*, 27(63). <https://doi.org/10.1186/s12998-019-0283-6>.
- Chapman-Smith, D. (2010). The chiropractic profession: Basic facts, independent evaluations, common questions. *Chiropract Rep*, 24, 1-8.
- Ernst, E. (2000). Prevalence of use of complementary/alternative medicine: A systematic review. *Bulletin of the World Health Organization*, 78(2), 252-257.
- Gülpınar, G. et al. (2023). A model of purchase intention of complementary and alternative medicines: the role of social media influencers' endorsements. *BMC Complementary Medicine and Therapies*, 23, 439, 1-17. <https://doi.org>.
- Koithan, M. (2009). Introducing complementary and alternative therapies. *The Journal for Nurse Practitioners*, 5(1), 18-20. <https://doi.org/10.1016/j.nurpra.2008.10.012>.
- Inglehart, R. (1977). The silent revolution: Changing values and political styles among Western publics. Princeton University Press.
- Inglehart, R. (1997). Modernization and postmodernization: Cultural, economic, and political change in 43 societies. Princeton University Press.
- Lefebvre, R., Peterson, D., & Haas, M. (2012). Evidence-based practice and chiropractic care. Evidence-based *Complementary and Alternative Medicine*, 28, 18(1), 75-79. <https://doi.org/10.1177/2156587212458435>.
- Y. Ng, J., Verhoeff, N., & Steen, J. (2023). What are the ways in which social media is used in the context of complementary and alternative medicine in the health and medical scholarly literature? a scoping review. *BMC Complementary Medicine and Therapies*, 23(32), 1-48. <https://doi.org/10.1186/s12906-023-03856-6>.
- Rogers, L., & Phillips, K. (2021). Energy healing therapies: A systematic review and critical appraisal. *Health Psychology Review*, 2(3), 162-170. <https://doi.org/10.13140/RG.2.2.28579.58408>.
- Schwartz, S. H., & Rubel, T. (2005). Sex differences in value priorities: Cross-cultural and multimethod studies. *Journal of Personality and Social Psychology*, 89(6), 1010-1028.
- Tang X., & Yang C. C. (2012). Ranking user influence in healthcare social media. *ACM Transactions on Intelligent Systems and Technology (TIST)*, 3(4), 73.
- Vitale, K., Mundar, R., Sović, S., Bergman-Marković, B., & Janev Holcer, N. (2014). Upotreba komplementarne i alternativne medicine kod pacijenata u obiteljskoj medicini — primjer grada Čakovca. *Acta medica Croatica*, 68(4-5), 345-350.
- Weinert, C., Nichols, E., & Shreffler-Grant, J. (2020). Be Wise: A complementary and alternative medicine health literacy skill-building programme. *Health Education Journal*, 80(3), 327-336. <https://doi.org/10.1177/0017896920974060>.
- WHO — World Health Organization (2019). WHO global report on traditional and complementary medicine 2019. WHO. ISBN 978-92-4-151543-6.

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The Institute of Social Sciences Ivo Pilar is a public scientific institution that was founded within the University of Zagreb on November 26th, 1991 by the decision of the University Assembly. Its areas and fields of scientific research are: a) social sciences (psychology, sociology, demography, education and rehabilitation sciences, political sciences, economics, information and communication sciences), b) humanities (history, theology, philosophy, ethnology and anthropology, religion science, philology) and c) interdisciplinary scientific areas (cognitive sciences, geography, gender studies). The Institute's head office is in Zagreb, but the Institute also has 8 regional centres (Pula, Gospić, Split, Dubrovnik, Varaždin, Osijek, Vukovar and Vis). Ivo Pilar Institute has so far taken part in more than 400 research projects, of which 150 international projects, financed under the EU framework programmes (6th, 7th, Horizon2020, Horizon Europe), UNICEF, ERSTE Foundation etc. Since its foundation the Institute has published more than 150 books, as well as 168 issues of the journal "Društvena istraživanja" that publishes works from various social and humanistic disciplines. The journal is published four times a year and supports open access.

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