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Impact of sustainability communication on German tourists' willingness to pay for a Finnish cottage holiday

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ABSTRACT

Using the contingent valuation method, this study examines the determinants of German tourists' willingness to pay for accommodation in a Finnish holiday cottage. A particular focus is on the communication of credentials relating to three dimensions of sustainability (environmental, socio-cultural, and economic). The results suggest that there are significant differences in how tourists value the different sustainability attributes of their accommodation. The environmental dimension was the only sustainability dimension to have a positive and statistically significant effect on tourists' willingness to pay. In terms of tourists' demographic characteristics, meanwhile, employment status was the only socio-demographic factor to have a significant effect on the tourists' willingness to pay. The managerial implications include investing in, and actively communicating, environmental sustainability features as part of a successful business strategy for Finnish cottage service providers targeting German tourists.

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Sustainable tourism; sustainability communication; willingness to pay; cottage accommodation; contingent valuation

Introduction

There is ample evidence to suggest that tourists have a significantly greater willingness to pay (WTP) for tourism products and services that are promoted as having sustainability credentials, compared to those that are not. Research has struggled, however, to explain why this should be so. The effect of socio-demographic factors, such as age, income, gender, and education on WTP, has been widely studied (e.g. López-Sánchez & Pulido-Fernández, 2017; Nelson et al., 2021). The findings have, however been at best mixed, at worst contradictory (Kang & Nicholls, 2021). Other studies have tried to explain tourists' pro-sustainable attitudes through psychographic factors, such as norms and attitudes (González-Rodríguez et al., 2020; Durán-Román et al., 2021). However, some studies argue that socio-demographic and psychographic factors are

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insufficient to thoroughly explain tourists' WTP for sustainable products (Li et al., 2021; MacInnes et al., 2022).

New research avenues have therefore been opened up to explore other potential determinants of WTP. One of these relates to how messages about the product or service's sustainability are communicated to potential consumers (Li et al., 2021). The tendency in such studies has been to divide the concept of sustainability into its three dimensions: environmental, socio-cultural, and economic (Bramwell et al., 2017). In tourism studies, however, most of the attention has been paid to the environmental dimension (Tölkes, 2018). For example, Tölkes' (2018) study shows that majority of the articles (57.4%) linked to sustainability communication considered only the environmental dimension of sustainability. This has resulted in a lack of understanding about the value tourists ascribe to the socio-cultural or economic sustainability of tourism, or how the different dimensions compare in terms of their contribution to the generation of WTP.

This study examines how communicating the different sustainability dimensions affects German tourists' WTP to stay in a Finnish holiday cottage. Cottages were chosen as the focal point of the study because they are a very important form of accommodation for the Finnish rural tourism industry (Statistics Finland, 2022a, 2022b). However, previous studies have focused mainly on other forms of accommodation such as hotels (e.g. Sthapit, 2018, 2019). Cottages are an integral part of Eastern Finland's tourism; the 2354 holiday cottages account for over 34% of Eastern Finland's accommodation capacity with over 12,000 beds (Statistics Finland, 2022a, 2022b). In addition, the target population of this study is German tourists because Germany is one of the main target markets of the Finnish tourism industry (Ministry of Economic Affairs and Employment, 2019). Germany ranked first in the number of international visitor arrivals in Finland in 2022, totaling 106,046, with 24,597 alone visiting in the month of August (Statistics Finland, 2022c). Moreover, Booking.com's Sustainable Travel Report (2021) states that 82% of tourists intend to stay in sustainable accommodation, while Reiseanalyse's results from the German market from 2019 show that 61% of tourists wanted their holiday to be as sustainable as possible (Forschungs-gemeinschaft Urlaub und Reisen, 2020).

The focus of this study is on whether products that have had their sustainability communicated to potential tourists have higher WTP than regular products. In doing so, the study aims to identify potential differences between sustainability dimensions: specifically, whether any one dimension creates a higher WTP than the others and, if so, how great the difference may be. This study therefore attempts to answer the following research questions:

RQ1: How does the promotion of different sustainability dimensions affect German tourists' WTP for a stay in a Finnish holiday cottage?

RQ2: How do socio-demographic factors affect German tourists' WTP for a stay in a sustainable cottage?

Data were gathered from German citizens or those living permanently in Germany in June 2022. The online questionnaire was open for two weeks. Out of 279 responses, 241 were used for data analysis. Most of the respondents were female and repeat visitors to

Finland. This is not truly representative of the characteristics of German tourists to Finland in general, which is a limitation of this study.

Literature review

The market for sustainable tourism

Evidence suggests that the demand for sustainable tourism has been growing through the last decade. A report by Booking.com (2021), suggested that 82% of tourists intended to stay in sustainable accommodation in the future: an increase of 19% on the previous five years. A 2019 study of German tourists by Reiseanalyse found that 61% of respondents wanted their holiday to be sustainable (Forschungsgemeinschaft Urlaub und Reisen, 2020). The Covid-19 pandemic has, meanwhile, accelerated the growth of demand for sustainable tourism. A survey by Euromonitor International (2020) found that 76% of tourists expected to be more concerned about sustainability after the pandemic. According to Booking.com (2021), meanwhile, 61% of tourists felt that the pandemic has increased their willingness to travel more sustainably.

Whether such intentions will turn into actual behavior is, however, a moot point. The results of the Reiseanalyse study suggest that although two thirds of Germans support sustainability, only 6% would choose a sustainably labeled holiday and only 3% would choose to offset their carbon emissions (Forschungsgemeinschaft Urlaub und Reisen, 2020). One of the main barriers to choosing sustainable products and services is perceived lack of availability: almost half of the tourists in the study by Booking.com (2021) thought that there were not enough sustainable options in the market, while 72% thought that travel companies should provide more sustainable choices.

The apparent lack of availability of sustainable tourism products and services may, of course, be more an artefact of poor communication than a genuine scarcity. Communication is the key to linking demand and supply. While it is the role of suppliers to create awareness, provide information, and try to persuade consumers to purchase their market offerings, consumers must also be willing to receive, process, and act upon such market communications. As such, they must be willing to pay a premium price for a more sustainable market offering.

Communicating sustainability

Sustainability communication comprises a range of activities that aim to make customers and other stakeholder groups aware of a product or service's sustainability (Tölkes, 2018), to create a favorable position for the business in the marketplace (Villarino & Font, 2015), to inform consumers of how the company's offerings meet their needs, and, importantly, to drive behavioral change towards the consumption of sustainable products (Font & McCabe, 2017).

Communication is key. According to a report by Booking.com (2021), tourists are demanding more active sustainability communication by companies, with 40% saying that finding sustainable options should be made easier through, for example, online search filters and certification logos. Tourists also want travel companies to offer tips on how they can adopt more sustainable practices during their trips.

How the sustainability credentials of a product or service are communicated to consumers can affect WTP. Wehrli et al.'s (2017) study among respondents in Switzerland found that tourists across multiple countries prefer emotional messages to rational messages when choosing a sustainable tourism product. A similar result was obtained from a study of UK tourists visiting South Africa (Li et al., 2021). Randle et al. (2019) found that for local sustainability causes, positively framed messages were more effective, while for international causes this was not necessarily the case. In a pro-poor tourism context, Li et al. (2021) found that neither strong nor weak images had a significant effect on WTP when presented alongside strong messages. Weak messages, however, especially when framed negatively, had a positive influence on tourists' WTP.

Willingness to pay for sustainable products and services

Willingness to pay is defined as the maximum price a customer are prepared pay for a specific amount of a product or service (Le Gall-Ely, 2009). It has been studied in wide variety of contexts. A popular subject is organic and fair-trade food products (Katt & Meixner, 2020), and research includes studies on coffee (De Pelsmacker et al., 2005), pineapples (Poelman et al., 2008) and chocolate (Ota et al., 2019).

In the tourism context, hotels have received the most attention (Boronat-Navarro & Pérez-Aranda, 2020; Nelson et al., 2021). Other tourism-related studies focus on wine tourism, nature-based tourism, cruising, and pro-poor tourism (Li et al., 2021; Vespestad & Gressnes, 2021). Tourists' WTP for sustainable tourism has also been studied in a destination context (López-Sánchez & Pulido-Fernández, 2017; Pulido-Fernández & López-Sánchez, 2016).

Such studies have generally identified a positive price premium, i.e. customers usually have a higher WTP for products and services that are communicated as being more sustainable. However, this is only for cases where sustainable offerings are more expensive. In today's experiential marketplace, compared to unsustainable solutions, sustainable offerings are priced at the same or even price levels (Rahman et al., 2020). Some studies do suggest, however, that certain consumers might have a lower WTP for a sustainable product or service, compared to a conventional one. A study in Taiwan by Chia-Jung and Pei-Chun (2014) found that guests typically require a *discount* of 11 USD to stay in a green hotel. A study by Millar and Baloglu (2011), meanwhile, found that the proportion of those willing to pay less for green lodging was almost as big as the proportion of those willing to pay more. A possible explanation is that some consumers may view sustainable products and services as inconvenient and of lower quality, or that the producers are implementing such practices simply to cut costs (Baker et al., 2014).

There are indications that tourists' WTP for sustainability tends to vary between different study locations and contexts. Durán-Román et al. (2021), for example, found that socio-demographic factors such as income level, nationality, age, gender, and profession played a role in determining tourists' WTP. Kang and Nicholls (2021), in contrast, found that gender, age, education, and income all had either a mixed or non-significant effect on WTP. The factors affecting tourists' WTP seem, therefore, to be highly context specific.

Trip-related variables have been found to influence the WTP for sustainable tourism products and services. These include travelers' motivations, trip characteristics,

accommodation type, length of stay and travel companions (Kang et al., 2012; López-Sánchez & Pulido-Fernández, 2017; Vespestad & Gressnes, 2021).

Other studies have focused on psychographic factors as determinants of the WTP for sustainable products and services. Higher levels of awareness about sustainability issues have, for example, been found to be positively associated with WTP. Kang et al. (2012) found that US hotel guests with higher environmental awareness had a significantly greater WTP for green hotels. Boronat-Navarro and Pérez-Aranda (2020) suggest that hotel guests who are more interested in sustainability practices have a higher WTP for sustainability. Studies have also found that the degree of a tourists' "sustainable intelligence" is a determining factor of their WTP for a sustainable destination (López-Sánchez & Pulido-Fernández, 2017; Pulido-Fernández & López-Sánchez, 2016).

The impact of different sustainability dimensions on WTP

Limited research exists on how factors associated with the different dimensions of sustainability determine tourists' WTP for sustainable products and services. Two studies have examined sustainability in the retail context and concluded that a "fair-trade" label, which emphasizes the socio-cultural dimension sustainability, generates higher WTP than an organic label, which emphasizes the environmentally dimension (Ota et al., 2019). These findings are in line with the extensive literature review conducted by Tully and Winer (2014), who conclude that across a range of domains and products, those with sustainability goals that are intended to benefit humans tend to generate higher WTP than those intended to benefit the environment. Nelson et al. (2021) have therefore called for more studies into the different dimensions of sustainability factors in tourism and causes that tourists are willing to support.

In the tourism context, Pasanen (2018) examined the sustainability preferences of Finnish and Russian tourists when selecting a Finnish cottage holiday product. Both Finnish and Russian customers were found to value socio-cultural attributes such as local food and lifestyle. Environmental attributes were also appreciated by Finns, but not by Russians. Wehrli et al. (2011), meanwhile, found that environmental measures were valued more highly by Swiss tourists than fair working conditions and local products.

Hypothesis formulation

Some studies suggest that tourists are, in general, willing to pay more for sustainable tourism products and services (Durán-Román et al., 2021; Kang & Nicholls, 2021). Regarding the different sustainability dimensions, most studies suggest that tourists are willing to pay more for products and services with superior environmental (Nelson et al., 2021), socio-cultural (Li et al., 2021), and economic (Li et al., 2021; Ota et al., 2019) sustainability credentials. The following hypotheses are therefore presented:

H1. Sustainability communication has a positive effect on German tourists' WTP for a stay in a Finnish holiday cottage.

H1a. Communication about environmental sustainability has a positive effect on German tourists' WTP for a stay in a Finnish holiday cottage.

H1b. Communication about socio-cultural sustainability has a positive effect on German tourists' WTP for a stay in a Finnish holiday cottage.

H1c. Communication about economic sustainability has a positive effect on German tourists' WTP for a stay in a Finnish holiday cottage.

Some studies have found that the sustainability causes that benefit humans generate higher WTP than those benefiting the environment (Ota et al., 2019; Tully & Winer, 2014). This discrepancy has not been seen in studies in the tourism context. Hence, the following hypothesis is proposed:

H2. Communication about socio-cultural sustainability has a greater effect on German tourists' WTP for a stay in a Finnish holiday cottage than communication about environmental sustainability.

Regarding the influence of socio-demographic factors, income is one of the most frequently studied determinants of consumers' WTP. Income is often seen to have a positive correlation with WTP (Katt & Meixner, 2020), but this is not always the case. Results from a Spanish tourism destination show that although income does affect WTP for sustainable products, there is no direct and growing relationship between income and WTP (López-Sánchez & Pulido-Fernández, 2017), meaning that in some cases WTP declines as income increases. Based on these results, the following hypothesis is proposed:

H3. Income has a moderating effect on German tourists' WTP for a stay in a Finnish holiday cottage.

Methods

According to Mitchell and Carson (1989), the contingent valuation method (CVM) is a suitable method for studying WTP. The CVM is a scalable and versatile technique that can be used with a wide variety of data collection and elicitation methodologies. It can also be used in studies with a relatively small sample size. The elicitation method chosen for this study was the payment card method: a single-question method where the respondent is presented with a range of prices and asked to choose the highest amount that they would be willing to pay for the product (Mitchell & Carson, 1989). It was chosen because of its flexibility and suitability for small-scale contingent valuation studies (Bayoumi, 2004). The data gained from payment card studies is relatively straightforward to analyze (Tian et al., 2011) and is considered more reliable (Frew et al., 2004).

Structure of the questionnaire

The questionnaire, which was presented in either English or German, consisted of three parts (Appendix). In the first part, respondents were asked to state their earlier experience of traveling to Finland and whether they had previously stayed in cottage accommodation. The second section was linked to sustainability communication and respondents' WTP for cottage products with different sustainability attributes was solicited. The cottage and its attributes were first introduced to the respondents, including information on basic attributes such as location, equipment, beds, and price. This version intended to act as a baseline against which the respondents could compare three further cottages with different emphases on sustainability.

After presenting the baseline cottage, respondents were presented with three cottages: Cottages 1 (Bär), 2 (Luchs), and 3 (Elch) each representing a particular dimension of sustainability (environmental, socio-cultural, and economical) through different attributes associated with each dimension. Respondents were asked to state their WTP for each cottage separately to examine potential differences between the valuation of different cottages and their sustainability attributes. The three cottages were presented in random order to mitigate order bias and thus improve reliability. A manipulation check question was introduced to verify the effect of the sustainability attributes. After expressing their WTP for each cottage, the respondents were asked to rate the environmental, socio-cultural, and economic sustainability of each cottage using a seven-point Likert scale (Wu & Yang, 2018). A manipulation check question was also asked after the respondents stated their WTP for the baseline cottage, so the results from the manipulated cottages could be compared against the baseline.

An instrumental manipulation check question was also introduced to detect respondents who were not carefully reading the instructions, which could negatively affect data quality (Oppenheimer et al., 2009). This revealed that the cottage attributes communicate each sustainability dimension successfully: each cottage reached the highest rating in their respective sustainability category.

In the third part of the questionnaire, socio-demographic questions were asked to gain an understanding of the sample composition and to test the effect of different socio-demographic factors on WTP. The socio-demographic factors were derived from earlier literature examining tourists' WTP (e.g. López-Sánchez & Pulido-Fernández, 2017). The research items covering socio-demographic factors were formed similarly to those in the Federal Statistical Office of Germany's census surveys (Statistisches Bundesamt (Destatis), 2021). A 500€ gift card was offered to one randomly selected participant to incentivize participation.

Data collection

The questionnaire was distributed online through five different bloggers, influencers, and media outlets that specialized in topics related to travel to Finland or the Nordic countries. The goal was to reach the largest possible number of people in the target audience, i.e. German nationals, living in Germany, who are knowledgeable of Finland as a tourism destination. A native German speaker translated the questionnaire from English to German and gave insights on the specific wording on questions regarding education and occupation. A pilot was conducted with 15 respondents, mainly of German or German-speaking descent, to assess the functionality and understandability of the questionnaire. Minor changes were made to the layout of the mobile version and the wording of the questions based on this feedback. In addition, Bär cottage attributes included bicycles and a rowing boat in the price which might have influenced the participants' responses.

The data were collected in June 2022. The online questionnaire was open for two weeks, during which time 279 responses were collected. Non-valid responses were deleted from the dataset: seven due to a failed instrumental manipulation check, 25 because the respondents did not fit the inclusion criteria of being either a German citizen or living permanently in Germany, and six for other reasons such as the respondent

having answered the questionnaire too quickly. In total, 241 valid responses were retained for further data analysis.

Some of the variables were transformed to better suit the data analysis. The data on respondents' birth years were reassigned to the six age groups used by the Federal Statistical Office of Germany. Responses to multiple-choice questions regarding travel companions and professional status were reclassified as single variables. To gain more robust results from the analysis, respondents who had stated their household income ($n = 213$) were categorized into three groups based on their household income level: low (less than 1500€ per month, $n = 26$), middle (more than 1500€ per month but less than 4000€, $n = 115$) and high (more than 4000€, $n = 72$).

Methods of data analysis

Cronbach's alpha was used to check the internal reliability of the sustainability statements, i.e., the manipulation check questions. The value obtained was .750, which is higher than the minimum level of acceptability (.600; see Metsämuuronen, 2005). The measurement items can thus be considered internally consistent.

A boxplot analysis showed that the data contained 14 outliers out of the 723 total observations in the three WTP questions. According to Metsämuuronen (2005), in the case of non-normal distribution or outliers, the data can be transformed with, for example, Log10 or square root transformations to reach normal distribution and eliminate outliers. Neither Log10 nor square root transformations affected the data distribution, however, nor the presence of outliers. An attempt was made to transform the outlier values into averages, but the transformed dataset did not provide significantly different results in the data analysis compared to the non-transformed data. The non-transformed data were hence used in the data analysis. However, it must be noted that the outliers accounted for less than 2% of the total observations and that the outliers were still within the predetermined response range of 0€–300€.

A Kolmogorov-Smirnov's test of normality showed that the responses for all three questions regarding WTP were non-normally distributed ($p < .05$). Both parametric and non-parametric tests were therefore applied to the dataset. H1, H1a, H1b, H1c, and H2 were tested with a one-sample t-test and a Wilcoxon's Signed Rank test. Before testing H3 and the effect of socio-demographic variables, the respondents were grouped into clusters using K-means cluster analysis based on their WTP for the cottages. The hypothesis was then tested using one-way ANOVA and the Kruskal–Wallis H test. As the parametric and non-parametric tests produced similar results, the results of parametric tests are reported in this study.

Results

Respondents' socio-demographic characteristics

Respondents' socio-demographic characteristics are presented in Table 1. 81.7% of the respondents were female. Middle-aged people were also over-represented in the sample, 35–55-year-olds making up over 60% of the sample. Over 60% of the respondents were in a relationship and 29% had children living in their household. The sample

Table 1. The respondents' socio-demographic characteristics.

	Number (%)		Number (%)
Gender (N = 241)		Relationship status (N = 241)	
Female	197 (81.7%)	Single	68 (28.2%)
Male	41 (17.0%)	Married or in a relationship, living together	144 (59.8%)
Other/No answer	3 (1.2%)	Married or in a relationship, living separately	10 (4.1%)
		Divorced	10 (4.1%)
		Widowed	7 (2.9%)
		Other/No answer	2 (0.8%)
Age (N = 241)		Number of children under 18 in the household (N = 241)	
4	11 (4.6%)	0	171 (71.0%)
25–34	43 (17.8%)	1	35 (14.5%)
35–44	81 (33.6%)	2	28 (11.6%)
45–54	70 (29.0%)	3 or more	7 (2.9%)
55–64	27 (11.2%)		
Over 65	9 (3.7%)		

featured a higher proportion of couples and a lower proportion of singles than the German population, as well as a slightly higher proportion of childless households (Statistisches Bundesamt (Destatis), 2021).

The portion of respondents earning more than 4000€ per month was 29.8%. Respondents in the sample tended to be highly educated, with over 44% having completed a bachelor's degree, master's degree, diploma, or PhD. Meanwhile, 57.3% were employed full time. The majority of the respondents worked as office workers (67.8%), which is a higher proportion than in the German population as a whole (Statistisches Bundesamt (Destatis), 2021).

Around 87% of the respondents had traveled to Finland before and about 92% of those with earlier travel experience to Finland had done so in the previous five years. Approximately half the respondents had traveled to Finland at least three times in the previous five years. Most had traveled either with their family, friends, or partner. Half of them had stayed in a Finnish cottage before answering the survey (Table 2).

Effect of sustainability communication on WTP

The analysis found differences in how communication about different sustainability dimensions affected German tourists' WTP. A one-sample t-test was performed to compare the effect of environmental, socio-cultural, and economic sustainability

Table 2. Respondents' earlier experiences of traveling to Finland.

	Number (%)		Number (%)
Traveled to Finland before (N = 241)		Stayed in a Finnish cottage before (N = 210)	
Yes	210 (87.1%)	Yes	105 (50.0%)
No	31 (12.9%)	No	104 (49.5%)
		I don't know	1 (0.5%)
Times traveled to Finland in the last 5 years (N = 210)		When you traveled to Finland, who did you travel with? (N = 210)	
0	17 (8.1%)	Alone	26 (12.4%)
1	39 (18.6%)	Partner	44 (21.0%)
2	49 (23.3%)	Friends	55 (26.2%)
3 or more	105 (50.0%)	Family	70 (33.3%)
		Guided tour	9 (4.3%)
		Other	6 (2.9%)

communication on the tourists' WTP. The mean WTP of each sustainable cottage was tested against the market price (150€) of the control cottage. The average WTP for all three cottages is 157.2€ with notable differences between the options focusing on environmental, socio-cultural, and economic aspects of sustainability. The cottage with environmental sustainability credentials gained an average WTP of 172.61€ ($p < .001$), the one with socio-cultural sustainability credentials gained an average WTP of 150.35€ ($p = .900$), while the one with economic sustainability credentials gained an average WTP of 148.65€ ($p = .614$). Only the increase associated with the environmental dimension was, however, statistically significant. In addition, 66.4% of respondents were willing to pay a premium for the cottage with the environmental credentials. The mean premium for the environmentally sustainable cottage was 22.61€ (15.1%) (Table 3).

K-means cluster analysis and one-way ANOVA analysis

A K-means cluster analysis was conducted to examine the relationship between respondents' socio-demographic characteristics and their WTP. This enabled the respondents to be placed into groups according to their WTP for all cottages. Clusters were formed based on three variables measuring the tourists' WTP for the three cottages. All variables are measured using the same scale of 0–300. The number of clusters was set to three and the analysis was completed by the eighth iteration. ANOVA and Tukey's HSD post-hoc test was used to confirm the results of the cluster analysis. The tests confirmed that the clusters are significantly different from each other ($p < .001$). Three clusters of respondents were formed: those with low WTP ($n = 84$), those with medium WTP ($n = 129$), and those with high WTP ($n = 28$) for sustainable cottages (Table 4).

The results show that in the high WTP group, respondents were willing to pay more money for all cottages. Medium WTP was the largest group with 129 respondents. People in this group were willing to pay less than the high WTP group, but the mean WTP for all cottages was still higher than the proposed market price of 150€. The low WTP group comprised 84 respondents and their WTP is significantly lower than that of the other two groups. Cottage 1, the environmentally sustainable option, had the highest WTP for each group.

The relationship between the socio-demographic variables and WTP was then examined. The indicator for WTP was the cluster membership in either the low, medium, or high WTP clusters. One-way ANOVA tests were performed to compare the effect of socio-demographic variables (traveled to Finland before, number of times traveled to Finland in the last five years, travel companion, stayed in a cottage, age, gender, income, relationship status, number of children, professional status, and employment

Table 3. Tourists' willingness to pay for different cottages.

Cottage	Mean WTP (€)	Std. Deviation	Willing to pay a premium	Mean premium €	Mean premium %	Sig. (2-tailed)
Environmentally sustainable (Cottage 1)	172.61	47.92	66.4%	22.61	15.1%	<.001
Socio-culturally sustainable (Cottage 2)	150.35	43.42	46.5%	0.35	0.2%	.900
Economically sustainable (Cottage 3)	148.65	41.44	45.6%	-1.35	-0.9%	.614

Table 4. K-means cluster analysis results.

Cluster name	Number of cases	Mean WTP for Cottage 1 (€)	Mean WTP for Cottage 2 (€)	Mean WTP for Cottage 3 (€)
High WTP	28	258.14	228.71	214.89
Medium WTP	129	184.64	160.76	160.21
Low WTP	84	125.62	108.25	108.82

status) on the respondents' WTP, i.e. cluster memberships (Table 5). The results found only two variables with statistically significant differences between the WTP clusters: employment status ($F(3, 228) = [3.475], p = .017$) and professional status ($F(8, 227) = [2.321], p = .021$). In the case of the professional status variable, however, Tukey's HSD test for multiple comparisons did not reveal any significant ($p < .05$) differences between groups. Tukey's HSD test for multiple comparisons showed that the responses of those who were employed full-time were significantly different to those who gave their employment status as "Other" ($p = .012, 95\% \text{ C.I.} = .08, .93$) (Table 6).

The descriptive statistics show that the vast majority (80%) of the respondents in the "Other" category belonged to the "Low WTP" cluster. The professional status of the 20 respondents in the "Other" category included eight retirees, six students, two unpaid family workers (stay-at-home parents), two entrepreneurs, and two unspecified/other.

Test of hypotheses

The study performed the test of the hypotheses in Table 7. As environmental sustainability communication was the only form of sustainability communication that had a statistically significant impact on the tourists' WTP. H1 is partially supported. H1a is supported, but H1b and H1c are rejected since socio-cultural and economic sustainability communication do not have a significant impact on the tourists' WTP. Hypothesis 2 is not

Table 5. Results from one-way ANOVA on the effect of socio-demographic variables on WTP.

Variable name	Significance	<i>p</i> -value
Traveled to Finland before	Not significant	.267
Number of times traveled to Finland in the last five years	Not significant	.763
Travel companion	Not significant	.726
Stayed in a cottage	Not significant	.512
Age	Not significant	.132
Gender	Not significant	.887
Income	Not significant	.152
Relationship status	Not significant	.693
Number of children	Not significant	.895
Professional status	Significant	.021
Employment status	Significant	.017

Table 6. Results of Tukey's HSD test for multiple comparison regarding different employment.

		Mean difference	Std. Error	Sig.	C.I. 95% lower bound	C.I. 95% upper bound
Full-time employment	Part-time employment	.101	.098	.728	-.15	.35
	Unemployed	.504	.485	.727	-.75	1.76
	Other	.504	.163	.012	.08	.93

Table 7. Results of hypothesis testing.

Hypothesis	Result
H1: Sustainability communication affects tourists' WTP positively	Partly supported
H1a: Communication about environmental sustainability affects tourists' WTP positively	Supported
H1b: Communication about socio-cultural sustainability affects tourists' WTP positively	Not supported
H1c: Communication about economic sustainability affects tourists' WTP positively	Not supported
H2: Communication about socio-cultural sustainability affects tourists' WTP more positively than communication about environmental sustainability	Not supported
H3: Income has a moderating effect on tourists' WTP for sustainable cottage products	Not supported

supported as socio-cultural sustainability communication does not have a significant impact on WTP.

Discussion and conclusion

The study set out to address two research questions. In terms of the first research question (RQ1), How does the promotion of different sustainability dimensions affect German tourists' WTP for a stay in a Finnish holiday cottage? the results show that only communication regarding the environmental dimension of sustainability had a statistically significant positive effect on German tourists' WTP for a Finnish holiday cottage. H1a is thus supported, while H1b and H1c are not, meaning that H1 is only partially supported. One explanation for this could be that the standard of living in German and Finland is similar, so tourists may not feel there is a strong need for them to support the sustainability of the society, culture and economy of the destination.

Previous studies have found that environmental sustainability has a significant positive effect on tourists' WTP in various contexts (Kang et al., 2012; Nelson et al., 2021; Wehrli et al., 2011) and this study corroborates such findings. Moreover, roughly 66% of the respondents in this study were willing to pay a premium for environmentally sustainable accommodation. This proportion is similar to those in some other studies (e.g. Nelson et al., 2021; TripAdvisor, 2012). Pulido-Fernández and López-Sánchez (2016), however, found that only 26.6% of respondents were willing to pay a premium for a more sustainable option.

Regarding the size of premium, this study found that the mean premium for the environmentally sustainable option was 22.61€, which translates into a 15.1% premium. However, the attitude-behavior gap in retaining pro-environmental behavior when choosing a sustainable labeled holiday might have impacted the findings of this study. Thus, this result should not be viewed and interpreted as incontrovertible evidence that environmental sustainability creates a 15% higher WTP, but rather an indication that there is a positive effect on WTP. Previous studies have tended to find lower premiums (e.g. Kang et al., 2012; Nelson et al., 2021). However, Li et al. (2021) found that British tourists were willing to pay a premium of 15.7% for tourism products with socio-cultural sustainability credentials, while Tully and Winer's (2014) meta-analysis concluded that the average premium for sustainable products in general was 16.8%.

Hypothesis 2, that German tourists would be willing pay a greater premium for socio-cultural sustainability than environmental sustainability, was not supported. This is contrary to the findings of earlier studies in tourism (Li et al., 2021) and other contexts (Ota

et al., 2019; Tully & Winer, 2014). A potential explanation may be that nature is the key factor that attracts German tourists to Eastern Finland. The desire to conserve and protect the nature may help to explain why German tourists were more willing to pay to contribute to the environmental dimension of sustainability.

The second research question (RQ2) examined the effect of socio-demographic factors (traveled to Finland before, number of times traveled to Finland in the last five years, travel companion, stayed in a cottage, age, gender, income, relationship status, number of children, professional status, and employment status) on German tourists' WTP to stay in a Finnish holiday cottage. This result suggest that only employment status has a significant effect. Hypothesis 3 – that income has a moderating effect on WTP – is thus not supported.

Employment status has previously been studied by López-Sánchez and Pulido-Fernández (2017), who suggested that employed respondents were willing to pay less for sustainable tourism than unemployed respondents. This study provides contrary results, as fully employed respondents were found to have higher WTP for sustainable tourism than respondents in the "Other" category, which comprised mainly students and retired people. It can be concluded that socio-demographic factors are not a very robust and reliable way of predicting tourists' WTP for sustainable accommodation.

Theoretical implications

This study makes three key contributions to the extant literature. First, this study responds to the call for more studies into the different dimensions of sustainability factors in tourism (Nelson et al., 2021). While tourism studies have focused mainly on the environmental dimension of sustainability (Tölkes, 2018), this study examines the determinants of German tourists' WTP to pay for accommodation in a Finnish holiday cottage and focuses on the communication of credentials relating to all sustainability dimensions (environmental, socio-cultural, and economic). However, it is important to note that only environmental sustainability had a statistically significant impact on the tourists' WTP. The findings suggest that greater the communication about environmental sustainability, the more likely that a German tourist's WTP for a stay in a Finnish holiday cottage, which supports H1a. However, the WTP including a higher premium for environmentally sustainable cottage (cottage 1; Bär) might be influenced by the attributes linked to bicycles and a rowing boat that are included in the price for this cottage only.

Second, the findings further contribute to literature on sustainability in tourism, laying the foundation for future research on this topic. Beyond examining environmental sustainability, the findings suggests that in terms of tourists' WTP for sustainable products, there are major differences between the three dimensions of sustainability (environmental, socio-cultural, and economic). This finding supports some studies that have found similar differences in, for example, general business (Tully & Winer, 2014) and retail contexts (Ota et al., 2019). The findings from these studies indicate that environmental sustainability generates higher WTP compared to other dimensions. The contrary findings of this study indicates that tourists may have different preferences regarding sustainability compared to consumers in tourism (Li et al., 2021) and other contexts (Tully & Winer 2014; Ota et al., 2019). In addition, the findings of this study suggest that the WTP premium for the environmental dimension of sustainability is higher than in other studies

(Kang et al., 2012; Nelson et al., 2021). It is difficult to conclude why cottages generate higher WTP premiums, but the results of this study indicate that there might not only be differences between different sustainability dimensions' ability to generate higher WTP, but also differences between different forms of accommodation when it comes to WTP generation. Moreover, to the best of the authors' knowledge, this is the first study to examine the effect of three sustainability dimensions (environmental, socio-cultural, and economic) on tourists' WTP.

Third, the findings contradict existing studies indicating that socio-demographic factors, for example, education level (Durán-Román et al., 2021; López-Sánchez & Pulido-Fernández, 2017), market knowledge (Kosenko & Rahtz, 1988) and income (Durán-Román et al., 2021; Katt & Meixner, 2020; López-Sánchez & Pulido-Fernández, 2017), have a significant effect on WTP. This was not evident in this study. In addition, the findings suggest that socio-demographic factors are not reliable predictors of tourists' WTP, which is consistent with some previous studies (Kang & Nicholls, 2021).

Managerial implications

The results of this study suggest that tourism businesses should acknowledge that sustainability is a multi-dimensional phenomenon and that tourists value the dimensions differently. In this case, environmental sustainability was the most appreciated dimension by German tourists. Businesses can utilize this knowledge in their marketing communications. Thus, cottage accommodation businesses targeting German tourists should consider investing in product development based on environmental sustainability, such as energy efficiency, water conservation, and recycling opportunities. Businesses should also develop a planned and organized approach to communicate these investments effectively to the desired target audience. Investments into energy efficiency and water conservation will also tend to reduce the businesses' operating costs, so the benefits are not limited to increased revenue generated by higher WTP. Those businesses who have not yet decided to make the investments should consider investing, as the potential financial and marketing benefits are significant.

Limitations and future research

As with any research, the present study limitations that are important to acknowledge. First, the sample size is limited. A larger sample would have reduced the standard error of the mean regarding the WTP questions. Second, the external validity is limited due to the use of CVM. Despite its popularity, the CVM cannot fully recreate a realistic market scenario and as such suffers from hypothetical bias. Third, the questionnaire was distributed through social media channels, which may have resulted in selection bias on the part of respondents who have strong opinions about the issues at hand. Fourth, women and repeat visitors to Finland, were over-represented in the sample.

Given that the findings of the existing literature linked to WTP for sustainable products and services in different contexts is at best mixed, at worst contradictory, future studies should examine the topic by drawing upon theory to bridge the attitude-behavior gap, for example, value-belief-norm theory of environmentalism (Stern et al., 1999) and different methods or by examining the consumers' viewpoints in a scenario that would

better reflect reality. Methods such as conjoint analysis and discrete choice experiments can be applied to WTP studies to offer more reliable results. The importance of individual product attributes, causes, or initiatives in the WTP formation process could also be examined by using conjoint analysis method. A similar questionnaire could be sent to tourists who have just booked or just returned from a cottage holiday. This would allow them to base their responses on recent experiences and provide more reliable results.

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References

- Baker, M. A., Davis, E. A., & Weaver, P. A. (2014). Eco-friendly attitudes, barriers to participation, and differences in behavior at green hotels. *Cornell Hospitality Quarterly*, 55(1), 89–99. <https://doi.org/10.1177/1938965513504483>
- Bayoumi, A. M. (2004). The measurement of contingent valuation for health economics. *PharmacoEconomics*, 22(11), 691–700. <https://doi.org/10.2165/00019053-200422110-00001>
- Booking.com. (2021). *Sustainable travel report 2021*. <https://globalnews.booking.com/bookingcoms-2021-sustainable-travel-report-affirms-potential-watershed-moment-for-industry-and-consumers/>
- Boronat-Navarro, M., & Pérez-Aranda, J. A. (2020). Analyzing willingness to pay more to stay in a sustainable hotel. *Sustainability*, 12(9), 3730. <https://doi.org/10.3390/su12093730>
- Bramwell, B., Higham, J., Lane, B., & Miller, G. (2017). Twenty-five years of sustainable tourism and the looking back and moving forward. *Journal of Sustainable Tourism*, 25(1), 1–9. <https://doi.org/10.1080/09669582.2017.1251689>
- Chia-Jung, C., & Pei-Chun, C. (2014). Preferences and willingness to pay for green hotel attributes in tourist choice behavior: The case of Taiwan. *Journal of Travel & Tourism Marketing*, 31(8), 937–957. <https://doi.org/10.1080/10548408.2014.895479>
- De Pelsmacker, P., Driesen, L., & Rayp, G. (2005). Do consumers care about ethics? Willingness to pay for fair-trade coffee. *Journal of Consumer Affairs*, 39(2), 363–385. <https://doi.org/10.1111/j.1745-6606.2005.00019.x>
- Durán-Román, J. L., Cárdenas-García, P. J., & Pulido-Fernández, J. I. (2021). Tourists' willingness to pay to improve sustainability and experience at destination. *Journal of Destination Marketing & Management*, 19, 100540. <https://doi.org/10.1016/j.jdmm.2020.100540>
- Euromonitor International. (2020). *Travel 2040. Sustainability and digital transformation as recovery drivers*. <https://marketresearch.enterprise-ireland.com/wp-content/uploads/2019/01/Travel-2040-Sustainability-and-Digital-Transformation-as-Recovery-Drivers-Jul-2020-Euromonitor.pdf>
- Font, X., & McCabe, S. (2017). Sustainability and marketing in tourism: Its contexts, paradoxes, approaches, challenges and potential. *Journal of Sustainable Tourism*, 25(7), 869–883. <https://doi.org/10.1080/09669582.2017.1301721>

- Forschungsgemeinschaft Urlaub und Reisen. (2020). *Selected first results of the 50th reiseanalyse for the ITB 2020*. https://reiseanalyse.de/wp-content/uploads/2020/03/RA2020_First-results_EN.pdf
- Frew, E. J., Wolstenholme, J. L., & Whynes, D. K. (2004). Comparing willingness-to-pay: Bidding game format versus open-ended and payment scale formats. *Health Policy*, 68(3), 289–298. <https://doi.org/10.1016/j.healthpol.2003.10.003>
- González-Rodríguez, M. R., Díaz-Fernández, M. C., & Font, X. (2020). Factors influencing willingness of customers of environmentally friendly hotels to pay a price premium. *International Journal of Contemporary Hospitality Management*, 32(1), 60–80. <https://doi.org/10.1108/IJCHM-02-2019-0147>
- Kang, K. H., Stein, L., Heo, C. Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, 31(2), 564–572. <https://doi.org/10.1016/j.ijhm.2011.08.001>
- Kang, S., & Nicholls, S. (2021). Determinants of willingness to pay to stay at a green lodging facility. *International Journal of Hospitality Management*, 94, 102834. <https://doi.org/10.1016/j.ijhm.2020.102834>
- Katt, F., & Meixner, O. (2020). A systematic review of drivers influencing consumer willingness to pay for organic food. *Trends in Food Science & Technology*, 100, 374–388. <https://doi.org/10.1016/j.tifs.2020.04.029>
- Kosenko, R., & Rahtz, D. (1988). *Buyer market price knowledge influence on acceptable price range and price limits*. ACR North American Advances.
- Le Gall-Ely, M. (2009). Definition, measurement and determinants of the consumer's willingness to pay: A critical synthesis and avenues for further research. *Recherche Et Applications En Marketing*, 24(2), 91–112.
- Li, S., Saayman, A., Stienmetz, J., & Tussyadiah, I. (2021). Framing effects of messages and images on the willingness to pay for pro-poor tourism products. *Journal of Travel Research*, 1–17.
- López-Sánchez, Y., & Pulido-Fernández, J. I. (2017). Factors influencing the willingness to pay for sustainable tourism: A case of mass tourism destinations. *International Journal of Sustainable Development & World Ecology*, 24(3), 262–275. <https://doi.org/10.1080/13504509.2016.1203372>
- MacInnes, S., Grün, B., & Dolnicar, S. (2022). Habit drives sustainable tourist behaviour. *Annals of Tourism Research*, 92, 103329. <https://doi.org/10.1016/j.annals.2021.103329>
- Metsämuuronen, J. (2005). *Tutkimuksen tekemisen perusteet ihmistieteissä* (3rd ed.). Methelp.
- Millar, M., & Baloglu, S. (2011). Hotel guests' preferences for green guest room attributes. *Cornell Hospitality Quarterly*, 52(3), 302–311. <https://doi.org/10.1177/1938965511409031>
- Ministry of Economic Affairs and Employment. (2019). *Achieving more together – sustainable growth and renewal in Finnish tourism: Finland's tourism strategy 2019–2028 and action plan 2019–2023*. Helsinki: Ministry of Economic Affairs and Employment. [https://urn.fi/URN:ISBN:978-952-327-472-3\(11.03.23\)](https://urn.fi/URN:ISBN:978-952-327-472-3(11.03.23))
- Mitchell, R. C., & Carson, R. T. (1989). *Using surveys to value public goods: The contingent valuation method*. Resources for the Future.
- Nelson, K. M., Partelow, S., Stäbler, M., Graci, S., & Fujitani, M. (2021). Tourist willingness to pay for local green hotel certification. *PLoS One*, 16(2), e0245953. <https://doi.org/10.1371/journal.pone.0245953>
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45(4), 867–872. <https://doi.org/10.1016/j.jesp.2009.03.009>
- Ota, M., Sakata, Y., & Iijima, T. (2019). The new silk road and its potential for sustainable development: How open digital participation could make BRI a role model for sustainable businesses and markets. *Asian Journal of Sustainability and Social Responsibility*, 4(1), 1–14. <https://doi.org/10.1186/s41180-018-0021-3>
- Pasanen, K. (2018). What to communicate about sustainability actions of Finnish holiday villa companies for Finnish and Russian consumers? Paper presented at the BEST EN Think Thank XVIII, Lucerne, Switzerland, pp. 202–208.
- Poelman, A. A. M., Mojjet, J., Lyon, D., & Sefa-Dedeh, S. (2008). The influence of information about organic production and fair trade on preferences for and perception of pineapple. *Food Quality and Preference*, 19(1), 114–121. <https://doi.org/10.1016/j.foodqual.2007.07.005>

- Pulido-Fernández, J. I., & López-Sánchez, Y. (2016). Are tourists really willing to pay more for sustainable destinations? *Sustainability*, 8(12), 1240. <https://doi.org/10.3390/su8121240>
- Rahman, I., Chen, H., & Reynolds, D. (2020). Evidence of green signaling in green hotels. *International Journal of Hospitality Management*, 85, 102444. <https://doi.org/10.1016/j.ijhm.2019.102444>
- Randle, M., Kemperman, A., & Dolnicar, S. (2019). Making cause-related corporate social responsibility (CSR) count in holiday accommodation choice. *Tourism Management*, 75, 66–77. <https://doi.org/10.1016/j.tourman.2019.05.002>
- Statistics Finland. (2022a). *Accommodation establishment capacity by region*. https://pxnet2.stat.fi/PXWeb/pxweb/en/StatFin/StatFin__lii__matk/statfin_matk_pxt_11is.px/table/tableViewLayout1/
- Statistics Finland. (2022b). *The capacity of rental cottages by region in the mainland Finland*. https://pxnet2.stat.fi/PXWeb/pxweb/en/Kokeelliset_tilastot/Kokeelliset_tilastot__vmok/koeti_vmok_pxt_11t7.px/table/tableViewLayout1/
- Statistics Finland. (2022c). Number of international visitor arrivals in Finland from January to December 2021, by country of origin [Graph]. In Statista. <https://www.statista.com/statistics/435522/visitor-arrivals-in-finland/>
- Statistisches Bundesamt (Destatis). (2021). Bevölkerung und erwerbstätigkeit Haushalte und familien ergebnisse des mikrozensus. *Statistisches Bundesamt (Destatis)*, https://www.destatis.de/DE/Service/Bibliothek/_publikationen-fachserienliste-1.html
- Stern, P.C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Research in Human Ecology* 6(2), 81–97.
- Sthapit, E. (2018). A netnographic examination of tourists' memorable hotel experiences. *Anatolia*, 29(1), 108–128. <https://doi.org/10.1080/13032917.2017.1402190>
- Sthapit, E. (2019). Antecedents of a memorable hotel experience: Finnish hotels perspective. *Current Issues in Tourism*, 22(20), 2458–2461. <https://doi.org/10.1080/13683500.2018.1518413>
- Tian, X., Yu, X., & Holst, R. (2011). Applying the payment card approach to estimate the WTP for green food in China. Paper Presented at the IAMO Forum 2011, Halle (Saale), June 23–24, 2011: Will the 'BRICs Decade' Continue? Prospects for Trade and Growth, Haale (Salle), Germany.
- Tölkes, C. (2018). Sustainability communication in tourism – a literature review. *Tourism Management Perspectives*, 27, 10–21. <https://doi.org/10.1016/j.tmp.2018.04.002>
- TripAdvisor. (2012). TripAdvisor survey reveals travelers growing greener. <https://ir.tripadvisor.com/static-files/cc09c602-4b7a-47b0-bdd6-1b890ebf718e>
- Tully, S. M., & Winer, R. S. (2014). The role of the beneficiary in willingness to pay for socially responsible products: A meta-analysis. *Journal of Retailing*, 90(2), 255–274. <https://doi.org/10.1016/j.jretai.2014.03.004>
- Vespestad, M. K., & Gressnes, T. (2021). Tourists' willingness to pay for nature-based experiences. *Tourism Analysis*, 26(2–3) <https://doi.org/10.3727/108354220X15958118763641>
- Villarino, J., & Font, X. (2015). Sustainability marketing myopia. *Journal of Vacation Marketing*, 21(4), 326–335. <https://doi.org/10.1177/1356766715589428>
- Wehrli, R., Priskin, J., Demarmels, S., Schaffner, D., Schwarz, J., Truniger, F., & Stettler, J. (2017). How to communicate sustainable tourism products to customers: Results from a choice experiment. *Current Issues in Tourism*, 20(13), 1375–1394.
- Wehrli, R., Schwartz, J., & Stettler, J. (2011). Are tourists willing to pay more for sustainable tourism? A choice experiment in Switzerland. ITW Working Paper Series, 03/2011, pp. 1–17.
- Wu, B., & Yang, Z. (2018). Data to assess the effect of moral identity on green consumption tendency. *Data in Brief*, 21, 256–258. <https://doi.org/10.1016/j.dib.2018.09.090>