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# Tourism sustainability model for a world heritage destination: the case of residents' perception of Ohrid

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**Abstract**

World Heritage (WH) status is anticipated to promote sustainable development by protecting the destination's outstanding natural and cultural resources, generating economic advantages, attracting visitors, and improving the quality of life for its residents. Putting the economic advantages and values first has a critical effect on the Outstanding Universal Value (OUV), which negatively impacts the destination's sustainability, such as quality of life. This study proposes a sustainability model based on UNESCO OUV to evaluate tourism's role in a WH destination's residents' perception of quality of life. The model was tested on a WH destination Ohrid (North Macedonia). The findings revealed that tourism has a beneficial economic impact while also having a negative influence on the OUV ecological environment and residents' perception of quality of life. The discussion takes place in UNESCO's considerations to add Ohrid to the list of WH in Danger due to unsustainable tourism development. The findings encourage destination managers to take responsibility for the OUV resources and to take the necessary actions to improve tourism sustainability. The model can be easily adapted and applied to any WH destination.

**Keywords:** Tourism development; Residents' quality of life; Tourism impacts; World heritage status.

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## 1. Introduction

Some World Heritage (WH) sites become well-known tourist destinations because of the outstanding quality and attractiveness of their natural or cultural and social heritage. Some attract thousands of visitors every day, putting risk of endangering the sustainability of natural and socio-cultural resources for economic interests. In the context of welfare and quality of life (QOL) centred sustainability paradigm, tourism strategies and plans frequently focus on the implications of tourism on the three pillars of sustainability: economic, natural, and socio-cultural (UN n.d.). The ideological and socio-political nexus between the diverse values and interests of economic and the other two sustainability pillars, on the other hand, leads to unsustainable tourism development, in which economic growth and interests overrun ecological ones, and tourism has a negative impact on residents' QOL (Mihalič, 2020).

The UNESCO concept of WH Outstanding Universal Value (OUV) encompasses two principles. First, it refers to cultural and/or natural [ecological] properties of exceptional significance and importance to present and future generations of humanity. Second, the UNESCO WH brand requires permanent stewardship and management to protect and preserve them for the international community as a whole (UNESCO, 1972). This requirement recognises the responsibility to act and implement present and future development in a sustainable manner (Fresneda-Fuentes, De Fuentes-Ruiz, and Lobo-Gallardo, 2022; Goodwin, 2011; UNWTO, 2012; Mihalič, 2016).

UNESCO, on the other hand, lacks particular models for sustainable management for WH tourism destinations (Gullino, Becarro, and Larcher, 2015), making sustainable development difficult to be implemented in practice (Meskell, 2013). So, WH destinations are experiencing various negative tourism impacts on their OUV resources as a result of economic interests that promote fast tourism expansion in time and place. This necessitates the development and implementation of responsible destination management plans in order to maintain a site's relevance and long-term viability and sustainability. Irresponsible behaviour and a failure to follow UNESCO's recommendations and guidelines for preserving and protecting OUV resources frequently endanger and destroy their uniqueness and authenticity, important for humanity. Furthermore, residents' quality of life (QOL) is neglected since they are stopped from enjoying the destination's OUV.

Residents' perceptions of tourism impact when living in a WH tourism destination have been the subject of many studies. Scholars and practitioners generally broadly discuss the three sustainability pillars as separate factors, with no particular focus on OUV as an integrative ecological factor of various values and needs as an economic pillar and quality of life-centred sustainability for residents (Cui and Ryan, 2011; Jaafar, Rasoolimanesh, and Ismail, 2015; Jimura, 2011; Látková and Vogt, 2012; Rasoolimanesh and Jaafar, 2017; Rasoolimanesh *et al.*, 2017; Sharpley, 2014; Su and Wall, 2014, 2015). The objective of this paper is to suggest a conceptual model for evaluating the role of tourism and its responsibility for the quality of life in a WH destination, as perceived by its residents. To this end, we recommend a reframed UNESCO OUV-based sustainability model that distinguishes between the negative impact of tourism on the sustainability of the ecological environment (OUV) and the positive impact on economic environment. Generally, sustainable-responsible tourism (SRT) models follow the three-pillar concept (economic, sociocultural, and natural impacts) along with including strategic leadership, effective governance, and efficient implementation (Mihalič, 2016; Mohamadi *et al.*, 2022; Ramkissoon, 2020). The suggested model follows the UNESCO WH understanding and terminology and incorporates the WH status benefits (Galland *et al.*, 2016), since they impact the perception of QOL of residents of a WH destination; and bring the heritage sustainable management to the fore Along with insights from the sustainable tourism paradigm and tourism impacts, this research addresses the real-world problem of WH sites. The case of Ohrid, a WH site in North Macedonia, is chosen since many concerns are seen as

urgent in addressing risks to the site's long-term viability. In fact, UNESCO is strongly considering adding this site to the List of WH in Danger (UNESCO, 2019a).

This paper proposes the OUV model for the WH site. It recognises that the responsibility for the present and future existence of the OUV for humanity lies with the local environmental management plan. It also recognises the rights of local residents to sustainable development to balance their economic and ecological needs and rights. The quality of life of local residents is affected by the asymmetries between their (economic) needs, motives, and the interests of the limited and fragile capacities of natural and cultural resources that make up the OUV and have the status WH. The model aims to provide information for the management plan that can prevent the WH site from being classified as an endangered WH. The paper begins with a review of sustainable and responsible tourism development and residents' perceptions, WH status and the concept of OUV. The case destination, data, and model are all presented in the methodology section. Finally, the results are discussed followed by conclusions and study limitations.

## 2. Literature Review

This study builds on the mainstream sustainable development paradigm (WCED, 1987) approach to meeting human needs. Following the WCED approach, (WTO, 2005) sees sustainable tourism as balancing the needs of natural, social [ecological] and economic environment, addressing the needs of the industry, visitors, environment, and local residents. Critics highlight its narrow focus on balancing the impacts of tourism on only the three pillars of sustainability, namely economic, socio-cultural, and natural sustainability, along with strong voices critiquing the differing goals among the pillars (Bramwell *et al.*, 2017). The asymmetries in motives and interests of ecological and economic dimensions lead to weak responsibility and its ineffective implementation. Even before the overtourism crises, as well as before the COVID-19 pandemic, many calls were placed for sustainable usage of the world's resources (Myers, 2017; Whitmee *et al.*, 2015), and particularly after the tourism management have been faced with both phenomena, they must align with the goals defined in the 2030 Agenda for sustainable development (Gössling *et al.*, 2020; Nekmahmud, Farkas, and Hassan, 2020). New approaches to increase sustainability's efficacy have been investigated, and tourism responsibility has been recommended as a catalyst for implementing sustainability (Goodwin, 2011; UNWTO, 2012, Mihalič, 2016). Here, responsibility calls for sustainability in action and, among others, opens the importance of the quality of life of residents on the account of tourism presence and development in the destination (Mihalič, 2020; Niewiadomski, 2020; Uysal, Berbekova, and Kim, 2020). This requires an interdisciplinary and multidisciplinary approach to address a coherent and integrated framework to revive and safeguard the tourism industry (Hall, Scott, and Gössling, 2020; Gössling, Scott, and Hall, 2020; Ramkissoon, 2020a, 2020b; Wen *et al.*, 2021). Many scholars urge for reconsidering current sustainability development goals with new aspects of quality of life and engaging healthy behaviors and allowing stakeholders to be prepared for more a responsible and more sustainable tourism industry (Pan and Zhang, 2020; Ramkissoon, 2020a; Romagosa, 2020). Mihalič (2016, 2022) suggests expanding the WTO's (2005) understanding of sustainable tourism by suggesting redefining sustainable tourism as "quality of life centered tourism that balances its current and future economic and ecological impacts…" (Table 1). However, sustainable tourism itself has two dimensions: the sustainability concept which refers to "what should be sustained"; and the responsibility concept which refers to "what do we do" or "how do we make tourism sustainable" (McCool, Moisey, and Nickerson, 2001).

**Table 1.** *Sustainable tourism dimensions, based on SRT thinking*

| Level I | Level II |
|---|---|
| 1 | 2 |
| Economic and ecological capacities | Economic pillar<br>Environmental (natural) pillar<br>Socio-cultural pillar |
| Socio-psychological capacities (Stakeholder's capacities) | Residents' quality of life<br>Industry's quality of opportunities<br>Visitors' quality of experience |
| Socio-political capacities | Sustainable tourism Awareness<br>Agenda<br>Actions |

Source: Mihalič (2022).

Promoting and balancing the nexus and asymmetries between the economic and ecological environments are core objectives embedded in standardized indicators packed by the European Union (European Commission, 2016) as the European Tourism Indicators System (ETIS) aiming to promote economic prosperity, social equity, cohesion, and environmental protection. Besides numerous difficulties and challenges (Font *et al*., 2021; McLoughlin, Hanrahan, and Duddy, 2020; Modica *et al*., 2018; Tudorache *et al*., 2017), such a unitary system enables tourism destinations to guide their sustainable management. The application of ETIS particularly aims at improving the sustainability management of destinations (McLoughlin *et al*., 2018) and a smooth policy approach in developing indicator system for tourism destinations (Foroni, Modica, and Zenga, 2019). This knowledge is particularly relevant for policymakers due to the increased importance of the sustainability process and the necessity to timely inform destination governance on managing, informing, and monitoring the sustainability performance. Through the application of ETIS as an easy, cost-effective, and viable solution, authorities can develop appropriate policy based on an evidence-informed approach to tourism planning (Maguire and McLoughlin, 2019; McLoughlin *et al*., 2018; McLoughlin, Hanrahan, and Duddy, 2020). Moreover, the main objective of the ETIS is to create a thorough monitoring system for tourism in Europe with the aim of preserving Europe's standing as the world's top tourist destination (European Commission, 2010).

Residents' attitudes to tourism impacts (Aerts *et al*., 2018; Charag, Fazili, and Bashir, 2020; Gannon, Rasoolimanesh, and Taheri, 2021; Henry, 2018; Hernández and Mercader, 2015; Sharpley, 2014; Su and Wall, 2017; Suess *et al*., 2020; Ribeiro *et al*., 2017) and living in a WH tourism destination have been studied extensively (Jimura, 2011; Nunkoo and Ramkissoon, 2010; Rasoolimanesh *et al*., 2017).

Furthermore, residents' QOL is vastly researched across various disciplines, and in tourism studies as well (Cecil *et al*., 2010; Croes, Ridderstaat, and van Niekerk, 2018; Michalkó, Bakucz, and Rátz, 2013; Sirgy, Uysal and Kruger, 2017; Uysal, Berbekova, and Kim, 2020). A variety of theories and concepts are used, including social exchange theory and stakeholders theory (Garau-Vadell, Gutiérrez-Taño, and Díaz-Armas, 2019; Long and Kayat, 2011; Šegota, Mihalič, and Kuščer, 2017), dependency theory (Lepp, 2008), tourism responsibility enablers (Mihalič, 2020; Petrevska, Terzić, and Andreeski, 2020), and others. Furthermore, although the results from tourism practice do not confirm universal validity or efficacy, sustainability performance has been linked to QOL (Andereck and Nyaupane, 2011; Jeon, Kang, and Desmarais, 2016). QOL has been considered as human welfare or well-being 'measured by social indicators' (UN, 1997, 61), and is concerned with understanding people's perceived satisfaction with the

circumstances in which they live (Moscardo, 2009). As a result, residents' perception of tourism presence and development has become a stream of sustainable tourism research (García, Vázquez, and Macías, 2015; Nunkoo and Ramkissoon, 2010; Sharpley, 2014), penetrating the sustainability paradigm widely (UN n.d.; Mihalič, 2020).

No consensus has been reached on the impact of WH designation on a destination (Gao and Su, 2019; Mariani and Guizzardi, 2020; Patuelli, Mussoni, and Canadelaa, 2012), with some researchers claiming strong benefits, others claiming positive but insignificant impacts, and yet others arguing for the overall negative features. Benefits are perceived when being labeled as having outstanding heritage wealth and producing reputational attributes such as prestige and symbolic value (Reyes, 2014) and the pride to preserve cultural identity (Jaafar, Rasoolimanesh, and Ismail, 2015), which allows the WH status to be communicated to a global audience (Schmutz and Elliott, 2016). WH status is used in promoting a destination as a premium brand (Buckley, 2004), providing it extra value (Patuelli, Mussoni, and Canadelaa, 2012). This leads to increased visitation (Dans and González, 2019; Kwiatek-Soltys and Bajgier-Kowalska, 2019), which supports economic values and motives, as well as over-exploitation and degradation of ecological natural or socio-cultural heritage resources (Li, Wu, and Cai, 2008; Su and Lin, 2014).

While some researchers claim that WH designation leads to better ecological OUV protection and preservation (Hazen, 2008; Jimura, 2011), others maintain that there is no clear positive impact (Cellini, 2011). Thus, increasing the number of visitors while also attempting to safeguard OUV might prove to be a double-edged sword in the future (Bandarin, 2005). Despite UNESCO's aim to sustain the OUV of the destination through its designation (UNESCO, 1972), governments in WH tourism destinations often focus more on the economic value and growth designation brings. Many argue that money inflow, employment creation, and local business prosperity are all economic benefits for the host destination (Choi and Sirakaya, 2005; Dyer *et al.*, 2007; Kim *et al.*, 2018; Li, Wu, and Cai 2008). Others, however, argue that designation does not attract more tourists (Poria, Reichel, and Cohen, 2011), since a unique tourism destination already has a relatively large number of visitors (Hazen, 2008). The lack of clarity about the potential benefits of WH listing might suggest that there is more to lose than gain (Van der Aa, Groote, and Huigen, 2004).

Beyond consensus on the need of protecting OUV resources, determining how to validate OUV has taken some time. OUV's meaning has evolved throughout time due to the lack of an explicit definition (Cleere, 1996; Labadi, 2013). OUV refers to a collection of ideas or values that emerge via socio-cultural processes, learning, and consciousness maturation, and that are generally recognized as internationally important and not limited to the local community (Jokilehto, 2008). Thus, it refers to an extraordinary combination of the unique and the representative. To be classified as a WH property, a site must meet at least one of UNESCO's 10 criteria, as well as the standards of authenticity and integrity; in other words, the site must have OUV (Jokilehto, 2008). Authenticity, as a fundamental concept and criterion for conservation, may assist to maintain a sense of balance within a shared set of values (Hassan and Ekiz, 2021; Katahenggam, 2019; Rey Pérez and González Martínez, 2018). Many scholars remark that the real process of articulating and validating OUV reveals diverse interpretations and concerns about perceived imbalances in order to turn its abstract form into tangible practice (Cleere, 1996; Gao and Su, 2019; Labadi, 2013; Schmutz and Elliott, 2016).

The idea of sustainability has progressively been brought to the global heritage community since the early 2000s (Barthel-Bouchier, 2013), which has added scientific discourse and become an institutional component of the procedures for evaluating cultural assets (Schmutz and Elliott, 2016). The focus

changed from aesthetic and architectural value to the more objective sustainability of resources dimension (Labadi, 2013). As a result, OUV has acquired enhanced scientific verification and long-term standardisation through an interpretative framework that allows for a better understanding of social and natural resources (Drori, Meyer, and Ramirez, 2003). Despite UNESCO's efforts to reconcile the protection management of WH with the development of sustainable tourism, there remain challenges in balancing the socio-cultural and natural implications of the WH label with sustainable tourism that benefits local communities. However, UNESCO strives to embrace sustainability and WH-based tourism on the one hand, while identifying tourism impacts as threats to WH OUV resources on the other (Labadi, 2013; Schmutz and Elliott, 2016).

It is nevertheless true that additional requirements must be completed to build a tourism destination using the WH brand (Kennell and Powell, 2021). Effective governance and management of diverse sets of stakeholders is a prerequisite for the development of sustainable tourism (Liburd and Becken, 2017; Rasoolimanesh and Jaafar, 2017; Su *et al.*, 2017, Mihalič, 2020). Fostering responsible tourism development and ensuring the long-term viability of the WH destination by implementing active tourism policies is crucial for future-oriented site management (Bernardo and Pereiro, 2020; Garbelli, Adukaite, and Cantoni, 2017). Responsibility, when properly addressed can contribute to improvement in the QOL locally (Eraqi, 2014), but simultaneously involve public and private sectors as well as internal and external stakeholders that follow the principles of sustainability (Getz, 2009; Spenceley, 2008).

## 3. Methods

### *3.1. Study site - Ohrid*

Ohrid has a population of more than 52,000 inhabitants. It is the most well-known tourist destination in North Macedonia and accounts for over a third of all tourist arrivals (322,573 tourist nights spent) and overnights (1,101,563 nights spent) in 2019 (State Statistical Office of the Republic of North Macedonia, 2020). It has an outstanding combination of natural geographic and human action, generating a rare harmony and making the region truly unique (UNESCO, 2019a, 221). The Lake Ohrid region is a transboundary mixed WH property that was originally inscribed in 1979 for Lake Ohrid's natural outstanding value and in 1980 for its cultural and historical area. It is now one of only 11 mixed WH sites in Europe and 39 of 1,121 mixed WH properties in the world (UNESCO, 2019b).

The number of tourists significantly outnumbers the number of locals during the high season (July–September) (Petrevska and Collins-Kreiner, 2017). As a result, Ohrid has reached a critical point for the region's physical and social carrying capabilities (UNESCO, 2019a). This has 'seriously altered the original balance in the region' (UNESCO, 1998, 36), leading to traffic congestion, coastal exploitation, insufficient waste management, natural resource depletion, and so on (Petrevska and Collins-Kreiner, 2019).

From UNESCO's standard list of factors related to the socio-cultural and natural environment (UNESCO, 2008), many pertain to the OUV in Ohrid (Table 2). To our knowledge, no study has previously measured residents' perception of tourism impacts and QOL sustainability in Ohrid.

**Table 2.** *List of primary and secondary factors that affect the OUV of Ohrid*

| No. | Primary factor | Secondary factor |
|---|---|---|
| 1 | Buildings and development | ▪ Housing<br>▪ Major visitor accommodation and associated infrastructure<br>▪ Interpretative and visitation facilities |
| 2 | Transportation infrastructure | ▪ Ground transport infrastructure<br>▪ Effects arising from use of transportation infrastructure |
| 3 | Pollution | ▪ All types of pollution (residential or commercial) |
| 4 | Local conditions affecting physical fabric | ▪ Environmental factors that promote or contribute to the deterioration of the fabric |
| 5 | Socio-cultural issues of heritage | ▪ Impacts of tourism/visitor/recreation<br>▪ Identity, social cohesion, changes in local population and community |
| 6 | Other human activities | ▪ Illegal activities (illegal occupation of space, illegal construction, theft) |

Source: Adopted from Veillion (2014, p. 9-10).

All mission reports revealed that multiple threatening factors, such as ground transportation infrastructure, housing, tourism impacts, major visitor accommodation, and management systems, have been continuously present for five years in Ohrid (UNESCO, 2014, 2016, 2019a). It was urgently requested to 'put a moratorium on any urban and coastal transformation, demolish illegal construction, and prevent further illegal construction to avoid possible inclusion on the List of WH in Danger' (UNESCO, 2019a, 225). So, Ohrid is a suitable case study, as the site fails to conserve its excellent resources in the way that UNESCO expects. Here, 'the second most encountered threat relates to the negative impact of tourism/visitor/recreation along with one-third considered affected' (Veillion, 2014, 68). Thus far, 53 sites are included in the List of WH in Danger: 36 cultural, 17 natural, and 0 mixed sites (UNESCO, 2019c).

*3.2. Research construct*

A multi-stage methodology was used for the study. In the first phase, a qualitative method was used, which included a thorough review of the literature and introduced the sustainable development model. In the second stage, a scientific research approach (Martin, 2010) was used to apply the theoretical SRT model for sustainable tourism. The environmental and socio-cultural impacts are captured by the damage to the OUV, the economic impacts are captured by the economic benefits, the socio-psychological capacity of the destination is captured by the quality of life of the residents, and the socio-political capacity is captured as the capacity of the destination in relation to the WH status. In this way, scientific and practical findings are integrated. (Table 3 and Figure 1).

**Table 3.** *The WH Ohrid model elements from SRT*

| Sustainability and responsibility | Dimensions | Model elements |
|---|---|---|
| Sustainability (impacts) | Ecological | OUV damage |
| | Economic | Economic benefits |
| Responsibility (implementation) | Residents | QOL |
| | Destination | WH status |

Source: Adapted from Table 1.

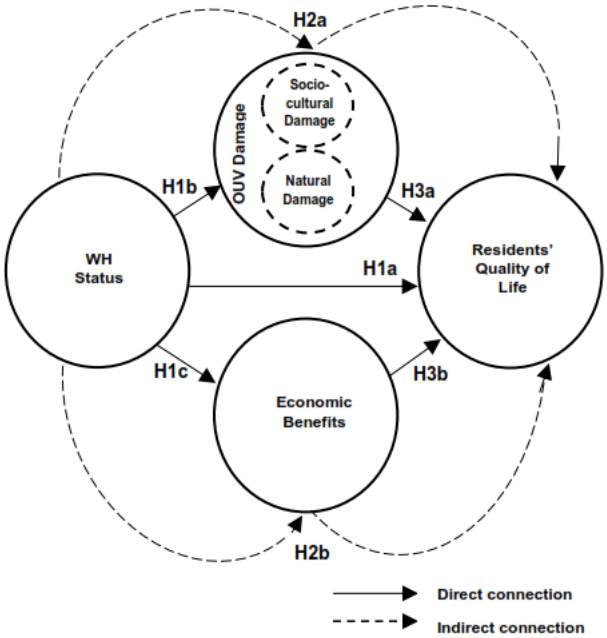



**Figure 1.** *Theoretical model*

Three primary hypotheses (H) were developed, each assuming direct, indirect, and mediating effects. First, H1, which considers the three variables' direct effects, claims that WH status has direct effects on residents' QOL (H1a), on OUV damage (H1b), and on economic benefits (H1c). Second, H2 focuses on the indirect effects on residents' QOL through the impacts of the OUV damage (H2a) and through economic benefits (H2b). Third, H3, which focuses on mediating effects, contends that OUV damage mediates the impacts of WH status and residents' QOL (H3a), and economic benefits mediate the impacts of WH status and residents' QOL (H3b).

*3.3. Data collection procedure*

In the third research stage, data were collected using a survey. A questionnaire was developed following ETIS indicators (European Commission, 2016) and the standard list of OUV factors affecting a WH property (14 primary and 82 secondary factors, as in UNESCO 2008). This was further refined and only 6 primary and 10 secondary factors were extracted (Table 2) representing the threats related to Ohrid's OUV. Two university professors and two tourism practitioners verified the questionnaire's validity, completeness, and readability. This allows for the detection of omissions as well as the reduction of surveying time. Finally, the questionnaire included all of the essential statements needed to assess residents' perceptions of the QOL's sustainability in a WH tourism destination.

In January 2020, 630 individuals residing in various areas across Ohrid were interviewed face to face in a random sequence. The non-forced method was used to allow respondents make provide detailed and accurate evaluations of each factor on a five-point Likert scale (1=strongly disagree; 5=strongly agree) (Stylidis *et al.*, 2014).

Table 4 presents the personal data of respondents. The sample is fully representative of the Ohrid population by gender ($\chi^2$=1.87344, df=1, p>0.01) and age ($\chi^2$=10.40174, df=5, p>0.01).

**Table 4.** *Descriptive statistics of the sample (n=630)*

| Personal data | % | Personal data | % |
|---|---|---|---|
| *Gender* | | *Monthly income* | |
| Male | 55.2 | < 500 EUR | 83.3 |
| Female | 44.8 | 501-1,000 EUR | |
| | | > 1,000 EUR | |
| *Education* | | *Place of living* | |
| Elementary | 7.3 | In the old city | 6.7 |
| Secondary | 44.1 | In the city center (up to 1km) | 20.8 |
| Faculty | 48.6 | Faraway for city center (more than 1 km) | 41.7 |
| | | In the suburb/village near to Ohrid | 30.8 |
| *Category* | | *Tourism dependence* | |
| Full time employment | 55.4 | He/she or correspondent of his/her family members receive direct financial (or other) benefits because of tourism | 32.2 |
| Part time employment | 8.9 | | |
| Student | 10.3 | He/she or correspondent of his/her family members receive indirect financial (or other) benefits because of tourism | 11.6 |
| Unemployed | 13.8 | | |
| Retired | 11.6 | Not related to tourism | 56.2 |

In addition, exploratory factor analysis was undertaken in SPSS, as well as Promax rotation, to account for any factor connection. AMOS software was used to do structural equation modelling (SEM). All items in the interview questionnaire were evaluated based on residents' perceptions. The term OUV refers to both socio-cultural and natural tourism impacts important for WH properties (Jokilehto, 2008; Roders and van Oers, 2010). The statements fitting the model referring to OUV were all phrased to have a negative connotation so that the factor protection and preservation of OUV resources was indicated by agreeing with the statements on 'OUV damage'. In addition, the term economic benefits referred to residents' perception of tourism, which was measured by positive statements about how tourism contributes to QOL as a source of income (Andereck and Nyaupane, 2011; Choi and Sirakaya, 2005) and by creating local business opportunities (Dyer *et al.*, 2007). The term QOL was defined as an aggregate of residents' overall perception of well-being (Jeon, Kang, and Desmarais, 2016; UN, 1997) and contentment with living conditions in the destination (Moscardo, 2009), demonstrating the effectiveness of WH status. The term WH status covers the three positive variables on the honour/prestige of living in a WH destination, promotion of the host country, and the economic benefit of having this UNESCO status (Galland *et al.*, 2016). Note that the variable for the economic benefit of the WH status differs from the economic benefit factor in the proposed model. The latter is about economic impacts, while the variable for the economic benefit of the WH status refers to financial support for heritage protection and conservation (Jimura, 2011), development strategy, and international cooperation (Van der Aa, Groote, and Huigen, 2004), which are not included among the variables for the economic benefits factor.

## 4. Results

The initial factor analysis revealed seven factors for each of the 36 items. However, 21 items were eliminated later in the modelling stage, and several linkages were removed based on low inter-item and item-to-total correlations on the one hand, and excessively strong correlations with variables from other factors on the other (Hair *et al.*, 2010). As a result, a four-factor model was developed. Table 5 presents the measurement variables in the form of a statement. Only variables with a sufficient level of internal consistency are shown. The items were all statistically significant at the 1% level, according to the research. Cronbach's alpha was 0.693 overall, and Bartlett's test was highly significant ($p<0.05$), indicating that factor analysis was suitable. The squared multiple correlations calculated from Table 5 suggest good reliability. While one construct has a value that is less than the suggested threshold of 0.7,

the others have higher values. Finally, the SEM was built using 15 items that had no reverse coded variables.

**Table 5.** *Factor analysis results*

| Factors | Loading/ Cr Alpha | Mean | Std. Deviation | Std. Error Mean | t | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| F1: OUV DAMAGE | 0.573 | 3.29 | | | | |
| ***Socio-cultural damage*** | | | | | | |
| Q4: Increasing tourism leads to conflict. | 0.405 | 2.47 | 1.179 | 0.047 | 52.627 | 0.000 |
| Q5: Because of tourism, crime is on the rise. | 0.572 | 3.10 | 1.274 | 0.051 | 61.088 | 0.000 |
| Q9: Tourism increases illegal building construction. | 0.483 | 4.13 | 1.166 | 0.046 | 88.808 | 0.000 |
| Q10: Traffic problems arise because of tourism. | 0.563 | 3.83 | 1.155 | 0.046 | 83.146 | 0.000 |
| ***Natural damage*** | | | | | | |
| Q11: Tourists pollute Ohrid with solid waste. | 0.635 | 3.33 | 1.263 | 0.050 | 66.202 | 0.000 |
| Q13: Tourism is likely to destroy green areas. | 0.742 | 2.98 | 1.288 | 0.051 | 58.080 | 0.000 |
| Q17: Tourism endangers the endemic flora and fauna. | 0.584 | 2.86 | 1.414 | 0.056 | 50.771 | 0.000 |
| Q18: Increased water traffic endangers natural heritage. | 0.602 | 3.65 | 1.313 | 0.052 | 69.773 | 0.000 |
| F2: ECONOMIC BENEFITS | 0.553 | 4.16 | | | | |
| Q20: Tourism encourages the production and sales of local products. | 0.612 | 4.33 | 0.901 | 0.036 | 120.795 | 0.000 |
| Q25: Tourism brings benefits to other economic sectors. | 0.493 | 3.98 | 0.977 | 0.039 | 102.285 | 0.000 |
| F3: QOL | 0.676 | 3.90 | | | | |
| Q29: I am satisfied with living here. | 0.739 | 4.31 | 0.992 | 0.039 | 109.126 | 0.000 |
| Q30: QOL is high because of tourism. | 0.612 | 3.49 | 1.259 | 0.050 | 69.597 | 0.000 |
| F4: WH STATUS | 0.657 | 3.95 | | | | |
| Q33: I am proud to live in a UNESCO site. | 0.653 | 4.40 | 0.918 | 0.037 | 120.116 | 0.000 |
| Q34: Because of the UNESCO status, more tourists come. | 0.798 | 4.13 | 1.041 | 0.041 | 99.606 | 0.000 |
| Q36: UNESCO status benefits Ohrid economically. | 0.521 | 3.33 | 1.228 | 0.049 | 68.018 | 0.000 |

All measures support a good model fit (Table 6). The chi-square is significant, and compared with the sample size, the ratio $\chi^2/df$ has a value lower than 5. The Comparative fix index (CFI) and Incremental fit index (IFI) are above 0.9, Root mean square error of approximation (RMSEA) is slightly more than 0.05, and the Standardized root mean of residuals (SRMR) is less than 0.8.

**Table 6.** *Goodness-of-fit measures*

| $\chi^2$ | p | df | $\chi^2/df$ | CFI | IFI | RMSEA | SRMR |
|---|---|---|---|---|---|---|---|
| 275.1 | 0.000 | 81 | 3.4 | 0.918 | 0.919 | 0.062 | 0.0538 |

The predictors of the model components were pretty well described, ranging from 0.16 to 0.72. (Figure 2). The sole construct worth discussing is OUV damage, which has an explained variance of only 0.01. Its predictor is WH status. The path coefficient between these two constructs, on the other hand, is much higher than the significance threshold. The significance threshold for this path from WH status to OUV damage has been reached (0.05). However, the connection between OUV damage and QOL has a small value (0.10) but is nevertheless significant. On the other hand, the second construct, which links WH status to economic benefits, has a high significance (0.69), suggesting a strong direct correlation.

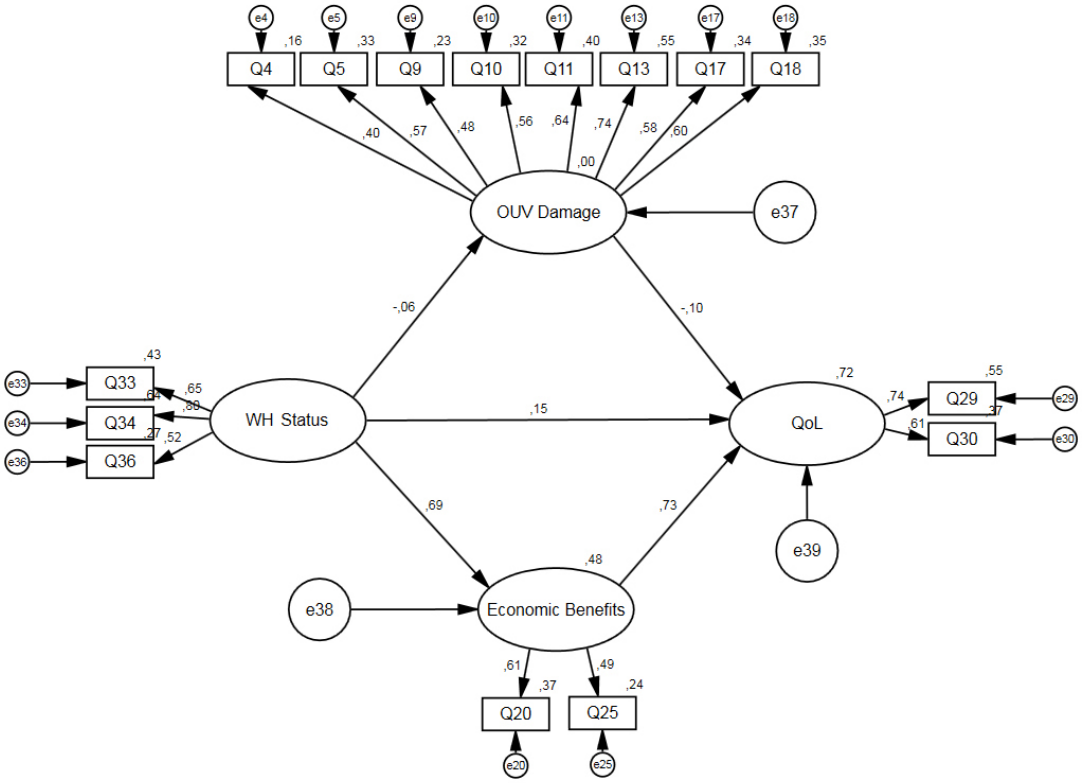
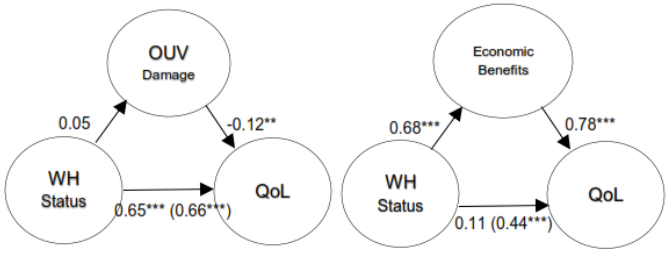



**Figure 2.** *SEM results*

The mediator roles of OUV damage and economic benefits were tested to look at indirect impacts (Figure 3). There are extremely minor correlations between WH status and OUV damage, as well as OUV damage and QOL. As a result, adding OUV damage as a factor between WH status and QOL does not diminish the importance of the direct relationship between the two. As such, we cannot claim that OUV damage can act as a mediator. Conversely, WH status has an impact on both economic benefits and QOL. When the mediator was included, the value of the direct relationship between WH status and QOL ($\gamma$=0.44, p<0.001) significantly decreased ($\gamma$=0.11). This indicates that economic benefits act as a strong mediator, fully mediating the relationship between WH status and QOL.




*Note*: **p<0.01; ***p<0.001. The number in parenthesis represents the load when the mediator is not present.

**Figure 3.** *Mediation effects*

## 5. Discussion

The study constructed a reframed UNESCO OUV-based and quality of life-centred sustainability four-factor model. Stimulated by the real danger of losing the WH status, the researchers centred the proposed model around tourism impacts on OUV. The wording "damage" was used to refer to the danger and emphasize the lack of efficient site management to prevent this danger. Thus, the factors were the OUV Damage (comprising of 'Socio-cultural damage' and 'Natural damage'), Economic benefits, QOL, and the WH status.

It was found that Ohrid residents perceived economic benefits as having the highest mean value (4.16), followed by the importance of WH status (3.95), QOL (3.90), and OUV damage (3.29). Possibly, the further development of tourism in Ohrid may result in even higher degradation of the historical heritage and natural resources on which the city obtained a WH certificate for OUV. This raises the issue of social sustainability particularly in the historic environment (Landorf, 2011).

Three direct and two indirect linkages were hypothesized when considering the influence of WH status on other factors. The first hypothesised direct relationship between WH status and QOL (H1a) was found to have a modest but significant value ($\beta$=0.15), indicating that Ohrid residents perceive a direct impact between these factors. For locals, living in a WH destination means increasing the perceived value of their QOL. Thus, despite an ever-increasing number of sites, the WH label continues to add value. Residents are very proud to live in a WH destination, which appears to have prestige and symbolic value, as well as pride in preserving cultural identity. Being a resident in a WH destination is seen as an honorific designation and a source of cultural pride in possessing something valuable. Therefore, the notion of a WH label is important to Ohrid residents and considered a worthy goal, thus impacting residents' perception of QOL.

Residents reported a substantial direct effect ($\beta$=0.69) between WH status and economic benefits, according to our findings (H1c). So, locals most value the economic benefits of tourism. This happens when the UNESCO logo draws more tourists and the destination earns more money, resulting in a "pull effect" that causes demand to rise steadily. Residents perceived a strong direct relationship between tourism as a significant source of revenue and supporting the local economy.

Furthermore, locals are more concerned with the WH designation than with its effective implementation. They are proud to reside in a city with a logo that provides surplus value, but only because it influences demand patterns in a favourable way. As a result, residents disregard and ignore the logo's fundamental goal, which is to protect and preserve the world's cultural and natural heritage.

H1b investigated the link between WH status and OUV damage. Negative features of the community, such as people's concerns about the socio-cultural and natural environment, are an important dimension. However, we were unable to confirm the negative impact of OUV damage on residents' perceptions of QOL in Ohrid ($\beta$=-0.06). This is not uncommon for destinations that are still in the early stage of tourism development (Látková and Vogt, 2012) or in poor rural WH areas (Rasoolimanesh and Jaafar, 2016). Ohrid, on the other hand, is in a stage of tourism maturity (Petrevska and Collins-Kreiner, 2019), but with poor economic development, as demonstrated by respondents' low average personal income.

Additionally, WH status indirectly impacts residents' perception of QOL through the impacts of OUV damage (H2a) and economic benefits (H2b). This was tested through the mediation effects (Figure 3) by assuming the third group of hypotheses. The findings revealed that locals regard economic benefits

as an extremely strong mediator that adds to their tourism-related perception of QOL and enhances the fabric of the local community (confirming H3b). However, because we were unable to prove the connection and confirm H3a, we cannot claim that OUV damage mediates between WH status and QOL.

Unlike numerous studies that show that WH designation improves OUV protection and preservation (Galland, *et al*., 2016; Hazen, 2008; Jimura, 2011; Van der Aa *et al*., 2004), we found that tourism growth has many negative socio-cultural and natural consequences in Ohrid. These negative effects included changes in the local community, conflicts, crime, illegal occupation of space and illegal construction, congestion, all types of pollutants, environment and ecosystem degradation, and erosion of the fabric of the heritage in socio-cultural and natural connotations.

## 6. Conclusion

The study suggests a model aligned with the theory and hypotheses. It recommends a reframed UNESCO OUV-based sustainability model to investigate overall tourism sustainability and responsibility for a WH tourism destination, measured through the QOL as perceived by its residents. The model was empirically tested in the case of Ohrid which is a popular WH tourism destination. Based on the theoretical and ideological nexus between the ecology and economy, the negative impacts of tourism on ecological resources and the positive impacts on economic resources have been surveyed in order to understand how sustainable and responsible tourism in the destination is. Here, sustainability has been measured by tourism contribution to the QOL of residents (UN n.d.), as they perceive it. The model analysed direct, indirect, and mediation effects.

Due to the negative impact on natural and socio-cultural resources, Ohrid tourism destination needs to strengthen its responsibility for sustainable development. It needs to improve the socio-political capacities of the destination in terms of awareness, agendas, and actions to make tourism more sustainable (Table 1). More specifically, Ohrid needs to improve destination management towards efficient governance, strategic leadership, and effective implementation, with all elements revolving around maintaining and sustaining the status brand WH and following its two principles. First, the fact that Ohrid's cultural and ecological values are of exceptional significance and importance for present and future generations of humanity are not only an (economic) opportunity but also a great responsibility for Ohrid's residents and policymakers/destination management. Secondly, the UNESCO WH status brings with it a responsibility to protect the OUV and is not just a visa for economic use, which is still high on the agenda of Ohrid residents and their needs. The real threat of Ohrid being placed on the endangered list of WH may assist to change the awareness and perception of residents and empower destination structures to put development on a more sustainable path. Measurement of resident perceptions must continue in order to monitor and consequently effectively manage and support such change.

As UNESCO has warned, heritage conservation programs are not being implemented effectively. This study has shown that there is a need to increase awareness of the need to protect the environment. It appears that residents are guided by rational financial (economic) needs rather than the humanistic values of non-material quality of life or trust, pride, and commitment to the outstanding OUV of universal value and global citizenship. This might explain why the effectiveness of OUV protection and preservation management is not that high on the social and political agenda, which may be preoccupied with economic development and growth. In this line, growing numbers of visitors would bring more financial flow and create more jobs for locals, but also more negative impacts on the destination's resources and more damage. UNESCO, in particular, will demand convincing strategic protection

management plans and effective implementation. In turn, this will have to lead towards balancing the clear vision on visitation capacities and controlling the growth in tourism visits.

Over time, residents' economic conditions will improve, and sustainability awareness, ethics, and responsibility will increase (Frey, 1992). Furthermore, residents and key tourism players in Ohrid will begin to shift their awareness and mindsets away from economic benefits and toward taking responsibility for all dimensions of sustainability. As such, tourism in Ohrid would be more sustainable, considering economic opportunities, socio-cultural and natural protection, as well as the needs of local residents and visitors. The more locals benefit economically from tourism, the more motivated they are to promote tourism and safeguard OUV resources (Boley *et al.*, 2014), which improves residents' perception of their quality of life. Thus, Ohrid must align the positive economic impacts of tourism and need to sustain its resources with the OUV. Otherwise, by ignoring UNESCO's warnings and failing to practice responsible tourism, Ohrid will face the risk that tourism may destroy the very thing tourists come to visit and that generates economic benefits. Becoming more protective, responsible, and promoting sustainability is very important for cooperating and supporting the re-opening of tourism based on sustainable grounds (Haryanto, 2020; Ramkissoon, Mavondo, and Sowamber 2020; Sigala, 2020).

The findings may support developing solutions to reshape the present tourism planning policy and improve management and governance efficacy for more sustainable and responsible tourism development from a policy perspective. A key challenge is to reconcile the preservation of the WH site and foster responsible tourism development (Garbelli, Adukaite and Cantoni, 2017). In the case of Ohrid, a WH brand itself is insufficient to drive transformation; as a result, tourism officials must enact policies aiming at economic benefits as well as OUV protection, since the city has already reached a critical point for severe destruction. UNESCO has previously noted that if OUV is destroyed, Ohrid may lose its WH label (UNESCO, 2019a). Thus, authorities should work actively and directly to improve the protection of OUV factors as the main requirement for developing and maintaining sustainable tourism in a WH destination. The idea is to create synergies for a more holistic range of values (Cameron, 2020). The study has few missing links that might be exploited in future research. The first limitation is that the focus was only on residents' perceptions, rather than that of other stakeholders. Residents are an important stakeholder in the tourism planning process, but the engagement of other tourism industry players is essential (Brouder, 2020; Higgins-Desbiolles, 2020). The government, local community planners, and practitioners may contribute to better QOL outcomes (Uysal, Berbekova, and Kim, 2020). Second, only Ohrid inhabitants were included; however, because the Ohrid region is a transboundary WH site, it may include residents of neighbouring communities along the shore of Lake Ohrid. Third, the study was carried out about six months before the peak tourist season prior to the COVID-19 pandemic. The challenges that COVID-19 brought to residents of a WH tourism destination may be additionally investigated along with new insights during the main season to see whether there are any changes in residents' perception. Fourth, the model may be enhanced with other aspects of sustainability, as technology, security, and even more direct links to tourism governance (i Gispert and Clavé, 2020) and responsible tourism (Bernardo and Pereiro, 2020). Finally, the future studies may address the importance of OUV protection for residents and policy actors. In order to ensure sustainable and responsible tourism development, all stakeholders (residents, industry, and visitors) from our theoretical framework on SRT (Mihalič, 2022) must achieve consensus and critical mass when determining the suitable and long-term carrying capacity of Ohrid, along with the social dimension of tourism carrying capacity (Stumpf *et al.*, 2022). Balancing the economic and OUV dimension in our model remains difficult. This is aligned with the criticism of Bramwell *et al.* (2017) on balancing three-

pillar sustainability, and future research might study and confirm the differing interests of OUV resources and economic benefits.

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