Article

# Demand conditions of physical experience-based tourism in an urban-centered wetland

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**Abstract:** The target area of the survey is the rehabilitated flat area behind the capital cities of Vienna and Bratislava, which lies in the tourist area of Győr. Wetlands provide a backdrop for tourism products such as kite flying, cycling and walking. The city centre offers tourists an easy sightseeing tour behind the natural scenery of the Danube tributary (Szigetköz). Objective: The demographic characteristics of demand and preferences for active tourism product types and the extent of the scope of supply were analyzed. The present research also analyses the cycling routes in the region with regard to the EUROVELO 6 road network. The primary research was a quantitative (questionnaire) survey conducted between 10 September 2023 and 30 October 2023. The survey sample of 666 respondents is not representative and was selected by random sampling. The results of the research include an analysis of the demand for participation in cycling tourism and tour programs as activities requiring activity. The findings of the research provide a basis for demand-supply segmentation of sustainable active tourism product development based on physical experience according to demographic characteristics (e.g. age, education). The landscape of the wetland can be positioned for the bicycle tourists. Especially for the target group of people over 40 and for people with higher education. The scope of the guided tours, linked to the central offer, extends over an area of more than 50 km. Activating the target group helps the rehabilitated natural scenery to connect to sustainable tourism.

**Keywords:** target groups, river Danube, walking tour, bike tour, water

## 1. Introduction

The value of freshwater has been increasing recently. According to research by Diaz-Christiansen et al. (2016) the tourism and wetlands have a complex and deep relationship. Do et al. (2015) their study demonstrates that visiting wetlands is becoming an increasingly popular form of ecotourism. The reaction of tourism to the offer of urban centered wetland is an important element of the research. The topic highlights which demographical groups are offered the different types of touristical programmes and it also offers the possibility to give information about the ecosystem of wetlands. This information helps the sustainable use of the urban centered wetlands. A lot of research's main topic is the tourists' connection to the natural environment regarding to the aspects of sustainability. According to research Incaltarau et al. (2024) the environmental commitment by the Cohesion Policy were shown to make rural areas more appealing. It is vital that the local residents and tourists should not generate global environmental problems and they should not damage the tourist attractions. The fragmentation of wetlands in urban areas has been identified by Hale et al. (2019) as one of the main problems, particularly with regard to urbanisation impacts. Consideration should be given in local urban developments to ensure that the marinas and recreation areas installed fit in with their surroundings, and to inform key target

groups about the importance of bird protection and nature conservation. Tourists must not disturb the main migration routes, the river fish habitat or destroy the flora. However, tourism development also involves the development of infrastructure that can put pressure on aquatic ecosystems Chin (2006) and alter the condition and location of wetlands around cities (Kentula et al., 2004). Carbon dioxide emissions, which in many cases are a negative by product of tourism transport, are one of the main causes of air pollution (Miao et al., 2019; Wu et al., 2019; Wang et al., 2021). We therefore investigated the demand side effects of cycling tour programmes. Considering the importance of wetlands as a whole in a period of global warming, these areas in small urban spaces are associated with a cooling effect of 2 degrees Celsius (Hathway and Sharples, 2012). The beneficiaries of the positive impact are precisely the local citizens and tourists, as long as they maintain the rehabilitated conditions. For the examination of tourists' attitude connecting to sustainability we must know how educated the future tourists are and what their demographic features are.

In connection with the above, some studies have focused on tours between tourist areas and destinations (Khadaroo and Seetanah, 2008; Prideaux, 2000), others have focused on mobility within a destination (Albalate and Bel, 2010). This research, similar to Pearce's (1987) analysis, combines these two orientations through city-centred regional walking tour programmes. A rehabilitated wetland whose natural values can only be preserved in a sustainable way. As suggested by Byrne and Wolch (2009), preferences for outdoor recreation may vary depending on demographic factors or cultural background and knowledge; therefore, the research focused on the analysis of these factors in relation to wetlands. Most studies focus on actual tourist flows (Gartner and Hunt, 1988; Zhong et al., 2011; Zheng et al., 2017). Expected trips are less well exploited. The aim of the research is to study the different age groups about their intention to visit the urban centered wetlands. Another goal is to see the touristical demand based on educational level and how much they can understand the sustainability aspects. The effect of the tour programs and their territory extension are also part of the research. These pieces of information are relevant for the planning of sustainable tourism. This research aims to investigate the demand conditions of physical experience-based tourism (active tourism) in a Hungarian tourism region (Győr-Pannonhalma tourism region).

The main questions look at the relationship between demographic factors of demand and the supply of activity. The further questions are the following:

- Would some target groups visit the Danube city-centre destinations?
- Is there a correlation between demographical aspects and intention to visit a wetland?

Gateway communities and their surrounding natural amenities such as parks and protected areas are now being referred to as gateway and natural amenity regions. These regions' communities are small towns that serve as "gateways" to adjacent state and national parks, outdoor recreation areas, and other public lands (Stoker et al., 2021). According to Formica and Uysal (2006); Kozak et al. (2008); Yoshimura and Hiura (2017), the literature on the relationship between the supply of specific outdoor recreation and tourism assets and the demand for outdoor recreation and tourism

opportunities has focused heavily on urban areas. Plenty of researches deal with the environmental situation of the wetlands and their territorial types based on tourism. The value of economic factors has been appreciated and so has been the effect of tourism in the environmentally sensitive territories. Ye et al. (2018) and Bertule et al. (2018) summarised the types of wetlands below: rivers, lakes and their flood plains, swamps, estuaries, peatlands, tidal flats, coral reefs, and mangroves, while constructed wetlands (CWs) include artificially constructed canals, drains, reservoirs, artificial lakes, fish and shrimp farming ponds, ponds, rice fields, and stormwater treatment sites. From the list above, the study area falls into the category of riverine wetlands. Recreational opportunities offered by wetlands include fishing, swimming, wildlife viewing and hiking (Moltner et al., 2009). In the case of Győr, the Danube river and its tributary, the Mosoni-Duna and its tributaries are the main backdrop. Győr, as the corner of the Vienna-Bratislava-Győr triangle, is also a gateway for physically experiential cycling, water and nature tourism. Several authors, including Kőmíves (2017, 2018), have explored the sustainable development of the Kisalföld region, specifically the areas of Szigetköz and Rábaköz, through the lens of gastronomy. It is a rehabilitated wetland whose natural values can only be preserved if sustainability aspects are taken into account (**Figure 1**). The Danube and its tributaries, the Moson-Danube (Rába, Rábca, Marcal), the backwaters and their surroundings are the natural backdrop for tourism in the area. The connected small area of Szigetköz, following the unilateral diversion of the Danube river in Slovakia in 1992, was rehabilitated, the tributaries were filled with life again, and the water banks of Győr were extended with flood protection (**Figure 2**). The Mosoni-Danube tributary, which also affects Győr, was back-flooded in 2022. The estuary at the junction of the Moson-Danube and the Danube in the municipality of Gönyü provides the town with a constant water level. As tourism gains momentum, there will not be mass traffic in this area, which is why it is advisable to continuously monitor and analyze demand. At the same time, care must be taken to control invasive species such as the beaver, which causes enormous damage to the bank and woody floodplain vegetation. The question is which target groups would visit this area the most and why. The demographic characteristics of demand and preferences for active tourism product types and the extent of the scope of supply were analyzed.
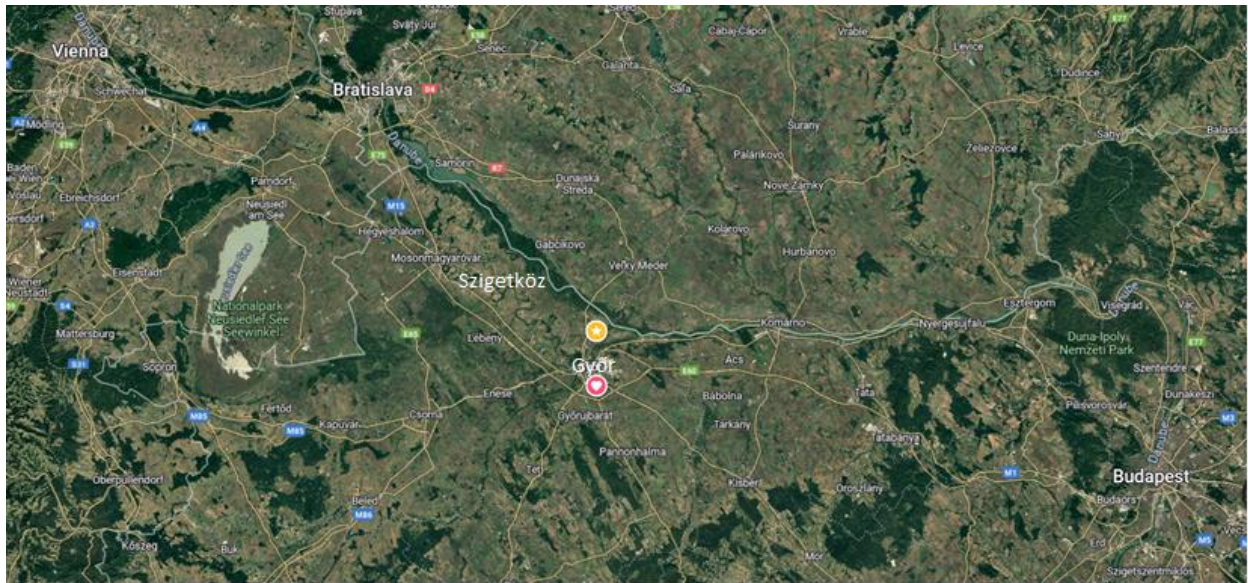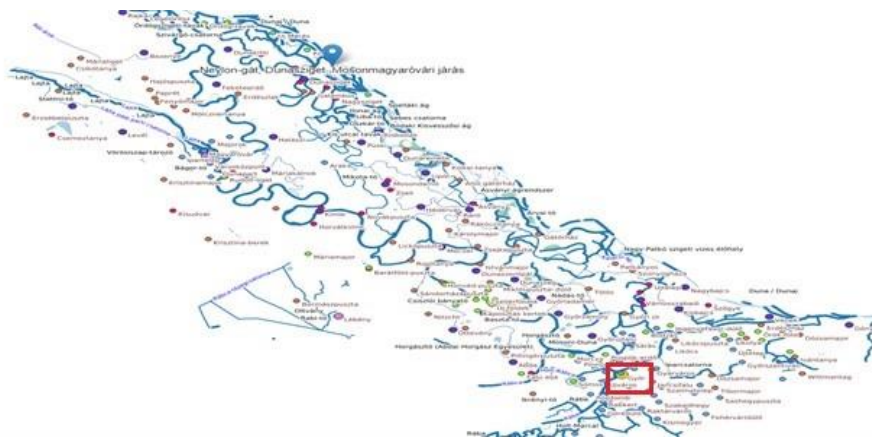
**Figure 1.** City of Győr and Szigetköz.
Source: https://www.google.com/maps.



**Figure 2.** The Wetland of Szigetköz.
Source: https://qgiscloud.com/mzsofy/szigetk_z_cloud/.

## 2. Literature review

Urban residents seek opportunities to connect with nature for recreation through urban parks, nearby forests, lakes, or other semi-natural areas as they provide possibilities to maintain a healthy work-life balance (Willibald et al., 2019). The tourism and recreational aspects of wetlands have also been addressed by some researchers (Odgaard et al., 2017). Activities of tourist can harm the environment, so the behavior of tourists is esspecially inportant in the research of tourism. (He et al., 2024). Egresi et al. (2021) studied the attitudes of the local society in connection with the development of wetlands in Sri Lanka. Their studies reinforce the importance of the analysis of wetlands regarding to the development of tourism.

Another benefit is that urban forests fed by riverine areas actively contribute to improving urban quality of life (Chen and Jim, 2008). There is therefore a need to raise awareness, which includes long-term perspectives such as the potential for recreational values in newly restored wetlands (Odgaard et al., 2017). Tourism utilization is associated with the involvement of adjacent areas (Szigetköz) in cycling tourism,

hiking tourism, fishing tourism, which are product types based on physical experience and transport according to (Zhang et al., 2023).

Some authors have analyzed the diversity of urban spaces, including re-creation. According to Savage et al. (2004), the greater the landscape texture (spaces dedicated to work, consumption, leisure and entertainment) in a city, the greater its potential to attract visitors and at the same time to attract the interest and attachment of the local population. This needs to be done in such a way that, depending on the location of the city, it can be a gateway landscape, preserving local spaces and ensuring that the biodiversity of habitats is not compromised. Additional urbanisation and spatial development reasons have been identified in relation to the increasing demand for recreational activities in natural and semi-natural environments (Schirpke et al., 2018). Therefore, it is also important to look at the interest in wetlands for urban-centred programmes, whether demand can be identified and how it can be segmented. Researchers have also proposed the creation of artificial green connecting corridors in metropolitan environments, which are available in the central urban agglomeration. They stressed the importance of preserving and sustainably using these corridors (Chen et al., 2019). Alikhani et al. (2021) drew attention to sustainability, biodiversity, urban heat insulation, social perception and recreational values. Ghoochani et al. (2020) focused on monitoring the performance of tourism development on sustainable tourism practices. The research focused on the connection of wetlands and tourism. Several studies have highlighted the role of transport networks and infrastructure in tourism (Abeyratne, 1993; Chew, 1987; Kaul, 1985; Khadaroo and Seetenah, 2007, 2008; Prideaux, 2000; Page and Lumsdon, 2004). In view of the EUROVELO 6 road network crossing the area, this research also analyses the cycling routes. Cycling gives way to affordable and sustainable transport, promoting healthy lifestyles (Cooper and Leahy, 2017; European Cyclists' Federation, 2021; Nanayakkara et al., 2022). In addition to its recreational impact, the importance of cycling tourism, which is also examined in this study, is that it supports the diffusion of local cycling culture (Ciascai et al., 2022; Chiu and Leng, 2017). Chen et al. (2019) investigated differences in recreation supply and demand for ecosystem services. Their research has identified areas where the two factors are in balance or in deficit. In urban spaces, such as in Shanghai, it has been shown that the larger and more densely populated urban areas have the largest deficits in recreational green spaces.

Other researchers have mentioned the importance of an umbrella product type, urban ecotourism, in addition to the tourism activities studied so far (Gibson et al., 2003; Green Tourism Association, 2006; Higham and Lück, 2002; Kastelein, 2004; Wu and Wang, 2007). Industries supported by outdoor recreation and tourism are now part of many of these communities' economies (Cave and Dredge, 2020; Hjerpe, 2018). Over the past decades, the demand for nature-based recreation has increased worldwide due to its positive impact on health (Schirpke et al., 2018; Scholte et al., 2018; Suárez et al., 2020). Physical activity in natural places is also linked to ecotourism. 'Ecotourism intention' refers to the tourist's plan to visit a designated environmentally friendly area in the near future (Pham and Khanh, 2021). Although outdoor activities boost prosperity, they also put pressure on natural ecosystems and can cause severe environmental impacts, such as soil erosion, habitat and biodiversity loss, and noise pollution (Buckley, 2004; McCullough et al., 2018). In some

ecotourism initiatives, community participation in ecotourism projects is more likely to be successful if local people are involved in the projects (Reimer and Walter, 2013). In order to make leisure traffic more sustainable in the future, it is vital to know what drives people's destination choice for outdoor recreation activities (Willibald et al., 2019). In the context of the above finding, it was examined whether there would be interest in city-centred tour programmes if they were complemented by local guided tours and information services. Zhang et al. (2023) had a hyphothesis that the Environmental knowledge (EK) positively influences residents' attitudes towards ecotourism (EA). Scientists suggest causal relationships between residents' environmental knowledge, ecotourism attitudes and participation intention in local tourism. This statement supports (Aipanjiguly et al., 2003; Hsu and Roth, 1996; Lai and Nepal, 2006) previous researches. Zhang's research studied the age of people but it didn't show significance over the year of 60 because of illiteracy. The objective of the hyphothesis is that in local circumstances correlation cannot be identified. There is no connection between the age and the participation in bicycle tours. The territorial extension of the tour programmes was not part of the research therefore the hypothesis has a complementary function.

H1: There is no detectable difference between age groups which visit Moson-Danube floodplain.

H2: People with secondary education are most interested in participating in wetland cycling tours.

H3: The attractiveness of city-centered guided tour programmes is of local importance.

## 3. Metodology

The present study is one of a series of questionnaire-based studies of tourists' movements and activities (Asero et al., 2016; Wang et al., 2012; Yang et al., 201;). Renowned tourism professionals edited the questionnaire and was not tested. The questionnaire was also produced in paper form, but people preferred electronic questionnaires. The Google forms were shared on social media platforms. The primary research was a quantitative (questionnaire) survey conducted between 10 September 2023 and 30 October 2023. The sample of 666 respondents is not representative and was selected by random sampling. Statistical processing of the data was performed using the SPSS 23 statistical software package, which includes descriptive statistical analyses, cross-tabulation analysis and ANOVA. Before the research the students of Széchenyi University had been asked to fill in a pilot questionaire.

The methods used are appropriate and reliable to answer the research question, since in crosstabulation analysis, it can examine the relationship between two or more variables, ordinal or nominal variables. This method is essentially nothing more than a frequency test for two non-metric variables. The most commonly used method is the Pearson's $x^2$ Chi-square statistic, which measures the level of significance of two variables; whether there is a statistical relationship between the two variables. The Chi-square is sensitive to the number of elements, as there is a linear relationship between the two, i.e. the result may be biased when the number of elements is small, as it does not indicate a relationship between the variables, but may show a significant

result as the number of elements increases. For nominal scales, the strength of the relationship can be assessed using, for example, Cramer-V or Lambda indices, while for ordinal scales, Kendall tau-b/c or Gamma can be used. In the study, I examined the effects of several independent variables (age group, education and villingness to tarvel) on a dependent variable, such as whether the respondent would participate in a cycling tour in the Szigetköz, visit the floodplain of the Danube, or how many kilometres they would be willing to walk to spend their free time actively (Sajtos–Mitev, 2007). Other dependent variables such as residence, education and occupation had no effect on the independent variables. The questionnaires were distributed through electronic channels on various online social media platforms between 01 September 2023 and 31 October 2023. The instrument comprised 28 questions, including 7 socio-demographic questions, 13 closed-ended questions, and 8 open-ended questions. The questionnaire was structured into three thematic blocks. The first block focused on gastronomic festivals and events within the region, exploring participants' frequency of attendance, decision-making processes, and the values associated with gastronomy. The second block addressed the gastronomic heritage of the county, while the third block centered on the region's tourist attractions. Open-ended questions probed respondents' preferences, such as ranking the active activities according to their importance for the participants, beginning with the most significant, which food or drink they would or would not be willing to try. The willingness of respondents to spend on food and beverages at gastronomic events was assessed using a 9-point scale across two questions, while a 7-point scale (one question) was employed to measure their willingness to travel to attend such events. Additionally, a 5-point Likert scale (seven questions) was used to evaluate respondents' knowledge of regional gastronomy, including how familiar they were with the foods of different regions and whether they were inclined to try local culinary offerings. In terms of willingness to travel, the minimum threshold was set at 10 km, with increments of 10 km across five levels, reaching a maximum of 51 km. For expenditure, assessed over nine levels, the lowest amount was 1000 HUF, while the highest exceeded 10,000 HUF. Responses were measured on 5-point Likert scales, where a score of 1 meant strongly disagree and a score of 5 meant strongly agree with the statement. The male population was represented by 32.6%, while the female population was represented by 67.4% of the total sample. Concerning age, the respondents were divided into three groups. Respondents belong to young Generation (16 to 39 years) represented 71.8% of the sample, middle aged (40 to 59 years) 24.2%, elderly over 60 years 4.0%. Regarding the level of residence, the largest number of respondents lived in urban (63.0%), followed by the group who lived in sub-urban (33.2%), followed by responders living in the Hungarian capital, Budapest (3.6%). The highest number of respondents were high school (44.3%), followed by Master's and Bachelor's degrees (24.9% included doctoral degrees) and elementary (18.1%). With regard to occupation highest proportion of white collar workers (21.1%), and at the lowest rate the hausewifes and child care allowance percentage of both 0.5%. **Table 1** below shows the socio-demographic data of the people included in the study. The data in **Table 1**. present descriptive statistics for the dependent variables included in the study.

**Table 1.** Demographics information.

| Dependent variable | Frequency | Percentages |
|---|---|---|
| **Gender** | | |
| Male | 209 | 32.6 |
| Female | 432 | 67.4 |
| **Age group** | | |
| Young adults (15 to 39 years) | 454 | 71.8 |
| Older adults (40 to 59 years) | 107 | 24.2 |
| Elderly (over 60 years) | 240 | 4.0 |
| **Residence** | | |
| Capital (Budapest) | 20 | 3.1 |
| Urban | 412 | 63.4 |
| Sub-urban | 209 | 32.6 |
| **Education attainment** | | |
| Higher education | 160 | 24.9 |
| Secondary | 384 | 57.0 |
| Elementary | 113 | 18.1 |
| **Occupation** | | |
| White collar worker | 135 | 21.1 |
| Blue collar worker | 76 | 11.9 |
| Leader | 31 | 4.9 |
| Entrepreneur | 41 | 6.4 |
| Retired | 15 | 2.3 |
| Students in college and high school | 327 | 51 |
| Child care allowance | 3 | 0.5 |
| Housewife | 3 | 0.5 |
| Unemployed | 8 | 1.3 |

## 4. Results

**H1: There is no detectable difference between age groups which visit Moson-Danube floodplain.**

This hypothesis was analyzed with ANOVA test (see **Tables 2–4**.). The Chi-squared is significant at 0.000, which means that H0 can be rejected as there is a detectable difference between the two variables. The average for those aged over 40 is higher (2.99) than for those under 40 (2.55). The hypothesis is therefore rejected.

**Table 2.** Descriptives.

| I visited Mosoni Danube foodplain | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between-Component Variance |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | | |
| Youngsters (under 40 years) | 490 | 2.55 | 0.857 | 0.039 | 2.47 | 2.63 | 1 | 4 | |
| Over 40 years | 171 | 2.99 | 0.786 | 0.060 | 2.88 | 3.11 | 1 | 4 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Total | 661 | 2.67 | 0.861 | 0.033 | 2.60 | 2.73 | 1 | 4 |

**Table 3.** ANOVA.

| I visited Mosoni Danube foodplain | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 24.892 | 1 | 24.892 | 35.336 | 0.000 |
| Within Groups | 464.219 | 659 | 0.704 | | |
| Total | 489.110 | 660 | | | |

**Table 4.** Chi-square test.

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 33.267[a] | 3 | 0.000 |
| Likelihood Ratio | 32.881 | 3 | 0.000 |
| Linear-by-Linear Association | 30.104 | 1 | 0.000 |
| N of Valid Cases | 666 | | |

**H2: People with secondary education are most interested in participating in wetland cycling tours.**

This hypothesis was analysed by cross-tabulation (**Table 5**). The data in (**Table 6**) show that the Chi-square is significant (0.019). The univariate analysis of variance (ANOVA) illustrates the averages of people with different levels of education. People with higher education have the highest average (2.91), i.e. they are the most likely to participate in cycling tours in the Szigetköz, followed by people with secondary education (2.77), and the least likely to participate in this activity are people with primary education (see **Table 7**). The hypothesis is therefore rejected.

**Table 5.** Cross-tabulation (cycling in Szigetköz and education).

| Go cycling in Szigetköz | | Education | | | Total |
|---|---|---|---|---|---|
| | | Higher education | Secondary | Primer | |
| I would not go | Count | 15 | 41 | 12 | 68 |
| | % within Cycle in Szigetköz | 22.1% | 60.3% | 17.6% | 100.0% |
| Maybe I'd go | Count | 26 | 86 | 28 | 140 |
| | % within Cycle in Szigetköz | 18.6% | 61.4% | 20.0% | 100.0% |
| I would go attend it once | Count | 56 | 205 | 56 | 317 |
| | % within To cycle in Szigetköz | 17.7% | 64.7% | 17.7% | 100.0% |
| If I could I'd attend it every time | Count | 46 | 78 | 17 | 141 |
| | % within To cycle in Szigetköz | 32.6% | 55.3% | 12.1% | 100.0% |
| Total | Count | 143 | 410 | 113 | 666 |
| | % within To cycle in Szigetköz | 21.5% | 61.6% | 17.0% | 100.0% |

**Table 6.** ANOVA.

| Go cycling in Szigetköz | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 8.765 | 2 | 4.383 | 5.622 | 0.004 |
| Within Groups | 516.870 | 663 | 0.780 | | |
| Total | 525.635 | 665 | | | |

**Table 7.** Descriptives.

| Go cycling in Szigetköz | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between- Component Variance |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | | |
| Higher | 156 | 2.91 | 0.939 | 0.075 | 2.76 | 3.06 | 1 | 4 | |
| Secondary | 507 | 2.77 | 0.866 | 0.038 | 2.70 | 2.85 | 1 | 4 | |
| Elementary | 3 | 1.33 | 0.577 | 0.333 | −0.10 | 2.77 | 1 | 2 | |
| Total | 666 | 2.80 | 0.889 | 0.034 | 2.73 | 2.86 | 1 | 4 | |

## H3: The attractiveness of city-centred guided tour programmes is of local importance.

This hypothesis was also tested by cross-tabulation analysis (see **Table 8**). Since Chi-square **Table 11** is significant (0.003) under 2-sided significance analysis, this means that there is a detectable difference between the two items tested (**Table 9–11**). The majority of respondents (3.09) are willing to travel more than 50 km to visit tourist attractions in Győr-Moson-Sopron County. The least number of people are willing to walk only 20 km. The hypothesis is thus rejected.

**Table 8.** Cross-tabulation (Tour from city center–distance from respondents' residence).

| Tour from city center | | Distance from Respondents' Residence | | | Total |
|---|---|---|---|---|---|
| | | Under 20 km | Between 21–50 km | Over 50 km | |
| I would not take part | Count | 18 | 19 | 15 | 52 |
| | % within Regional tour with city centres | 34.6% | 36.5% | 28.8% | 100.0% |
| I might take part | Count | 38 | 45 | 27 | 110 |
| | % within Regional tour with city centres | 34.5% | 40.9% | 24.5% | 100.0% |
| I would take part once | Count | 78 | 142 | 94 | 314 |
| | % within Regional tour with city centres | 24.8% | 45.2% | 29.9% | 100.0% |
| If I could I'd take part all the time | Count | 29 | 82 | 75 | 186 |
| | % within Regional tour with city centres | 15.6% | 44.1% | 40.3% | 100.0% |
| Total | Count | 163 | 288 | 211 | 662 |
| | % within Regional tour with city centres | 24.6% | 43.5% | 31.9% | 100.0% |

**Table 9.** Chi-square tests.

| | Value | df | Asymptotic Significance (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 20.191[a] | 6 | 0.003 |
| Likelihood Ratio | 20.272 | 6 | 0.002 |
| Linear-by-Linear Association | 15.004 | 1 | 0.000 |

| | |
|---|---|
| N of Valid Cases | 662 |

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.80.

**Table 10.** Descriptives.

| Tour from city center | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between-Component Variance |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | | |
| Under 20 km | 163 | 2.72 | 0.884 | 0.069 | 2.59 | 2.86 | 1 | 4 | |
| Between 21–50 km | 288 | 3.00 | 0.841 | 0.050 | 2.90 | 3.09 | 1 | 4 | |
| Over 50 km | 211 | 3.09 | 0.874 | 0.060 | 2.97 | 3.20 | 1 | 4 | |
| Total | 662 | 2.96 | 0.872 | 0.034 | 2.89 | 3.02 | 1 | 4 | |

**Table 11.** ANOVA.

| Tour from city center | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 12.778 | 2 | 6.389 | 8.592 | 0.000 |
| Within Groups | 490.038 | 659 | 0.744 | | |
| Total | 502.816 | 661 | | | |

## 5. Discussion

Egresi et al. (2021) showed that among the local people socidemografic factor could predict support for tourism development in the wetlands in the case of Sri Lanka. Their study Choe and Sim (2017) examined visitors to Bukhansan National Park in Korea, with variables including socio-demographic data (age, motivation, income), travel behavior, motivation, and satisfaction with park features, services and facilities. Sufahani et al. (2016) aims to present an analysis of the data (age), retrieved from the guest book at the Kelantan Tourist Information Centre Malaysia, using descriptive cross tabulation with Chi Square test and Pareto analysis. Costa and Lopes (2023) also aimed to investigate how demographic characteristics (gender, age, income) affect travellers' intentions to engage in ecotourism and their willingness to spend more on ecotourism. In their analysis of ecosystem services, (Bouahim et al., 2015) did not investigate a measure of users whose results could be used to improve perceptions of sustainability in urban wetlands. The research on cultural ecosystem values by Pedersen et al. (2019) did not include demand measures for services that can be linked to a social understanding of sustainability. The present survey investigates demand conditions precisely to find out which target groups are most affected by, for example, cycling, hiking, etc. tourism, and thus to whom the sustainability context needs to be communicated. The Zhang et al. (2023) analysis of tourism types did not include fishing tourism, riverside holidays, and kayak-canoeing tourism, only their marine variants. In this research, however, we also asked about these activities because they are an integral part of river tourism. In their segmentation, Mother et al. (2009) did not include waterfront bicycle tours, only hikers. The present study includes information for both target groups. In their modelling, Chen et al. (2019) investigated the overall demand for sustainable supply patterns from a demand perspective.

The research also covers the positioning of specific segments, such as demographic groups and their related product types. Most of the studies deal with the international prediction of recreation and touristical demand Rice et al. (2019), and less deal with the domestic demand (Smith et al., 2015; Song et al., 2019). This study puts the emphasis on the inland tourism circulation. From the open- ended questions it turned out that respondents would mainly take part in the bicycle tours departing from Győr to the wetland (Szigetköz) area (**Figure 3**).
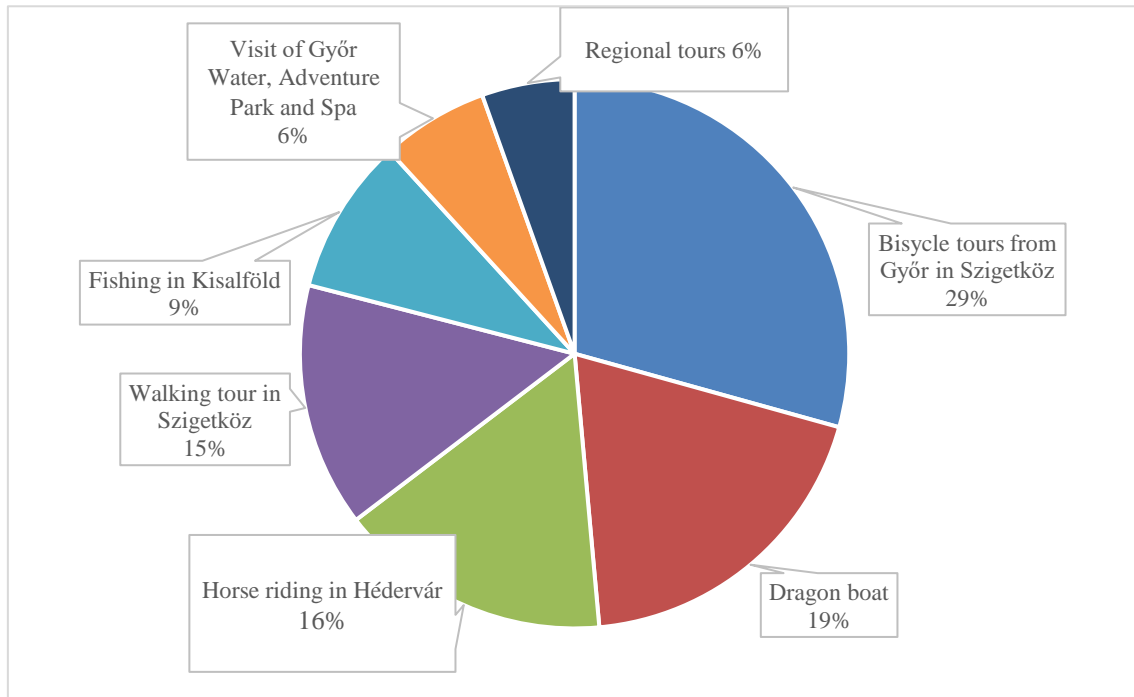


**Figure 3.** Distribution of activations among respondents.

In their paper Alikhani et al. (2021) suggest that the research showed that younger people were interested in swimming, while older people were interested in achieving their goal and boating. Egresi et al. (2021) proved with regression analysis that the older residents are more supportive of tourism development. Their research referred to the local residents but not to the categorization of touristic branches.

The present study showed significance for youth and education for some activities, such as hiking and cycling in the higher floodplains. The present study confirmed the findings of previous research that individuals with biosphere values (knowledge, environmental sensitivity, environmental awareness) are more likely to participate in environmentally sustainable programmes (Beall et al., 2021; Lee and Jan, 2018; Van der Werff et al., 2014). This is confirmed by the correlations found between prior knowledge and participation (Zhang and Lei, 2012; Schaffer and Tham, 2020). Guided educational and sightseeing programs are helpful for effectively raising awareness of wetlands and distributing ecotourism concepts (Do et al., 2015). The research proves besides the previous statements that there is a demand to visit the urban programmes and the wetland which are connected to this programmes. The projects include guided bicycle and eco-touristic tour programmes. The touristic management of small settlements the urban centre and the municipality have an essential responsibility and opportunity in the online and offline coordination.

## 6. Conclusion

This research has shown that interest in wetlands can be used to identify target groups that would participate in urban-centred, physical experience programmes in wetlands. In terms of product positioning, the physical experiences targeted by tourists can be defined as cycling and walking tours. For the region, other activities such as horse riding, swimming, rowing and fishing did not show significance with demographic data. An interesting link, however, is the combination of urban built attractions, e.g. castle visits, with guided tours of the regional floodplain (Q1, H3). The programs could be completed by special activities such as dragon boat rowing and thematical walking tours in Győr (**Figure 3**). The fortress with its lookout also provides a view and a visual experience of designated directions and wetlands. The research showed that tourists demand professional guidance, which is a crucial element in tour management. This also means the need to develop creative programmes. When organizing similar programmes, it is important to link the visit to the river area with the main attractions of the city centre. From a motivational point of view, it can be an advantage to follow the route of a thematic tour from certain lookout points. In their modelling, Chen et al. (2019) draw attention to the role of artificially designed metropolitan green corridors. In Győr, nature-friendly tours of these sites have an important awareness-raising effect for both local and visiting tourists. Based on the research of Pedersen et al. (2019), it can be concluded that programmes that combine products also offer a good opportunity for social communication of sustainability conditions. It is important to involve as many local people as possible in the organisation of the programmes, because their knowledge is credible and the work increases their affinity with the area (Zhang and Lei, 2012). From a demand perspective, it was found that respondents over 40 years of age were most likely to participate in a visit to a wetland (Q2, H1). Research by Alikhani et al. (2021) partially supported this, for certain interests e.g. boating; however, in the present research the main activities is cycling. However, it is also worthwhile to direct communication towards groups over forty. Programmes that require physical activity improve the health of society, but there seems to be a difficulty in getting young people out. The modern information society distracts attention from traditional activities, and the lack of activity does not strengthen identification with sustainability principles. In terms of education, those with higher education would be most likely to participate in wetland cycling tours (Q2, H2). The segmentation of the (Mother et al., 2009) product was extended beyond walking tours to include cycling tours. Exploring nature, combined with the need to be active, is more attractive to target groups with a higher level of knowledge. Those with knowledge are better able to recognize the potential of remaining habitats. Pedersen et al. (2019) find in their research on cultural ecosystem values that the well-educated graduates are open to a social understanding of sustainability. In ecotourism, some researchers have discovered that tourists' views on tourism are strongly influenced by their evaluation of the destination's natural features (Buhalis and Fletcher, 1995; Ballantyne and Packer, 2011; Chiu et al., 2014; Hughes, 2013; Huang and Liu, 2017). At the same time, this conclusion is a signal to reach less educated groups with information about environmentally friendly transport options and programmes.

An interesting result was the participation in city and regional guided tours (Q1, H3). The scope of the guided tours, linked to the central offer, extends over an area of more than 50 km. These programmes can be offered on a wider regional scale to target groups in the country and in particular in the border region, Vienna and Bratislava. Linked to the research of (Bouahim et al., 2015) on the analysis of ecosystem services, the demand for animated programmes also shows that tourists welcome ecological information about the area, which improves their image of the landscape. By eco-touristic positioning of Győr and the wetland and by the marketing, based on this, can be the first step to create a brand. It is important to inform the public travel agencies, bicycle programme organizers and tourist guides about the fact of rehabilitation and the demand of sustainable utilization.

### The limitations and future research direction

The research is not representative which can be improved in the future by online tools. In a bigger representative sampling more dependent variables would show significant connection. The research area can be extended on international level in the future and it would be advisable to put the emphasis on the prediction of the demand by conducting time series variables analysis. A relevant aspect is the examination of the gender connections and the location and the representation of people who were asked in the questionnaire. Further direction of the research is conducting cluster analysis, and the analysis of the management.

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