

## Tourist tax for sustainability: Determining willingness to pay

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### Abstract

Tourist tax has become increasingly important to destinations worldwide to internalize the external costs of tourism and to support tourism investments, provide social services and protect the environment. Based on “the user pays principle”, tourist tax aims for a fair distribution of the costs created by tourism activity. It is therefore important to explore the tourists’ willingness to pay tourist tax, identify its antecedents, and examine outcomes of tourist tax. However, few studies have examined attitudes of tourist as taxpayers. Hence, the present study aims to the determine tourists’ willingness to pay (WTP) tourist tax to enhance sustainable tourism and identify the factors affecting their willingness. Informed by the literature review, various scenarios of willingness to pay tourist tax were created. The scenario surveys were collected from tourists staying at least one night in Istanbul. Data from 428 responses collected were analyzed by utilizing the Tobit model in the STATA v14 program. The results indicate that average amount that tourists are willing to pay varied with each scenario. The WTP was lowest when the expenditure items were not specified whereas it was highest for the cultural heritage support scenario. In line with the proposed model, willingness to pay also depended on socio-demographic variables, knowledge level, travel content, and behavioral factors.

**Keywords:** Tourist Tax, Accommodation Tax, City Tax, Willingness to Pay, Sustainable Tourism

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## 1. Introduction

Although tourism is a major income source of income for most developing countries, increased tourism activities also create various problems (Hernandez-Maskivker *et al.*, 2021). For example, tourism can create governance problems in destinations subject to overtourism (e.g., Barcelona, Berlin, Lisbon, and Prague) (Eckert *et al.* 2019) and damage the environmental, sociocultural, and economic quality of life creating pressure on infra-structure municipal services, water consumption, public health services, pollution, and resulting in natural and cultural degradation (Dogan, 2017; Kırca & Topal, 2017).

In response, countries have integrated tourism sector-specific taxes into their fiscal systems to finance, regulate, and compensate for these heavy costs. While tourism taxes provide approximately 10% of the total tax revenues of some developed countries, they can be the only tax revenue in countries with small economies (Gago *et al.*, 2006). In Macau, for instance, tax revenue from gambling tourism represents 80% of total tax revenue (Financial Services Bureau, 2018) while the Maldives receives 60% of total tax revenues from tourist tax (McAller *et al.*, 2005). Taxation of tourism has thus become a very attractive financial tool for some destinations. These tax revenues are generally utilized in building the necessary infrastructure, developing tourism, and financing services those increase the welfare of local people (Cook *et al.*, 2016). Hence, tourism-specific taxes are considered an effective means of internalizing external costs and deriving equitable benefits from tourism for the host community (Kato *et al.*, 2011). In Türkiye's case, tourist tax is considered very important to increase the country's tourism revenues and create resources for local governments for tourism-related spending. The present study, therefore, aims to measure the willingness of tourists to pay tourist tax and identify which factors affect their WTP and by how much. Such information enables governments to determine how much tourist tax to charge per night, which can provide an important economic input to the country's tourism industry. Such information is of great importance as it is voluntary and willing nature can add a theoretical perspective to discussions about compulsory tourist tax. Since no study has measured willingness to pay tourist tax in Türkiye or make policy recommendations based on such information, the present study provides significant results and suggestions for Turkish policymakers.

## 2. Literature Review

Tourist tax is a specific and usually regional tax collected from transient visitors on a fixed or value basis (e.g., percentage) that is paid to the accommodation business on departure. It is also known as city tax, hotel occupancy tax, accommodation tax, or bed tax. As an earmarked tax, local policymakers usually collect it to improve tourism infrastructure and improve long-term tourism demand. Apart from financing tourism infrastructure, it may be spent on tourism-related projects and programs and eliminating adverse tourism-related externalities, such as environmental degradation and social impacts. However, it may also be transferred to the government reserves for overhead to the extent permitted by law (Durberry & Sinclair, 2001; Fronteras, 2017).

Based on the *user pays principle*, tourist tax is increasingly used by host countries worldwide to enable fairer distribution of the costs stemming from tourism (Gago *et al.*, 2006) and for tackling tourism-related environmental issues in particular (Valle *et al.*, 2012). As Rosembuj (1996) argues, the purpose of tourist tax is "to force the people benefitting from the municipal service to face the tourism expenses incurred by the municipality". To improve recreation areas, meet public services and ameliorate the environmental damage caused by visitors, many European countries today levy extra taxes on foreign visitors under tourist tax, city tax, or accommodation tax, which are earmarked specifically for tourism-related spending. Tourist tax is a domestic tax, so national policymakers should in theory be free to determine the criteria for its use, although there is an obligation to comply with principles outlined in international agreements. Tourist tax is collected from short-term stays and from all domestic and foreign tourists in European Union member countries as these are included within the scope of VAT

(Bozdoğanoglu, 2013). Currently, 19 of the 27 European Union member countries implement tourist tax (Goktas & Polat, 2019). The legal basis for these tourist tax practices is Council Directive 2006/112/EC, which includes VAT applications (Official Journal of European Union, 2011).

In EU member countries, tourist tax revenues, which are assigned to local governments, can be collected in three different ways: per person per night, per room per night, and per percentage of room rate. For example, tourist tax in Germany differs between cities. Some cities (e.g., Frankfurt) base the tax on the accommodation per person per night whereas some cities (e.g., Bremen, Bochum, and Berlin) charge a percentage of the room rate (Bettensteuer.de, 2022). The same is true for the Netherlands. Alkmaar, Eindhoven, and Den Haag base the tax on the accommodation price per person per night whereas Rotterdam, Utrecht, and Breda charge a percentage of the room price. In France, Spain, and Italy, tourist tax is paid per person per night and depends on the type of hotel accommodation (Goktas & Polat, 2019). In recent years, countries have earned significant revenues from tourist tax. For example, France received tourist tax revenues of 503 million Euros in 2019 and approximately 364 million Euros in 2020 (Direction Générale des Collectivités Locales, 2021), and 93 million Euros in 2021 from tourists renting accommodation from the Airbnb. The Netherlands received 135 million Euros of tourist tax revenue in 2022 just from tourists staying in Amsterdam (CBS, 2023). Türkiye's tourist tax, which will come into effect as of January 1, 2023, will charge 2 percent per night. The choice of the tax based on percentage has caused significant debate, with some sector representatives arguing against any tax and others supporting a fixed per-night tax rate (Turizm gazetesi, 2022).

Various studies have been conducted on tourist tax since the 1970s. Whereas the first studies concluded that the tax would reduce demand for accommodation, current studies have discussed that tax collection does not adversely affect demand and provides benefits to both local people and tourists. Fujii *et al.* (1985) applied time series method to analyze the effect of tourist tax on Hawaii's tourism industry, reporting that such a tax has a moderate negative output effect on visitor numbers. Also studying Hawaii, Bonham *et al.* (1991) found that a room tax applied to hotel receipts led to inelastic demand, causing an insignificant change in hotel revenue.

Hiemstra & Ismail (1993) addressed the problem of sharing the room tax burden between the guest and the accommodation business in the United States. Based on elasticity of supply and of demand for accommodation, they concluded that \$6 of the 7\$ room tax should be covered by the guest and 1\$ by the accommodation business.

Using a dynamic demand model that combined a diffusion model and a traditional economic utility theory model, Aguiló *et al.* (2005) investigated the short-term price effect of tourist tax in the Balearic Islands, Spain, when applied to tourists from the United Kingdom, Germany, France, and the Netherlands. They concluded that tourist tax would reduce visitor numbers by 117,113 (1.44%).

Dodds *et al.* (2010) investigated the developmental challenges due to the rapid growth of tourism on the islands of Koh Phi Phi in Thailand and Gili Trawangan in Indonesia. They argue that sustainable measures should be taken to prevent environmental degradation and measured the willingness of tourists to pay such a tax to finance environmental and natural resources protection. They found that tourists on both islands are strongly interested in environmental problems in the places they visit and are willing to pay taxes to help protect the environment.

Using the chi-square automatic interaction detection algorithm, Valle *et al.* (2012) measured tourists' attitudes to an accommodation tax allocated for environmental protection in the Algarve, Portugal. They concluded that environmentalist, nature-oriented tourists are willing to pay more. Also studying

the Algarve, Frank *et al.* (2015) investigated the surfing tourists’ environmental awareness and willingness to pay tourist tax allocated for environmental protection. The vast majority (86%) had a high environmental awareness and are willing to pay, although this also depended on nationality, with German, Austrian, and Swiss tourists being more willing.

Using a qualitative approach based on semi-structured, in-depth interviews, Cetin *et al.* (2017) investigated willingness to pay among foreign tourists visiting Istanbul, Türkiye. They are willing to pay more for tourist tax allocated for improving their experience but are reluctant to take responsibility for issues related to destination sustainability. In addition, the tourists reported that they would still visit Istanbul even if the visit’s total cost increased by one-third.

Notaro *et al.* (2019) examined willingness to pay tourist tax to promote local development in a valley in the Italian Alps by protecting tree species, cultivating and protecting various agricultural products, and grazing animals in their natural areas. The findings indicated that tourists are willing to pay to support these objectives.

Biagi *et al.* (2021) examined how tourist tax affects tourism demand in Italy, specifically in Rome, Florence, and Padua. They used a time series analysis, static CGE method, and DD approach, which does not take into account uncertainty. A placebo analysis was also performed. The findings showed that tourists did not appear to be sensitive to price increases.

As shown in table 1, there may be both advantages and disadvantages for countries that collect tourist tax, disregarding market conditions and willingness to pay. The main disadvantages are, first, that high taxation reduces tourism revenues and thus total revenues collected and, second, that it damages destination competitiveness when the collected tax is not used for tourism related expenses.

**Table 1.** *Advantages and disadvantages of tourist tax*

Advantages	Disadvantages
✓ Mechanism to promote economic development	✓ High taxes can have an adverse impact on competitiveness
✓ Being imposed on visitors rather than locals	✓ Tourists may be overtaxed, might be perceived unfair
✓ Providing funds for tourism marketing	✓ Tourists might pay for facilities they do not use
✓ More progressive marketing cycles → more tourists → more tourism revenue → more tax	✓ Laying the burden and cost of collection on the industry
✓ Stakeholder involvement on how revenues are spent	✓ Tourist taxes only apply to part of the tourism industry, i.e., only to hotels/accommodations
✓ Low impact on business / tourism spending levels in inelastic markets	✓ Collection problems may occur
	✓ The risk that the revenues obtained may not be used for tourism purposes

**Source:** Adopted from BHA Scotland (2015).

While in many countries tourist tax is a significant income source for the public, it can disturb market economies because it may increase tourist costs, reduce competitiveness, and consequently decrease profitability (Cetin *et al.*, 2017). Different interpretations have been put forward about the effects of tourist tax on tourism demand. While some researchers argue that it has no significant effect, particularly in the long run (e.g., Mak & Nishimura, 1979), others argue that it puts significant pressure on the tourism industry, especially in the short term (e.g., Hiemstra & Ismail, 1993). However, researchers generally agree that any taxes collected from tourists should be earmarked for tourism-

related investments (Vjekoslav *et al.*, 2012; Ponjan & Thirawat, 2016), such as the local economy and community welfare, tourism services, cultural events and heritage, and the environment. It is also important that such taxes effectively internalize tourism's currently externalized costs to provide more sustainable growth.

The following sub-sections consider the specific impacts of sustainable tourism-oriented tourist tax in three areas: *environment* (Rotaris & Carrozzo, 2019; Rotaris & Danielis, 2019; Frank *et al.*, 2015; Taylor *et al.*, 2005; White & Lovett 1999; Reynisdottir *et al.*, 2008; Batel *et al.*, 2014; Cantalops, 2004); *community welfare* (Cetin *et al.*, 2017; Notaro *et al.*, 2019); *cultural heritage* (Rotaris & Carrozzo, 2019; Chea, 2019; Whitehead & Finney, 2003).

### 2.1. Environmental Impact of Tourist Tax

In addition to its economic contribution, tourism can adversely impact the environment, particularly by exceeding the carrying capacity of various natural heritage sites (Fresneda-Fuentes *et al.*, 2022). Specific negative impacts on nature include the destruction of agricultural land, increased soil, water, and air contamination and pollution, depletion of resources through excessive water use, and wildlife and habitat destruction (Bahar, *et al.* 2015; Sanlioz-Ozgen *et al.*, 2016). To reduce these effects, attention should be paid to ecological and environmental protection, environmentally friendly tourism products should be promoted, and ecological protection and promotion should be supported (Zou, 2019). However, these activities need investment and allocation of sufficient resources. Considering that these are common goods (tragedy of commons), they are usually neglected, with scarce financial resources being used elsewhere, such as for eliminating poverty and infrastructural investments in other areas (Kahraman & Turkay, 2014). Even when these funds are used to promote tourism, they are rarely used to protect natural areas (Jusmet *et al.*, 2004). Some countries have introduced special taxes, including tourist tax (Taylor *et al.*, 2005), to finance the reduction of environmental damage. In many countries, tourist tax is spent on environmental services and the sustainable development of destinations. As a result, the taxpayer receives an environmental service in return for the tax (Failler *et al.*, 2019).

For example, the tourist tax implemented in April 2011 in Spain's Balearic Islands, initially called "ecotax" and "sustainable tourism tax" since 2016, aims to reduce the negative effects from the recent rapid growth of mass tourism in Spain. Overcrowding of the Balearic coast due to the large numbers of tourists has damaged natural areas and harmed the destination's image (Bouazza, 2001). Additional funds were therefore needed to prevent a more serious deterioration and mitigate the adverse impacts of tourism activity.

Accordingly, the ecotax aimed to protect green areas and mitigate environmental damage (Lopez *et al.*, 2018), educate local people in order to create greater employment opportunities outside the tourist season, protect and renew cultural heritage, promote sustainable tourism, and conduct research on corrective measures for climate change-related problems (Parker, 2020). In particular, climate change directly affects visitor satisfaction and tourists' perceptions about destinations (Kajan & Saarinen, 2013), leading host countries to develop local (Hollenhorst *et al.*, 2014) and green consumption-oriented solutions (Jopp *et al.*, 2015). To fund these solutions, they have turned to tourist tax, which provides significant funding for the environmental preservation activities, thereby enhancing sustainable tourism (Tremlett, 2002). The Balearic Islands allocated approximately 224 million Euros for such projects (Sustainable Balearic Islands, 2019), including funding for rapid charging points for electric vehicles in Mallorca, Menorca, Ibiza, and Formentera to reduce CO<sub>2</sub> emissions on the islands (Davies, 2019). In total, the islands realized 287 projects between 2016 and 2018, each targeting a different issue, such as environmental preservation, sustainable tourism, community involvement, cultural heritage, education and employment, and research. Likewise, the Italian city of Villasimius uses its tourist tax

revenues for sustainable tourism, particularly interventions to improve services provided to tourists and preserve environmental resources (Biagi *et al.*, 2017).

A sustainable tourist tax needs careful design to better meet the costs of reducing environmental deterioration, deter mass tourism, and encourage more environmentally friendly actions, thereby creating a balance between tourism activities and environmental conservation (Delise, 2006; La Salandra, 2009; Valle *et al.*, 2012). However, designing such a tax effectively is quite difficult (Cetin, 2014; Dodds *et al.*, 2010; Pulido-Fernández & López-Sánchez, 2016). In particular, it is important to measure how much value tourists attach to environmental sustainability. Hence, it is necessary to measure elasticity and willingness to pay before enforcing such a tax.

### *2.2. Impact of Tourist Tax on Community Welfare*

Taxes are one tool used to finance community welfare (Selen & Karas, 2018). As an economic activity, tourism also creates taxes that can be used to enhance local infrastructure and provide new services for locals (Rinaldi, 2012). Locals can benefit from tourist tax in two ways. First, they can benefit from enhanced services and infrastructural investments financed by tourist tax revenues. Second, the revenues can replace some local funds previously used to support the tourism industry. Roads, airports, convention centers, landscaping, signage, and so on also improve local quality of life while tourist tax means that other local funds can be directed to other public uses (Mak, 2008), such as welfare, education, and health. Various studies have confirmed that tourists are more willing to pay tourist tax for social welfare investments, such as improving local people's foreign language skills or refugee integration (e.g., Cetin *et al.*, 2017). In many countries, tourist tax revenues do indeed increase social welfare (Labandeira *et al.*, 2006).

### *2.3. Impact of Tourist Tax on Cultural Heritage*

Cultural heritage defines who the locals are, where they came from, and what they have accomplished, and provides its identity to an individual, community, or nation. The preservation of cultural heritage also requires allocation of significant funds (e.g., for renovation) particularly for tangible heritage assets. Given that the tourism industry uses these cultural resources, a sustainable tourism tax can help preserve such cultural heritage sites (Guo & Haupt, 2015).

George (2010) also suggests that a cultural heritage protection tax on tourists consuming cultural assets can provide a substantial resource for achieving equity and sustainable tourism. Through tourist tax, visitors to cultural heritage sites can, not only appreciate the protection of living heritage but also contribute to cultural preservation policies for generations to come (Chea, 2013).

Many cities in Europe use tourist tax income to protect cultural heritage. The municipality of Hamburg, for example, uses such revenues for tourism, culture, and sports projects that benefit the city's image and ultimately the tourism industry (Hamburg-travel, 2022). Revenue from the tax in the Balearic Islands has funded a historical coastal path and the restoration of three public museums to preserve the region's cultural heritage (Davies, 2019) while, in 2020, Majorca city council approved a tourist tax-funded budget of 740,000 euros to preserve the island's religious heritage (Ayuga, 2020).

## **3. Methodology**

For the present study, Istanbul was chosen as the research site because it is experiencing tourism-related problems as the destination preferred by 34% of tourists visiting Türkiye, which received over 16 million tourists in 2022 (Istanbul Provincial Directorate of Culture and Tourism, 2022). However, the growing number of tourists to Istanbul has also created problems. When a destination receives more visitors than its carrying capacity, its environmental, socio-cultural characteristics, and touristic experiences

deteriorate significantly (Goodwin, 2017; Capocchi *et al.*, 2019). Especially in the last decade, the number of tourists coming to Istanbul has tripled in some periods of the year (specifically, May-June and September-October) and in some districts (e.g., Sultanahmet and Taksim). This increased pressure on local resources (e.g., public transport and security), and created congestion, and environmental problems.

The data was collected using a questionnaire prepared based on the payment card format in line with the contingent valuation method, one of the willingness-to-pay measurement methods (Haab and McConnell, 2002). Data collection was conducted between July and September 2019. The questionnaire was administered face to face to foreign tourists visiting heritage areas and staying at least one night in Fatih (Sultanahmet, Hagia Sophia, Yerebatan Palace), Beyoğlu (Miniaturk, Taksim), and Besiktas (Dolmabahçe Palace, Ortakoy), where Istanbul's major touristic destinations are located. Convenience sampling, a non-probabilistic sampling method, was used. Out of 483 responses collected, 428 were considered valid for inclusion in the analysis. The other 55 were considered as incomplete and eliminated.

The aim of this study was to measure the willingness of tourists to pay tourist tax, which has been the subject of recent discussion in Türkiye and entered into force in January 2023. More specifically, the study aimed to measure how willing the tourists are to pay tourist tax, the factors affecting tourist tax, their willingness to pay under different hypothecation alternatives, and the effect of personal and situational factors on willingness to pay. The literature presents compelling evidence that informing visitors about the use of collected tourist tax can increase their WTP (Eagles *et al.*, 2002). Based on this evidence, four different scenarios were created for this study (undefined use, cultural heritage, environment, and community welfare) and integrated into the WTP model developed for this study to determine the WTP levels for each scenario.

Previous studies indicate that willingness to pay is significantly affected by socio-demographic factors (Cetin *et al.*, 2017; Durán-Román *et al.*, 2021; Pinto Borges *et al.*, 2020; Whitehead & Finney, 2003; Rotaris & Carrozzo, 2019), travel behaviours (Taylor *et al.*, 2005), and prior knowledge about tourist tax (Tovmasyan, 2021). Therefore, the research model tested the following three hypotheses:

*H1: Socio-demographic factors affect willingness to pay tourist tax.*

*H2: Travel behaviours affect willingness to pay tourist tax.*

*H3: The level of knowledge affects willingness to pay tourist tax.*

Using the econometric willingness-to-pay model, a test was conducted to determine differences between the independent variables and WTP. Part of the dependent variable (willingness to pay tourist tax) was zero due to unwillingness to pay/protest responses for observation. Since the mean of the error term was different from zero, in the presence of the dependent variable that took a value of zero, least squares estimation was used. However, given that many studies have demonstrated that this estimation produces biased and inconsistent results (Cameron & Trivedi, 2009), the observations with a zero value for WTP were censored and the censored Tobit model, which evaluates the model using the maximum likelihood method, was implemented. This solved the bias problem while allowing the model to be estimated.

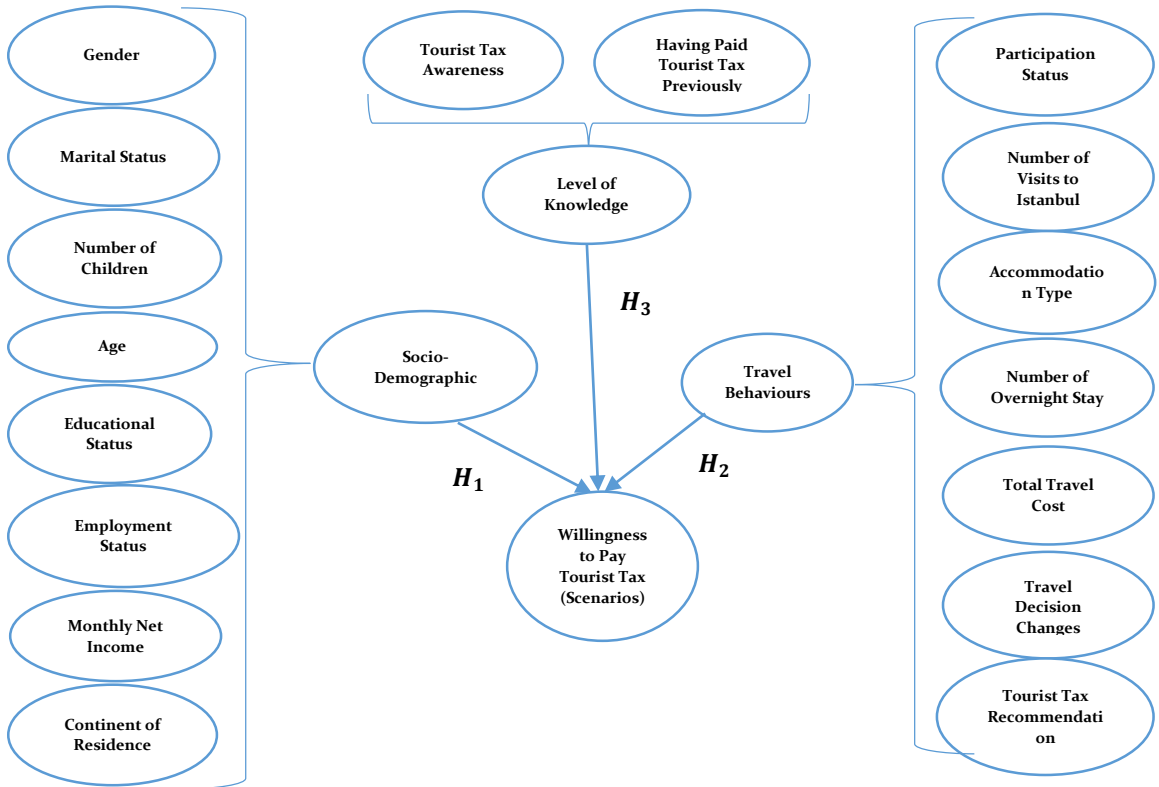


Figure 1. Research model

#### 4. Results

Regarding the demographic variables, gender affected willingness to pay in the community welfare scenario. More specifically, and in line with Durán-Román *et al.*, (2021), men were more willing to pay tourist tax than women, perhaps because their income level was higher than women participants.

Marital status affected WTP in the following scenarios: cultural heritage, environment, and community welfare. That is, single participants were more willing to pay than married individuals, perhaps because single individuals have fewer financial responsibilities than married individuals. This result is in line with Whitehead & Finney (2003) as well as Taylor *et al.* (2005) and Rotaris & Carrozzo (2019), who also reported that willingness to pay in the same three scenarios was higher if the participants had fewer children. These findings suggest that policymakers in host countries should take family size into account when implementing tourist tax, such as by offering tourist tax discounts based on family size.

Age also affected WTP in the following scenarios: cultural heritage, environment, and community welfare. That is, willingness to pay increased with age, perhaps because older individuals are more motivated to ensure the continuation of a healthy environment and cultural heritage for future generations. This finding is consistent with Julius *et al.* (2017) but contradicts Taylor *et al.* (2005).

Higher education levels increased willingness to pay, perhaps because more educated individuals attach more importance to the environment, social events, and cultural values. This finding is in line with Dodds *et al.* (2010), López-Sánchez & Pulido-Fernández (2016), López-Sánchez & Pulido-Fernández (2017), and Rotaris & Carrozzo (2019).



**Table 2.** Results of undefined use and cultural heritage scenarios

Undefined Use	Coefficient	Standard Error	t	P> t	Cultural Heritage	Coefficient	Standard Error	t	P> t
Gender	0.569	0.569	1.72	0.086	Gender	0.733	0.406	1.81	0.072
Marital status	-0.394	0.389	-1.01	0.311	Marital status	1.06	0.477	2.22	<b>0.027</b>
Number of children	0.054	0.224	0.24	0.808	Number of children	-0.628	0.279	-2.25	<b>0.025</b>
Age	0.076	0.160	0.47	0.636	Age	0.572	0.197	2.90	<b>0.004</b>
Educational Status	1.37	0.539	2.54	<b>0.011</b>	Educational Status	2.08	0.662	3.15	<b>0.002</b>
Employment Status	-2.37	0.722	-3.29	<b>0.001</b>	Employment Status	-2.29	0.854	-2.68	<b>0.008</b>
Monthly Net Income	0.101	0.187	0.54	0.588	Monthly Net Income	0.078	0.230	0.34	0.732
Continent of Residence	-0.150	0.110	-1.37	0.171	Continent of Residence	-0.348	0.137	-2.53	<b>0.012</b>
Participation Status	-0.455	0.423	-1.07	0.283	Participation Status	0.535	0.513	1.04	0.298
Number of Visits to Istanbul	-0.306	0.250	-1.22	0.222	Number of Visits to Istanbul	-0.184	0.302	-0.61	0.543
Accommodation Type	0.750	0.226	3.32	<b>0.001</b>	Accommodation Type	0.916	0.277	3.30	<b>0.001</b>
Number of Overnight Stay	0.058	0.088	0.66	0.507	Number of Overnight Stay	-0.049	0.108	-0.46	0.649
Total Travel Cost	-0.000	0.000	-0.76	0.445	Total Travel Cost	-0.000	0.000	-0.54	0.587
Travel Decision Changes	0.249	0.069	3.59	<b>0.000</b>	Travel Decision Changes	0.418	0.085	4.88	<b>0.000</b>
Tourist Tax Awareness	0.495	0.203	2.43	<b>0.015</b>	Tourist Tax Awareness	0.642	0.247	2.59	<b>0.010</b>
Having Paid Tourist Tax Previously	-1.03	0.380	-2.72	<b>0.007</b>	Having Paid Tourist Tax Previously	-1.07	0.465	-2.31	<b>0.021</b>
Recommendation	-1.99	0.573	-3.49	<b>0.001</b>	Recommendation	-2.28	0.693	-3.30	<b>0.001</b>
_cons	-0.763	0.859	-0.89	0.375	_cons	-2.81	1.06	-2.65	<b>0.008</b>
/sigma	2.98	0.124			/sigma	3.7	0.146		
Number of observations = 428					Number of observations = 428				
LR chi2(17) = 277.42					LR chi2(17) = 316.70				
Prob > chi2 = 0.0000					Prob > chi2 = 0.0000				
Log Likelihood = -801.71792	Pseudo R2 = 0.1475				Log Likelihood = -907.57656	Pseudo R2 = 0.1486			
130 Left-Censored observation Undefined Use of Tax Revenues<= 0					108 Left-Censored observation Cultural heritage <= 0				
298 Uncensored observations					320 Uncensored observations				
0 Right-Censored observation					0 Right-Censored observation				

Accommodation level also positively affected willingness to pay in all scenarios. That is, tourists staying in five-star or four-star hotels were more willing than tourists staying in other accommodation facilities, perhaps because the former group were more satisfied with their higher quality accommodation. This finding is in line with López-Sánchez & Pulido-Fernández (2016), López-Sánchez & Pulido-Fernández (2017), and Rotaris & Carrozzo (2019).

Employment status significantly affected willingness to pay in all four scenarios. More specifically, employed participants were more willing to pay than unemployed. In contrast, monthly income had no significant effect in any scenario. This finding suggests that while willingness to pay depends on having a financial income, it does not depend on the amount of income.

The participants' place of residence only significantly affected willingness to pay in the cultural heritage scenario, with tourists living in Europe being more willing to pay than those from other continents, perhaps because the former group are already familiar with tourist tax in their own country and hence have more prior knowledge. Type of participation and prior experience of Istanbul both significantly

affected willingness to pay, but only in the community welfare scenario. That is individuals travelling alone were more willing to pay than those travelling in groups while first-time visitors were more willing to pay than participants who had already visited the destination before. In all four scenarios, participants with a high level of tourist tax awareness and/or having paid tourist tax before were more willing to pay. Because these people have paid this tax before, they have information about the purposes for which tax revenues are collected.

**Table 3.** Results of environment and community welfare scenarios

Environment	Coefficient	Standard Error	t	P >  t	Community Welfare	Coefficient	Standard Error	t	P >  t
Gender	0.285	0.332	0.86	0.391	Gender	0.937	0.451	2.08	<b>0.038</b>
Marital status	0.927	0.390	2.37	<b>0.018</b>	Marital status	1.46	0.530	2.77	<b>0.006</b>
Number of children	-0.622	0.228	-2.72	<b>0.007</b>	Number of children	-0.686	0.309	-2.22	<b>0.027</b>
Age	0.372	0.162	2.30	<b>0.022</b>	Age	0.595	0.220	2.71	<b>0.007</b>
Educational Status	2.17	0.543	4.00	<b>0.000</b>	Educational Status	2.65	0.755	3.51	<b>0.000</b>
Employment Status	-1.66	0.692	-2.41	<b>0.016</b>	Employment Status	-2.79	0.974	-2.86	<b>0.004</b>
Monthly Net Income	0.166	0.188	0.89	0.376	Monthly Net Income	-0.037	0.254	-0.15	0.884
Continent of Residence	-0.066	0.110	-0.61	0.544	Continent of Residence	-0.452	0.151	-2.99	<b>0.003</b>
Participation Status	-0.683	0.424	-1.61	0.108	Participation Status	-1.61	0.579	-2.78	<b>0.006</b>
Number of Visits to Istanbul	0.220	0.242	0.91	0.365	Number of Visits to Istanbul	-0.667	0.334	-1.99	<b>0.047</b>
Accommodation Type	1.14	0.227	5.04	<b>0.000</b>	Accommodation Type	0.671	0.306	2.19	<b>0.029</b>
Number of Overnight Stay	0.025	0.088	0.29	0.774	Number of Overnight Stay	-0.004	0.120	-0.04	0.969
Total Travel Cost	-0.000	0.000	-0.20	0.842	Total Travel Cost	-0.000	0.000	-0.94	0.350
Travel Decision Changes	0.196	0.070	2.81	<b>0.005</b>	Travel Decision Changes	0.478	0.094	5.08	<b>0.000</b>
Tourist Tax Awareness	0.427	0.203	2.10	<b>0.037</b>	Tourist Tax Awareness	0.583	0.276	2.11	<b>0.035</b>
Having Paid Tourist Tax Previously	-0.802	0.383	-2.09	<b>0.037</b>	Having Paid Tourist Tax Previously	-1.88	0.517	-3.64	<b>0.000</b>
Recommendation	-1.61	0.562	-2.87	<b>0.004</b>	Recommendation	-2.19	0.784	-2.79	<b>0.005</b>
_cons	-2.52	0.869	-2.90	<b>0.004</b>	_cons	-2.60	1.19	-2.18	<b>0.030</b>
/sigma	3.03	0.122			/sigma	4.05	0.163		
Number of observations = 428					Number of observations = 428				
LR chiz(17) = 323.24					LR chiz(17) = 309.95				
Prob > chiz = 0.0000					Prob> chiz = 0.0000				
Log Likelihood = -830.57544					Log Likelihood = -911.32014				
Pseudo R2 = 0.1629					Pseudo R2 = 0.1453				
117 Left-Censored observation Environment <= 0					118 Left-Censored observation Community Welfare <= 0				
311 Uncensored observations					310 Uncensored observations				
0 Right-Censored observation					0 Right-Censored observation				

Finally, the length of stay did not significantly affect WTP in any scenario, which contradicts previous studies. Taylor *et al.* (2005) and Rotaris & Carrozzo (2019) reported that participants with fewer overnight stays are more willing to pay. The insignificant effect in the present study may be because tourists only stay for a few days in hotels in Istanbul. In 2021, the average stay of foreign tourists in 2021 has been declared as 2.60 in facilities with Tourism Management Certificate and 2.22 in facilities with Municipality Certificate (Istanbul Provincial Directorate of Culture and Tourism, 2022). Total travel cost also had no effect on willingness to pay. The increase or decrease in people's travel costs did not affect their willingness to pay tourist tax.

For the four different scenarios prepared according to the payment card format of the contingent valuation method (Annex-1), the following formula was used to calculate the average WTP (AWTP) for tourist tax:

$$AWTP_d = \frac{\sum_{b=1}^n PCWTP_{bd}}{n}$$

$AWTP_d$  refers to the average WTP for tourist tax for scenario  $d$  selected in the payment card for the scenarios;  $PCWTP_{bd}$  refers to the amount that individual  $b$  chose on the payment card for tourist tax in  $x$  scenarios;  $n$  refers to the number of individuals marked on the payment card for tourist tax in particular scenarios.

**Table 4.** Average willingness to pay (overnight)

Scenarios	Average Willingness to Pay
Undefined Use	2.2313 \$
Cultural Heritage	2.8621 \$
Environment	2.5887 \$
Community Welfare	2.7850 \$

Based on this formula, Table 4 shows AWTP for tourist tax. AWTP was lowest for the undefined use scenario and highest for the cultural heritage scenario. Thus, the findings clearly show that tourists are more willing to pay if they know what the revenues collected will be spent on. These results are in line with Litvin *et al.* (2006), Tavares (2011), Vjekoslav *et al.* (2012), La Scala (2013), Ponjan & Thirawat (2016), and Cetin *et al.* (2017). In the present study, of the three scenarios with defined spending areas, participants were least willing to pay for the environmental scenario, although other sustainability-oriented studies indicate that tourists are willing to pay if tax revenues will be spent on the environment (Dodds *et al.*, 2010; Valle *et al.*, 2012; Blanco *et al.*, 2012; Frank *et al.*, 2015; López-Sánchez & Pulido-Fernández, 2016; Pulido-Fernández & López-Sánchez, 2016; López-Sánchez & Pulido-Fernández, 2017; Notaro *et al.* (2019), such as to prevent water and air pollution, protect wildlife, and preserve natural resources for future generations.

## 5. Discussion and Conclusions

As a destination offering various types of tourism activities, particularly cultural tourism, Istanbul attracts visitors all year. However, this also leads to environmental degradation, increase pressure on local services, and deteriorate the wellbeing of locals. Tourist tax can be a very important resource for reducing or ameliorating such pressures as it is an important source of income to internalize the external costs of tourism, enhance community wellbeing, and enable a more sustainable form of tourism. It is critical before introducing a tourist tax to measure the elasticity of the target markets and individuals' willingness to pay tourist tax and identify how much this willingness changes based on different characteristics.

Once WTP has been determined, the per-night tourist tax rate can be calculated based on tourists' opinions to maximize the economic benefits to the host country. Since this appraisal is determined voluntarily, it can bring a theoretical contribution to discussions about compulsory tourist tax. Because they are tax-conscious, tourists pay great attention to the association between the taxes they pay and the resulting public goods and services they receive. While this increases tourists' awareness about what tourist tax is, it is also very important in terms of desire to know why the tax is collected. A tax system that is not perceived to be fair will have a low chance of achieving the expected goals (Rawls, 2003). Therefore, the specific scenarios used are very important for tax fairness.

From the findings in the present study, we can conclude that taxpayers were willing to pay least if they did not know what the revenue will be used for. In contrast, they were more willing if the tax would be spent on specific sustainable tourism investments. Among these scenarios, tourists are most willing to pay for preserving cultural heritage. Regarding the specific rates, participants were willing to pay an average of \$2,86 for preserving cultural heritage sites for future generations; \$2,58 per night for protecting the environment (preventing water and air pollution, protecting wildlife, preserving natural resources, etc.), and \$2,78 to ensure community welfare (creating employment, improving local people's foreign language skills, integrating refugees more effectively, helping the poor, etc.). However, they were only willing to pay \$2,23 per night if the spending of tax revenue was undefined.

Given that 26,690,928 overnight stays were made in Istanbul in 2021 (Ministry of Culture and Tourism, General Directorate of Investments and Enterprises, 2022), \$76,336,054 tourist tax revenue could be obtained to protect cultural heritage sites, \$68,862,594 to protect the environment, and \$74,200,779 to increase community welfare. Istanbul Metropolitan Municipality actual tax revenues for 2021 were \$34,507,767 (Istanbul Metropolitan Municipality, 2022), which indicates the importance of tourist tax as it has the potential to generate about twice as much revenue as the city's current total tax revenues. The present study also confirmed that tourists' socio-demographic characteristics, country of residence, travel behaviors, and prior knowledge of tourist tax significantly affect WTP and its amount. Regarding the demographic variables, singles were more willing to pay than married tourists, perhaps because the former have fewer financial responsibilities than the latter. This result becomes clearer with amount of children since willingness to pay decreases as the number of children increases. Willingness to pay also increases with age, especially if tourist tax is used to protect the environment. Julius *et al.* (2017) suggest that this could be due to an increasing need for a clean environment as people age.

Regarding employment and income, employed participants were more willing to pay than unemployed, but monthly income did significantly affect willingness to pay in any scenario. This suggests that having a financial income from employment is an important factor whereas the level of that income is not. Familiarity with tourist tax and prior experience of paying such a tax increased WTP. Presumably, this is because tourists who have paid tourist tax before do not find it unfair and more willing to pay because they understand its purpose.

Finally, tourist participants who were visiting Istanbul for the first time were more willing to pay than those who had already visited before. This raises the question of why tourists who have visited Istanbul previously are less willing to pay. Is it because they believe they have contributed enough income for the city already or is their satisfaction level reduced? These could be interesting areas of enquiry for future research. The results of the hypotheses tests according to the model estimations are shown in Appendix 1.

## 6. Limitations and Future Research

The study had several limitations. First, data were collected only from foreign tourists staying in Istanbul. Therefore, although the findings can be generalized for the particular location under investigation, they cannot be generalized internationally. Second, since no data was collected from local people, their willingness to pay tourist tax remains out of the discussion. Based on our findings, we conclude that future studies in different destinations, especially with comparative designs by including both local and foreign tourists, can provide important results to guide tourism stakeholders, decision makers, and government officials. In addition, we believe that it is critical to analyze the perspectives of the professionals about the tourist tax based on qualitative study. In addition, the study should be re-applied by considering destinations with different tourism resources in addition to Istanbul, which

is a cultural tourism destination, and the effect on willingness to pay should be tested by adding destination-specific characteristics into the research design.

## Appendix 1: Results of the Hypotheses

Hypotheses	Undefined Use	Cultural Heritage	Environment	Community Welfare
<b>H1: Socio-demographic factors affect willingness to pay tourist tax.</b>				
<i>H1a: The gender affects the willingness to pay tourist tax.</i>	X	X	X	✓
<i>H1b: The marital status affects the willingness to pay tourist tax.</i>	X	✓	✓	✓
<i>H1c: The number of children affects the willingness to pay tourist tax.</i>	X	✓	✓	✓
<i>H1d: The age affects the willingness to pay tourist tax.</i>	X	✓	✓	✓
<i>H1e: The education status affects the willingness to pay tourist tax.</i>	✓	✓	✓	✓
<i>H1f: The employment status affects the willingness to pay tourist tax.</i>	✓	✓	✓	✓
<i>H1g: The monthly net income affects the willingness to pay tourist tax.</i>	X	X	X	X
<i>H1h: The continent of residence affects the willingness to pay tourist tax.</i>	X	✓	X	✓
<b>H2: Travel behaviours affect willingness to pay tourist tax.</b>				
<i>H2a: Participation status influences willingness to pay tourist tax.</i>	X	X	X	✓
<i>H2b: The number of visits to Istanbul affects the willingness to pay tourist tax.</i>	X	X	X	✓
<i>H2c: The type of accommodation affects the willingness to pay tourist tax.</i>	✓	✓	✓	✓
<i>H2d: The number of overnight stays affects the willingness to pay tourist tax.</i>	X	X	X	X
<i>H2e: The total travel cost affects the willingness to pay tourist tax.</i>	X	X	X	X
<i>H2f: The travel decision change affects the willingness to pay tourist tax.</i>	✓	✓	✓	✓
<i>H2g: Recommendation affects willingness to pay tourist tax</i>	✓	✓	✓	✓
<b>H3: The level of knowledge affects willingness to pay tourist tax.</b>				
<i>H3a: The tourist tax awareness affects the willingness to pay tourist tax.</i>	✓	✓	✓	✓
<i>H3b: Having paid tourist tax previously affects the willingness to pay tourist tax.</i>	✓	✓	✓	✓

Note: X: Hypothesis not accepted ✓: Hypothesis accepted

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