Understanding the Blurry Picture of Tourism Expenditure in a Cruise Destination (Geirangerfjord – Norway)

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ABSTRACT

Tourism expenditure in destinations is an important element of tourism research and has been the subject of numerous studies. This paper seeks to understand the complex pattern of expenditure within a distinctly defined geographical area, namely the destination Geirangerfjord in Western Norway. This is done by using a new approach where total expenditure is divided into three different measures of expenditure, which are then used to compare spending patterns of three important visitor groups in the destination - cruise visitors, individual visitors on land and land visitors staying overnight. By investigating socioeconomic, travel related, destination related and psychological explanatory variables, drivers of expenditure for each of the three groups are compared. The study reveals that different groups visiting Geirangerfjord diverge both with respect to spending patterns, as well as factors explaining these patterns. Based on the findings and previous literature in the field, the article proposes a new integrated "opportunity framework" in which to understand spending in a destination.

Keywords: Tourist expenditure, cruise destination, cruise, destination

INTRODUCTION

Before the start of the COVID-19 crisis, cruise tourism experienced sustained growth rates over several years, even in the years following the Great Recession. In the decade from

2009 to 2019, the number of cruise tourists worldwide almost doubled, from 17.8 to 30 million (Centre for the Promotion of Imports from developing countries, 2021). However, the popularity of this segment of tourism was countered by criticism of its effects, with contrasting arguments dominating the public debate. Several studies have shown that negative externalities affecting the local population and the natural environment can be attributed to cruise tourism (Sanz-Blas et al., 2019; Yttredal and Homlong, 2020). At the same time, this form of tourism can also be linked to positive effects, mainly by generating income, which in turn helps sustaining or creating employment in ports-of-call. The income can be produced directly by the cruise operators, passengers and crew, or indirectly by purchases of direct suppliers (Brida and Zapata, 2010). When it comes to these positive economic effects, the magnitude of the contribution of cruise tourists to total tourism expenditure is often unclear. Knowledge about tourist expenditure and their explanations at cruise destinations is crucial, as this insight enables diverse actors in tourism to develop destination strategies accordingly (Lin et al., 2015). The information proves useful both for tourist enterprises, destination marketing organizations, and local governments.

Uncertainty and public debate about the role of cruise tourism can also be found in one of the top cruise destinations in Norway, in Geirangerfjord. Over many years stakeholders in Geirangerfjord have been discussing which types of businesses benefit from cruise tourism, and whether these benefits weigh up for negative impacts on the destination. Focusing on the case of Geirangerfjord, the purpose of this paper is to understand expenditure in the destination by comparing expenditure by three diverse but important visitor groups, namely cruise visitors, day visitors on land, and visitors on land staying overnight. We analyze the three groups with regard to three questions:

- Comparing the three groups, what is the total expenditure of each group?
- How does spending on different categories differ in these three groups?
- Which drivers influence expenditure of the three groups respectively?

Most of the literature on expenditure has its focus on determinants of spending in a tourist destination either by tourists in general (See for instance Wang and Davidson, 2010; Mayer and Vogt, 2016), or by one group – e.g. cruise tourists – specifically (Mudarra-Fernández et al., 2019). More in-depth analyses of spending in a destination are rare. Furthermore, the current literature on expenditure does not present a coherent picture of expenditure or its potential explanations. Hence, this study contributes to the literature on expenditure in tourist destinations in three important ways. Firstly, the current study analyzes differences of spending patterns between tourist groups in the same destination. Secondly, this research also compares explanatory variables relevant to explaining the spending patterns in the three abovementioned visitor groups (cruise visitors, day visitors on land, and visitors on land staying overnight). Finally, we propose what we call an "opportunity framework" as a new way to understand expenditure in a cruise destination. In this way, the paper provides crucial insight for local tourism planning in the Geirangerfjord area, but also potentially for tourist destinations worldwide.

In the following, the literature on explanatory variables for expenditure in tourist destinations is presented. Thereafter, the methods used for data collection and analysis are introduced, followed by results, discussion and a conclusion.

LITERATURE REVIEW

A whole range of variables affecting expenditure by tourists has been investigated in various studies. These include on the one hand sociodemographic background factors related to the visitors, like place of origin or residence, gender, occupation, income, as well as cultural, social, psychological and economic factors. On the other hand, travel- and destination related variables and their impact on tourist expenditure have been analyzed (Mudarra-Fernández et al., 2019; Wang and Davidson, 2010; Mayer and Vogt, 2016). In the following, we shed light on the discourse on tourism expenditure by presenting examples of studies of expenditure in destinations, followed by studies related to cruise tourism. Both sections illustrate the diversity of research interests and contexts. Finally, the expenditure discourse is summed up and research gaps are identified.

There is a strand of literature on tourism expenditure from a micro perspective, focusing on specific destinations. Aguiló et al. (2017) for instance carried out a decomposition analysis between personal daily expenditure and duration of stay on the Spanish island of Mallorca. The authors distinguished between expenditure in and outside accommodations, and expenditure types included restaurants, food and drink from supermarkets, entertainment, transport, excursions and souvenirs. As a result, the authors identified tourist segments with different expenditure and length of stay. Among variables affecting daily spending and duration of stay in the destination were household income, country of origin, and motivation for the choice of tourist destination. Furthermore, the study points to a number of inconclusive and contradicting results in the literature pertaining to the effect of both socioeconomic background factors and travel related factors explaining tourism expenditure. Also analyzing duration of stay and daily expenditure, Gomez-Deniz and Perez-Rodriguez (2020) made a study based on a tourist expenditure survey on the Canary Islands. Among other findings, the authors discovered a negative correlation between the number of days tourists spent at the destination and daily expenditure.

Vetitnev (2015), on the other hand, investigated the connection between trip-related variables and visitor characteristics related to tourist spending. The study was carried out at three Russian resort destinations. While several factors were found to influence total expenditure using bivariate analysis, only five underlying factors proved to affect total tourist expenditure when applying structural equation modelling: length of stay, resort, distance travelled to destination, party size and holiday organization mode. Furthermore, Vetitnev found that tourists' spending patterns were different in the various resort destinations studied.

In their study carried out at the Mediterranean coast of Spain, Garcia-Sanchez et al. (2013) investigated trip characteristics, tourist characteristics and tourist activities and their impact

on tourist expenditure. Among the results was that alternative activities like sports and gastronomic events, which were offered in addition to the tourism product centered around sun and sand, significantly contributed to additional spending. Increasing numbers of days spent in the area were found to be associated with decreased daily spending. Another study that looked into the relation between tourist experiences and tourism spending was conducted by Disegna and Osti (2016) in the Dolomites in Northern Italy. The authors distinguished between different aspects of satisfaction and their impact on total expenditure, as well as diverse categories of expenditure. The study revealed quite diverse effects of satisfaction, depending on expenditure category, but concluded that expenditure at the destination was closely linked to the standard of the service offered. Having a similar group focus, Fredman (2008) analyzed determinants of expenditure by different tourist groups visiting a Swedish mountain region - general visitors, skiers, snowmobilers and backpackers. The study found that while household income, choice of activity, occupation, duration of stay, choice of accommodation and participation in an organized trip influenced spending at the destination, factors like travel mode, gender, distance and the attitude towards activities were determinants of expenditure outside the tourist destination. Furthermore, downhill skiers were identified as big spenders, consuming on average three times more than backpackers and 50% more than snowmobilers.

In a case study about North York Moors National Park in the UK, Downward and Lumsdon (2004) distinguished between public transport and car-based transportation as travel modes. Also, other trip-related factors as well as sociodemographic factors were taken into account. The authors found that expenditure of visitors travelling by car was higher, but also duration of stay for day visitors and group size affected spending. Some more uncommon variables and interactions were investigated as well. Wilkins et al. (2018) analyzed what effect a change of weather conditions related to climate change had on tourist spending. Comparing three tourist destinations in Maine, USA, the study found that while warmer temperatures had a positive effect on expenditure in summer and fall, the effect was more varying in winter. Precipitation, snow depth and stormy weather did not influence expenditure. In this context, it is also worth noting that the study found that influential factors and their effects on expenditure varied across destinations and time of the year.

Gomez-Deniz and Perez-Rodriguez (2020) created a tourism expenditure model, in which they included both tourist expenditure made at the country of origin, such as reservations for transportation and accommodation, and expenditure at the tourist destination. They based their analysis on a tourist expenditure survey in the Canary Islands, with special focus on German and British tourists. They calculated the tourist budget share, putting tourist spending at the destination into relation with the total trip expenditure and found that the determinants of the tourist budget share spent at the destination were in line with earlier findings about causality of aggregate or daily tourist expenditure. While they are less common, some studies look at expenditure categories and their potential determinants. Van Loon and Rouwendal (2017) analyzed spending patterns of urban tourists in Amsterdam. Their study showed that trip purposes influenced total daily expenditure as well as budget shares.

In their study carried out in the Midwest of the USA, Wang et al. (2006) studied the effects of socioeconomic, psychographic and travel-related variables on travel expenditures. Spending categories included accommodation, meals, transportation, shopping, entertainment and attractions, as well as total spending. Income, number of adults in the travel party and length of stay were found to have the strongest effects on expenditure across expenditure categories. There is also a strand of literature on tourism expenditure with cruise tourists at their center of attention. Brida et al. (2012) for instance focused on cruise passengers' spending in the Carribbean port of Call Cartagena de Indias. They identified that heavy spenders were distinguishable from other segments based on income levels, age, duration of stay on land, expenditure patterns and nationality. Based on the survey, the authors also developed profiles of typical cruise tourists with high spending in different expenditure categories, such as tours, souvenirs, food and beverage and jewelry. For instance, the tourist most likely to spend on jewelry has a high income and travels in a group and for the first time on a cruise, while the visitor most likely to spend on food and beverages is a young man without a high income who has previously taken other cruises. Using a different approach, some of the same researchers (Brida et al., 2014) later studied factors that may determine spending by cruise passengers in two ports of call in Uruguay. Several factors were not found to be determinants of spending, among these were gender and age. On the other hand, satisfaction with food and drink, as well as tranquility of the destination had a positive effect on spending. Of special interest in the study is the difference of spending between the destinations explained by differences in infrastructure solutions.

Marksel et al. (2017) analyzed characteristics of cruise tourists and their experiences during their visit at the Port of Koper in Slovenia. While age, frequency of cruise travel and time spent at the hinterland of the port did not turn out as significant factors influencing expenditure, gender showed a statistically significant connection. The majority of both men and women reported spending of below EUR 50 while onshore, however, all the high spenders, with over EUR 250, were male. Furthermore, nationality was a significant factor. Of the 17 nationalities in the sample, cruise tourists from Finland were the group that was exclusively represented in the highest spending group. Experiences with transport services like taxis, busses and trains were another factor that affected spending for those visitors who visited the hinterland. Casado-Díaz et al. (2021) investigated several trip characteristics to analyze expenditure of cruise passengers. On the one hand, they focused on the spatial behavior of tourists in the destination, distinguishing between cruise passengers who visit only a single node, those visiting multiple nodes, and a third group that visits the hinterland of the port city. Another angle addressed the nature of shore excursions – individual versus guided. Finally, the connection between cruise price segments – from standard to luxury – and expenditure was analyzed. The model developed by the authors was tested in the Spanish city of Valencia. The authors found that expenditure was highest among cruise passengers who visited single nodes, and those with individual shore excursions. Among the price segments, only the highest category had a positive effect on spending.

In one of the few studies focusing primarily on destination specific factors, Parola et al.

(2014) carried out a study of a 10-day cruise to six destinations in the Mediterranean to investigate the impact of tourists' destination satisfaction on spending. The authors also included the moderating effect of organized tours in their study, by testing the hypothesis that the purchase of excursion packages enhances the impact of destination satisfaction on cruise tourists' expenditure. The study confirmed the positive connection between destination satisfaction and expenditure, as well as finding that excursion packages acted as positive moderators of destination experiences, both by enhancing experiences in the destination, and by providing tourists with additional shopping opportunities. Pino and Tovar (2019) collected information on tourist expenditure of cruise tourists to the Canary Islands over six cruise seasons. Using a latent class model, they identified three distinct tourist groups depending on their level of spending, ranging from low over medium to high. They showed that explanatory factors influenced expenditure differently in each group. Furthermore, they observed that cruisers' expenditure was higher in the ports of Tenerife and Gran Canaria than in the other ports on the Canary Islands. The authors argued that the class model allows for a better basis of addressing target groups. Similar findings pertaining to differences in spending between destinations are found in Brida et al. (2020). Using a multivariate prediction Copula model, they categorized spending by cruise tourists in Uruguay into food, shopping, transportation, and tour expenses. Residence of the tourists and port-of-call were key variables determining spending, but explanatory variables varied according to group and season of the year. Similar results were found in Brida et al. (2018) using different a methodology.

Moving to the Norwegian context, Larsen et al. (2013) compared spending by cruise tourists and other types of tourists in Bergen, Norway from 2010 to 2012. The two main findings were on the one hand that expenditure by cruise tourists was clearly below average compared to other types of tourists. On the other hand, the study found that cruise tourists had a higher tendency to overestimate their spending. Also, the duration of stay of cruise tourists was significantly lower. Interestingly, the authors found that per hour spending was similar comparing cruise and other tourists, indicating that the duration of stay is an important factor for lower spending by cruise tourists. There are also several studies published as reports measuring total tourism expenditure in Norwegian tourist destinations. The studies vary both pertaining to geographical unit (national, regional, or local studies) and results (Dybedal, 2019; Yttredal and Homlong, 2019). The reason is for a large part that the studies are based on rather different assumptions, methodologies, and definitions, and are thus difficult to compare.

The studies presented above vary both with respect to research aims, choices of dependent variables and explanatory variables. Hence, there are differing and contradicting results in the literature explaining expenditure in destinations pertaining to the effects of socioeconomic background factors, travel related factors, destination related factors and psychologically oriented factors – a fact also pointed out for instance by Aguilo et al. (2017), Gomez Deniz and Perez-Rodriguez (2020) and Wang and Davidson (2010).

There have been attempts to sort out this blurry picture in several reviews over the last 15

years (See for instance the reviews by Wang and Davidson, 2010; Mayer and Vogt, 2016; Mudarra-Fernández et al., 2019). While differing in scope and focal points, there are some common denominators across the reviews and the studies referred to above. Firstly, in the literature there has been a certain consensus on the grouping of explanatory variables into socioeconomic, travel- and destination related variables. A class of more psychologically-oriented background variables like seeking stability or excitement (Wang et al., 2006), but also more trip-related psychological determinants like motivation for choosing the destination (Aguiló et al., 2017; Marksel et al., 2017) and trip purpose (García-Sánchez et al., 2013; Gómez-Déniz and Pérez-Rodriguez, 2020; van Loon and Rouwendal, 2017) have been included in a few studies. For an overview of the explanatory variables in the mentioned studies, see Table 7 in Appendix 1.

Secondly, there are some variables that seem to influence expenditure across diverse settings and methodologies. Of socioeconomic background factors, the most prominent are income and nationality, the latter is especially prevalent in cruise studies (Brida et al., 2014; Marksel et al., 2017; Pino and Tovar, 2019; Brida et al., 2020). In addition, age seems to influence expenditure in a curvilinear way, the middle-aged appear to spend more than the young or old visitors (García-Sánchez et al., 2013; van Loon and Rouwendal, 2017). Among the more resilient travel related factors explaining expenditure are length of stay (number of days) and accommodation type (See for instance Vetitnev, 2015; Fredman, 2008; Aguiló et al., 2017). Especially in the cruise studies, length of stay in the course of a day is also an issue (Brida et al., 2012; Casado-Díaz et al., 2021) .

Thirdly, destination-specific variables are few and understudied, often related to satisfaction with the destination (Disegna and Osti, 2016 made a thorough study in this respect), rather than actual destination specific variables. This, despite the fact that several studies show that spending differs between tourism destinations in general (Mayer and Vogt, 2016; Mudarra-Fernández et al., 2019; Wang and Davidson, 2010), and more specifically resorts (Vetitnev, 2015), islands visited (Pino and Tovar, 2019) and ports-of-call (Brida et al., 2014; Brida et al., 2020). In a similar vein, more psychologically oriented variables appear in few studies, and only variables like motivation for choice of destination and reason for the trip seem to be relevant background factors across studies. Also, there appears to be no consensus on which factors belong to the categories "destination-based variables" or "psychographic" variables (Wang et al., 2006; Wang and Davidson, 2010; Mudarra-Fernández et al., 2019).

Finally, the totality of the literature also draws a picture of a complex interaction between various antecedents of tourism spending, depending on contextual factors within or outside the tourist destination. Still, there are no studies, as far as we know, trying to map and understand the totality of visitor expenditure in a single destination.

This study therefore addresses research gaps by seeking to understand the totality of expenditure within a distinctly defined geographical area, the destination Geirangerfjord. This is done by firstly comparing spending patterns of three important visitor groups in a

destination. Secondly, by including a battery of destination specific variables in the study as well as (a smaller number of) psychological background variables in addition to socioeconomic and travel related variables. Thirdly, by comparing expenditure patterns within the destination as well as variables explaining these patterns.

METHODS

The overall aim of the study is to better understand the expenditure patterns in a cruise destination, using the cruise destination Geirangerfjord as a case. Special emphasis is placed on similarities and differences between cruise visitors and individually travelling visitors on land. The survey design is therefore rigged towards this purpose.

Geirangerfjord is one of Norway's most visited destinations, especially within the segment of nature-based tourism. Only 232 people live year-round in the village of Geiranger (Statistics Norway SSB, 2021) , while the number of visitors to the area was estimated at just below 1 million in 2018 (Yttredal et al., 2019).
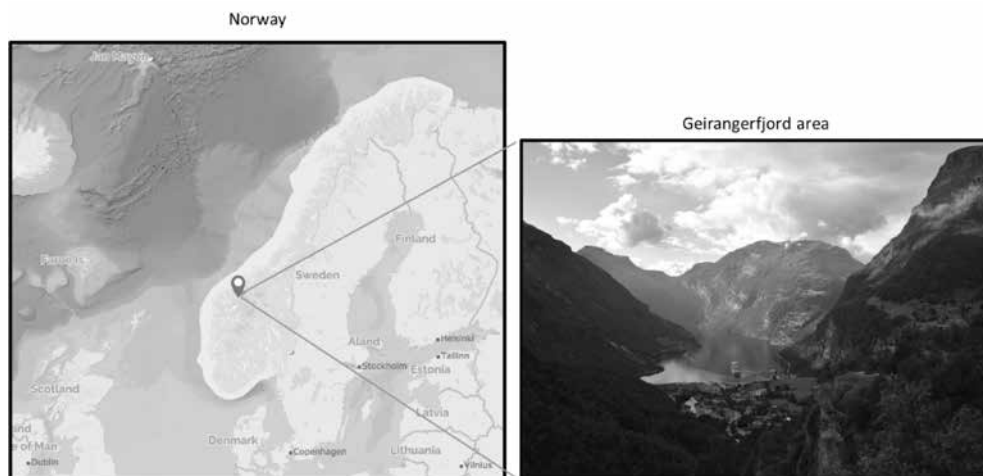
Figure 1: Geirangerfjord area on the West Coast of Norway. (Map source: WMS © Kartverket. Photo: Nathalie Homlong)

Prior to Covid-19, the annual number of cruise passengers was stable at around 350,000 (Yttredal et al., 2019). Cruise tourists thus contributed to roughly one third of the visitors to the area. There is an ongoing debate between stakeholders about whether tourists on land or cruise tourists contribute most to the local economy, and about which tourists contribute most to negative aspects of tourism, such as crowding, congestion and pollution (Larsen and Wolff, 2016; Larsen et al., 2013; Löffler, 2019).

Data was collected using a digital survey in the Geirangerfjord area Mondays through Fridays between July 9th and August 3rd, 2018. The period covered the peak leisure travel season. Daily data were collected from approximately 9 AM to 5 PM, the peak visitation time. A tablet with the questionnaire or a link to the online questionnaire were handed out exclusively to visitors on their way out of the area. This was primarily to make sure that they had completed their expenditures in the Geiranger area when filling out the form to prevent recall errors (Stynes and White, 2006). To make clear which area was the subject of inquiry, a map was included in the questionnaire. The participants in the survey could choose between six languages. The questionnaire included questions about the tourist experience and spending. 304 completed questionnaires were included in this study. Categories of expenditure in the questionnaire were: overnight stay, food and beverages at bars and restaurants, shopping including groceries and gifts, activities (sports, museums, tours, etc.), and other things (for instance fuel, travel, etc.). In addition, pre-paid purchases from cruise boats or cruise operators were defined as a separate category, but could include both activities, transportation and food. The total sum of spending was then calculated based on spending categories. Following Wang and Davidson (2010), Mayer and Vogt (2016) and Mudarra-Fernández et al. (2019), tourist-, travel- and destination-based variables and also some more psychologically oriented variables were included in the questionnaire. The ones most relevant for the following presentation and analysis are listed in table 1.

Table 1: List of Variables Included in the Analysis.

Travel related variables	Psychologically oriented factors
Transport mode	Environmental consciousness
Time in Geiranger area (ashore)	Importance of learning about local community
Type of accommodation	Importance of being physically active in nature
Destination related variables	**Socioeconomic background factors**
Recommend the area in the future	Country of residence
Perception of…	Region of residence (within Norway)
nature experience	Age
weather	Size of home town/village
cleanliness	Level of education
access to transport services	Household income
congestion	Gender
access to parking	Marital status
crowding	Main status of employment
noise	
exhaust from cars and buses	
visible smoke from cruise ships	

In our questionnaire, informants' perceptions of diverse variables like air pollution, crowding and congestion were included. All perception questions were formed as assertions using a five-point Likert scale ranging from 1 "completely disagree" to 5 "completely agree." For comparative analysis, the sample was divided into three groups: day visitors on land travelling individually (day visitors, N=82), individual visitors staying overnight on land (overnight visitors, N=120), and cruise visitors (N=102). The groups "day visitors" and "overnight visitors" include visitors arriving to the area by road or car ferry mainly using cars or mobile homes, but also motorbikes, public bus transportation or travelling on foot or by bicycle. The group "cruise visitors" consists of visitors arriving in the Geirangerfjord area by cruise ship or by bus as part of a trip with a cruise ship. Crew from cruise ships were excluded from the analysis, as were group visitors on land travelling for instance by bus. Expenditure patterns in the destination Geiranger have at least three components. Firstly, for all groups it is possible to buy tours, overnight stays and activities in advance through online booking or other advance booking options. Secondly, there are plenty of opportunities to buy food or activities or to shop when in Geiranger. Thirdly, cruise passengers also have the opportunity to buy prepaid tours through the cruise operator. Total expenditure for the first two categories will mainly benefit the local business community, while the expenditure on the latter will be divided between the cruise operators and local providers. Our undertaking is to understand expenditure patterns in the local destination. It is therefore important to distinguish between what benefits the local businesses and what benefits other actors in the value chain. Previous studies have used a 50/50 split of expenditure between local and cruise operators for prepaid tours from cruise operators (See for instance Dybedal, 2019). The same proportion is used in this study to calculate local expenditure. The proportion will, however, differ between cruise operators, ships and tours.

To understand the dynamic between the three groups, our analysis thus differentiates between three estimates of expenditure all pertaining to the last 24 hours:

1. **Spontaneous spending:** Local consumption, paid beforehand or on the spot. Accommodation and advance purchase from cruise ship or cruise operator are not included.
2. **Day spending.** Spontaneous spending plus 50% of advance purchase from cruise boat or cruise operator. Accommodation is not included.
3. **Total spending:** Local consumption including both advance purchase from cruise boat or cruise operator and accommodation.

For day visitors, the three estimates will overlap. For cruise visitors, day spending will overlap with total spending. For visitors staying overnight spontaneous and day spending will overlap. All types apply to expenditure related to products or services per person bought for the last 24 hours in the Geiranger area (as indicated in in Figure 2).
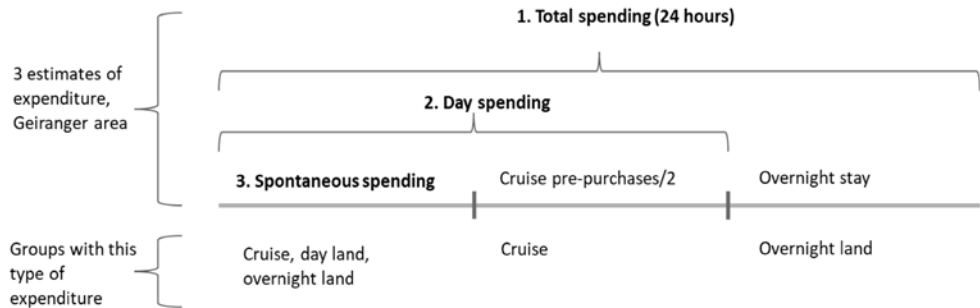
Figure 2: The study uses three different estimates of expenditure last 24 hours in the Geiranger area as dependent variables.

Table 2 sums up some socioeconomic background factors for the group of respondents in the sample. We see that most of the respondents (80%, 70%, and 81% respectively) are between 25 and 64 years of age. Furthermore, they are quite well educated, around 70% in all groups have a bachelor degree or higher, and different household income groups are represented. Slightly more males than females have answered the questionnaire and just below 30% are single in all groups. Not all respondents answered all the questions on background information, therefore N differs between variables.

Our interpretation is that there are no conspicuous differences between the groups with regard to the variables, except for the background factor of nationality. As can be seen in Table 2, the proportion of visitors from different regions of the world differs between the three groups. The difference should not be a problem for a comparative analysis of expenditure patterns between land and cruise, as we interpret the differences to be characteristics of the groups, rather than a bias in the sample.

Table 2: Profiles of Socioeconomic Background Factors for Day Visitors Land, Cruise Visitors and Overnight Land Compared.

Variable		Day visitor land	Cruise visitor	Overnight land
Age	0-24	13 %	20 %	16 %
	25-44	44 %	29 %	43 %
	45-64	36 %	41 %	38 %
	65+	8 %	9 %	3 %
	Number (N)	80	99	119
Level of education	Up to bachelor	28 %	28 %	31 %
	Bachelor degree	40 %	27 %	29 %
	Higher than bachelor	32 %	45 %	40 %
	Number (N)	78	96	117
Household income	0-39,999 EUR	17 %	22 %	21 %
	40,000 - 59,999	21 %	16 %	21 %
	60,000 - 79,999	6 %	8 %	19 %
	800,000 – 99,999	21 %	8 %	14 %
	100,000-119,999	10 %	14 %	14 %
	120,000 +	25 %	31 %	13 %
	Number (N)	63	83	102
Gender	Male	51 %	54 %	56 %
	Female	49 %	46 %	44 %
	Number (N)	79	98	116
Marital status	Single	27 %	28 %	26 %
	Cohabiting partner	22 %	12 %	30 %
	Married	51 %	60 %	44 %
	Number (N)	78	98	116
Nationality	Nordic	57 %	5 %	40 %
	Other Western Europe	32 %	65 %	45 %
	North America	1 %	24 %	3 %
	Other	10 %	6 %	11 %
	Number (N)	81	100	119

RESULTS

The results are presented in three sections, each addressing the research questions presented in the introduction. In due course, estimates of expenditure made in the last 24 hours in the area, expenditure categories and explanatory variables for the three groups in question, day visitors and overnight visitors land and cruise visitors are compared.

As presented in the methods section, three categories for local expenditure are used: spontaneous spending, day spending and total spending. A large proportion of visitors are low spenders, as these numbers show: 29% of day visitors on land, 16% of cruise tourists and 8% of visitors staying overnight do not spend any money in the Geirangerfjord area and 78% of day visitors land, 47% of cruise passengers and 36% of visitors staying overnight have a total consumption of EUR 50 or less during their stay.

Table 3: Different Estimates of Expenditure in EUR. All Expenditures Made in the Geiranger Area During the Previous 24 hours (or if shorter, for duration of stay)

		Spontaneous spending	Day spending (including cruise pre-purchases)	Total spending (Including cruise pre-purchases and accommodation)
Day visitor land	Mean	38	38	38
	Median	20	20	20
	Mode	0	0	0
	N	82	82	82
Cruise visitor	Mean	46	81	81
	Median	18	70	70
	Mode	0	0	0
	N	102	102	102
Overnight land	Mean	73	73	135
	Median	50	50	93
	Mode	0	0	0
	N	120	120	120

Table 3 shows both mean, median and mode for the different estimates of spending. Mode of total spending for all three groups is 0. Day visitors on land have a median total spending of EUR 20, cruise passengers of EUR 70 and visitors staying overnight EUR 93.
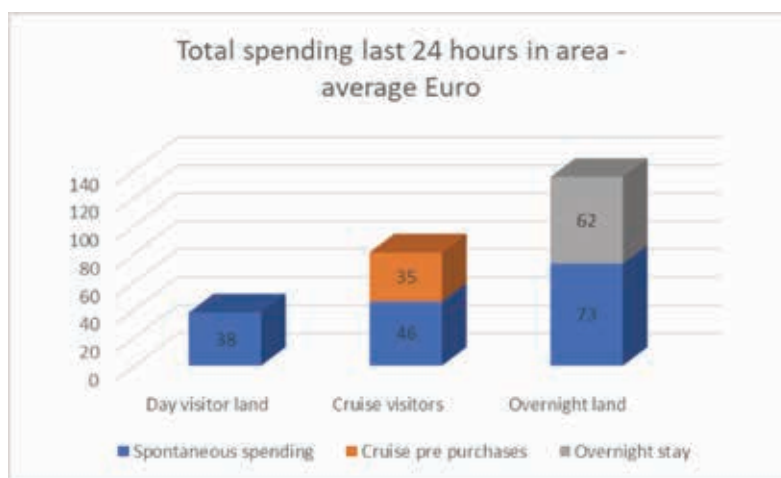
Figure 3: Average spontaneous spending (blue), day spending (blue + red color) and total spending (blue+red+grey color) for the three groups.

Figure 3 illustrates that mean spontaneous spending is quite similar for day visitors on land (EUR 38) and cruise visitors (EUR 46), while visitors staying overnight have a much higher level of spontaneous spending (EUR 73). Moving to day spending - spontaneous spending plus cruise pre-purchases - this picture changes. Cruise visitors display higher day spending (EUR 81) than visitors who stay overnight (EUR 73), while visitors staying overnight have the highest mean total spending of all groups (EUR 135). For spontaneous spending a one-way ANOVA, consecutive T-tests and consecutive Mann Whitney U-tests show that the differences in spontaneous spending between visitors staying overnight and the two other groups are significant. The same tests show that for day spending the differences between day visitors and the two other groups are significant and for total spending the differences between all three groups are significant.

The proportion of total spending on different categories for the three different groups are presented below.

Table 4: Proportion of total expenditure spent on different categories, day visitors land, cruise visitors and overnight visitors land compared.

	Overnight stay	Food and beverages	Shopping	Activities	Other	Prepaid cruise	Total group
Day visitors land		31 %	24 %	19 %	26 %		100 %
Cruise visitors		17 %	17 %	20 %	2 %	43 %	100 %
Overnight land	46 %	20 %	16 %	12 %	6 %		100 %

Expenditure is divided into five groups, namely food and beverages (in restaurants and bars), shopping (including groceries), activities, overnight stay, and other expenditures (including transport). A separate category for prepaid package tours bought from cruise operators is added (Table 4). Both transport, food and activities can be included in such packages, and only cruise passengers can buy them. Only overnight visitors on land can spend money on overnight stays.

There are striking differences between the groups related to the proportion of total spending for different categories. Day visitors on land are spending a somewhat similar proportion of their expenditure on all relevant categories. Cruise tourists on the other hand use a large proportion of their expenditure on prepaid activities (43%), and overnight visitors use 46% of their local expenditure on overnight stays.

Table 5: EUR spent on different categories; day visitors land, cruise visitors and overnight visitors land compared.

	Overnight stay	Food and beverages	Shopping	Activities	Other	Prepaid cruise	Total group
Day visitors land		12	9	7	10		38
Cruise visitors		14	14	16	2	35	81
Overnight land	62	27	21	16	8		135

Comparing absolute numbers (Table 5), both cruise tourists and visitors staying overnight spend more than day tourists on all categories except the category "other". Visitors staying overnight spend the same or more than cruise visitors on all categories, except activities and of course prepaid tours from a cruise operator. A one-way ANOVA shows that the differences between the groups are only significant for spending on food (p=0.00) and for the catch-all category "other" (p=0.02). Spending on overnight stay and prepaid tours for cruise tourists apply to the respective groups only.

In initial bivariate correlation analyses, all the variables (as listed in table 1) were tested for explanatory power related to total spending. Few of the variables turned out to be significantly correlated with expenditure for any of the groups compared, but interesting differences between the three groups materialized. Firstly, for **day visitors on land** the strongest bivariate correlation was found between time spent in the area and total spending (r=0.40, p=0.00). We also find a significant moderately negative correlation between traffic in and out of the area (north of Geiranger center) and total spending (r=- 0.30, p=0,01), and a medium strong correlation between total expenditure and diverse perception variables related to congestion and crowding - for instance perception of traffic congestion (r=- 0.30, p=0.01), noise (r=- 0.35, p=0.00) and parking (r=-0.26, p=0.00).

Table 6: Regression model. Total spending for day visitors on land. Predictors: 1: time spent in the area (2 hours intervals) 2. Traffic north of Geiranger center 3. Perception of noise. Note: All changes of F are also significant.

Model	Unstandardized beta Coefficient	R^2 model	F	t-value	p-value
(Constant)	189.962	0.35	12.5	2.2	
Time of stay (2 hours intervals)	27.961			4	0
Traffic North of Geiranger	0.096			2.7	0.01
Perception of noise	8.853			2.4	0.02

The variables with the strongest bivariate correlations to total spending for day tourists were then used in a regression model (table 6). The model shows that 35% ($r^2 = 0.35$) of the variance in the dependent variable can be explained by the factors "time of stay", "traffic north of Geiranger" and "perception of noise".

Since there are large proportions of 0 in the sample, the analysis was validated both by removing units without spending from the regression analysis, and by using binary regression models with spenders/non-spenders as dependent variables. All analyses show significant correlations between these variables, with some varying strength.

For **cruise tourists** the pattern is somewhat different. Bivariate correlations show that household income, as the only variable, is significantly (but weakly) correlated with total spending (r=0.27, p=0.01). Regression analyses pertaining to cruise tourists show that only household income has independent explanatory power related to total expenditure for this group.

For **visitors staying overnight**, bivariate analyses show that whether the visitor stays in a hotel or not is the most important explanatory variable for total spending (r= 0.49, p=0.00). Furthermore, household income is moderately correlated with total spending (r=0.35, p=0.00). Regression analyses confirm that only staying at a hotel or not has independent explanatory power for total expenditure for visitors staying overnight (r^2=0.24, p=0.00). The variable household income loses explanatory power when accommodation is included in the equation.

DISCUSSION

The goal of this study is to increase understanding of the complex pattern of expenditure within tourist destinations. For this purpose, a comparison of total expenditure and expenditure patterns between cruise visitors, day visitors and overnight visitors on land is conducted in the destination Geirangerfjord. Furthermore, by investigating socioeconomic, travel related, destination related and psychological explanatory variables, the drivers of expenditure

for each of the three groups are compared. The study reveals that different groups visiting Geirangerfjord diverge both with respect to spending patterns, and factors explaining these patterns. **Day visitors on land** display relatively low average spontaneous (and total) spending in Geiranger, with 29% of this visitor group not spending any money at all. Their expenditure is quite equally divided between the four expenditure categories "food and beverages", "shopping", "activities" and "other". Day visitors' expenditure is to a large part explained by a combination of duration of stay, the number of visitors in the area, as well as factors connected to crowding, noise and congestion. **Cruise visitors** have almost equal spontaneous spending as day visitors on land. The difference in total expenditure between the two groups lies in the amount spent on pre-paid tours purchased from cruise operators. These account for 43% of the expenditure in the sample of cruise tourists. For total expenditure of this group, household income is a weak but still the most important explanatory variable. Intuitively enough, **overnight visitors** on land are the biggest spenders per 24 hours in the area, due to the cost of accommodation, which accounts for an average of 46% of their total expenditure. However, in contrast to other studies (Larsen et al., 2013) we find that day spending (overnight stay included, while prepaid tours are included for cruise tourists) is about the same for overnight visitors on land and cruise visitors.

At first glance the findings seem to add to the blurry picture of expenditure in tourism destinations pointed out in several studies (Aguiló et al., 2017; Gómez-Déniz et al., 2020; Wang and Davidson, 2010). However, interpreted against the backdrop of previous literature, they contribute to more in-depth knowledge about expenditure in the Geirangerfjord area and potentially also elsewhere. This is based on the fact that the diverse patterns of expenditure in different groups within a single destination indicate that expenditure is guided more by situation specific opportunities than other factors. In this way, the discoveries lead to a path of a more nuanced understanding of expenditure in tourist destinations.

As mentioned earlier, previous literature has grouped explanatory variables into socioeconomic background factors, travel- and destination related variables and (some) psychological variables, but the studies have diverse and contradictory findings (See for instance the reviews by Wang and Davidson, 2010; Mayer and Vogt, 2016; Mudarra-Fernández et al., 2019). The Geirangerfjord case suggests that this categorization fails to grasp the destination specific dynamics of visitor spending. Spending in a destination (and elsewhere) is made up of choices, preferences and needs over time. Combining the findings of the Geiranger study with findings from earlier literature (see Appendix 1 and the section "Summing up and research gaps to be filled"), we suggest to interpret spending in Geirangerfjord and possibly also other destinations, as a kind of opportunity framework (Figure 4), with four categories of suggested explanatory factors: 1. Travel related factors determined prior to travel (predestination), 2. Destination specific factors, 3. Tourist undertakings in the destination and 4. Socioeconomic factors. All-together, and in an interplay, they create a structure of opportunities for spending.
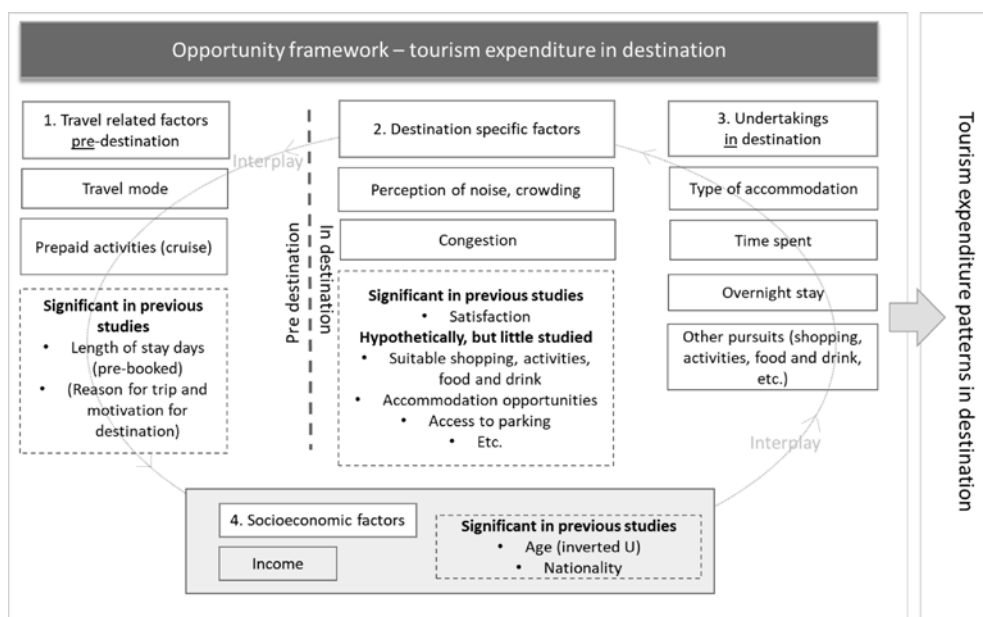
Figure 4: A framework to understand opportunities for individual expenditure in a destination.

In Figure 4 findings from this study are included in boxes with unbroken lines and findings from previous studies are included in boxes with dotted lines. **Pre-destination travel related variables (1)** are manifested in our study by travel mode and prepaid activities for cruise tourists. Both influence visitors' spending opportunities throughout the duration of stay, the decision of whether or not to eat, drink or sleep in the area, et cetera. The point is illustrated for instance by the fact that prepaid tours constitute 43% of spending in the area by cruise visitors. Individual travelers, on the other hand, are free to choose the duration of their stay at the destination, and spending is more influenced by how long they are staying, local traffic conditions, parking opportunities and crowding, among others. Moreover, when tourists on land stay overnight, their expenditures are higher. In previous studies length of stay in days is also found to influence expenditure (Vetitnev, 2015; Fredman, 2008; Aguiló et al., 2017) . The same applies to psychologically oriented variables strongly related to the destination and activities within it, like motivation to visit the destination (See for instance Aguiló et al., 2017) and reason for the trip (García-Sánchez et al., 2013; Gómez-Déniz and Pérez-Rodriguez, 2020). These factors are thus included in the framework.

Destination specific factors (2) are understudied in previous studies (Disegna and Osti, 2016). In this study we find that the number of people and perception of noise and crowding seem to influence expenditure for individual travelers on land. This reflects the destination specific situation in Geirangerfjord and suggests that there is an interplay of destination-

and travel related factors pre-destination, like choice of transport. Furthermore, the relatively high expenditure of cruise tourists in our sample compared to other Norwegian studies (Larsen and Wolff, 2016; Larsen et al., 2013; Dybedal, 2019) may be explained partially by the infrastructure in the destination. The shops, or rather the spending opportunities, are predominantly, but not exclusively streamlined for this market. This is a pattern that has developed over a more than 100-year-long cruise tradition in this destination. In addition, travel by cruise sets the framework of spending by limiting the duration of stay, and partly following from this, also the range of possible activities that tourists can participate in at the destination. In this way, an interplay between travel related factors pre-destination, destination related factors and **actual tourist undertakings (3)** in the destination can explain differences between the groups with regard to expenditure on different categories. For instance, spending on accommodation, fuel and transport would be necessary items only for visitors travelling by car, as opposed to cruise tourists. Prepaid activities from the cruise liners are, on the other hand, an exclusive spending opportunity for cruise visitors.

Of **socioeconomic (4)** factors, income is the only significant explanatory variable in our study, and it is significant for total expenditure for cruise tourists and visitors on land staying overnight only, and just barely. In our interpretation, income provides an opportunity for spending, as a certain disposable income is necessary to be able to spend money, but it is not a sufficient factor. Opportunities for spending are formed in an interplay between travel related factors pre-destination, undertakings in the destination and destination specific factors, when income is to transform into expenditure. Income is also a significant explanatory variable in many other studies (See for instance Aguiló et al., 2017; García-Sánchez et al., 2013; Brida et al., 2012; Wang and Davidson, 2010; Mayer and Vogt, 2016; Mudarra-Fernández et al., 2019). It is therefore included in the framework, as well as the age of visitors (García-Sánchez et al., 2013; van Loon and Rouwendal, 2017) and nationality (Brida et al., 2014; Marksel et al., 2017; Pino and Tovar, 2019; Brida et al., 2020), which are also found to be significant by earlier studies.

For the destination Geirangerfjord these findings suggest that strategies to increase visitor spending should **firstly** be different for different visitor groups. To increase expenditure **by individual travelers on land**, measures which increase time spent in the area seem crucial. These could be special attractions and activities. In addition, data also suggest that perceptions of crowding influence spending. Therefore measures that address crowding, like a limit on the number of people in the area, improvement of parking facilities, or other measures to alleviate discomfort for individual day visitors may increase spending for this group. As for the segment of **cruise tourists**, attracting ships carrying passengers with a higher household income could be a suitable strategy. Also, as prepaid activities constitute an important part of cruise visitors' total spending, measures to increase the local proportion of profit from such activities may be a way to go. To boost expenditure by people who stay **overnight**, increasing the supply of hotel rooms could be a strategy, but also additional activity offers for this group.

Secondly, for Geirangerfjord as well as more generally, this study suggests that **opportunity is a keyword** in the understanding of expenditure in a destination. Following from this,

changes that improve opportunities of individual tourists to spend money will increase expenditure, while the opposite is true for changes that restrict such opportunities. For instance, lack of parking spaces, and a poor range of shops, restaurants, or activities will lower visitor expenditure, while relevant activities, a diversity of offers and an extension of time spent in the area will most probably increase such spending.

CONCLUSION

Previous studies show that there is a blurry picture of tourist expenditure patterns in destinations. By comparing spending patterns of three diverse but important visitor groups, namely cruise visitors, day visitors on land, and visitors on land staying overnight, this study provides more clarity for this issue for the destination Geirangerfjord. Furthermore, by proposing an "opportunity framework", as illustrated in Figure 4, this study provides the fundamentals for a more nuanced understanding of visitor expenditure in destinations also on a more general basis. The framework may be used as a starting point to understand expenditure patterns also in other destinations. Further studies using this new framework as a starting point are necessary to add validity to the framework.

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Appendix 1: Overview of explanatory variables in literature
Table 7: Overview of explanatory variables in literature, categorized as socioeconomic background factors, psychologically oriented factors, travel - and destination related factors. Markers in squares ✓ = significant relationship between variables, NR = No relationship, ÷ = negative relationship.

The table below cross-references studies (grouped as General, Literature reviews, and Cruise) against Socio economic background factors and Psychologically oriented factors. (✓ = factor considered; NR = not relevant/not significant.)

Group	Study	Income	GDP in country of origin	Nationality	Education	Occupation	Age	Gender	Marital status	Socioeconomic variables general	Motivation for destination/to embark	Reason for trip/trip purpose	Significance of activity	Seeking stability/excitement	Psychographic var. in general	Type of tourist	Loyalty to the destination	First time/repeat/times of repeat
Cruise	Larsen et al. 2013						NR											
Cruise	Brida et al. 2018					✓												
Cruise	Brida et al. 2020			✓														
Cruise	Pino & Tovar 2019			✓	✓	NR		NR										
Cruise	Parola et al. 2015																	
Cruise	Casado-Díaz et al. 2021	NR					✓	NR										
Cruise	Marksel et al. 2017			✓			NR	✓			✓							NR
Cruise	Brida & Fasone et al. 2014 b)			✓	✓		✓	✓										✓
Cruise	Brida & Fasone et al. 2014 a)			✓	✓		NR	NR										
Cruise	Brida et al. 2012	✓					✓											
Literature reviews	Mudarra-Fernández et al. 2019 (Cruise tourism)	✓		✓			✓				✓					✓	✓	
Literature reviews	Mudarra-Fernández et al. 2019 (Nature tourism)	✓		✓			✓										✓	
Literature reviews	Meyer & Voat 2016	✓		✓			✓					✓						✓
Literature reviews	Wang & Davidson 2010	✓		✓			✓ (inv. U)	NR	NR									
Literature reviews	Wang et al. 2006	✓					✓	NR								✓	NR	
General	van Loon & Rouwendal 2017			✓			✓ (inv. U)					✓						
General	Gómez-Déniz & Pérez-Rodríguez 2020	✓					✓					✓						✓
General	Wilkins et al. 2018																	
General	Lumsdon & Downward 2004																	
General	Fredman 2008	✓				✓		✓ (out. dest.)					✓					
General	Disegna & Osti 2016			✓														✓
General	García-Sánchez et al. 2013	✓	✓	✓	✓		✓ (inv. U)					✓						✓
General	Vettrev 2015																	
General	Aguiló & Vila 2017	✓		✓			NR	NR	NR		✓							✓

Category	Study	Length of stay - days	Length of stay hours	Activities (choise of, whether/or)	Individual shore excursions	Time spent at hinterland	Single vs many nodes	Number of cities visited	Enjoyment of food and drink	Accommodation type	Overnight stay	Alone/together/type of company	Organized/not organized trip	Number of adults in travel party	Group size	Group composition
Cruise	Larsen et al. 2013		✓													
Cruise	Brida et al. 2018															
Cruise	Brida et al. 2020			✓												✓
Cruise	Pino & Tovar 2019		✓										✓		NR	
Cruise	Parola et al. 2015				✓											
Cruise	Casado-Díaz et al. 2021		✓	✓	✓			✓							✓	
Cruise	Marksel et al. 2017					NR										
Cruise	Bridak Fasone et al. 2014 b)															
Cruise	Brida et al. 2014								✓							
Cruise	Brida et al. 2012		✓													
Literature reviews	Mudarra-Fernández et al. 2019 (Cruise tourism)	✓	✓	✓						✓			✓		✓	
Literature reviews	Mudarra-Fernández et al. 2019 (Nature tourism)		✓												✓	
Literature reviews	Mayer & Vogt 2016	✓		✓						✓	✓				✓	
Literature reviews	Wang & Davidson 2010	✓													✓	
Literature reviews	Wang et al. 2006	✓												✓		
General	van Loon & Rouwendal 2017	·|·														
General	Gómez-Déniz & Pérez-Rodríguez 2020	✓								·|·					·|·	
General	Wilkins et al. 2018															
General	Dowwward & Lumsdon 2004			✓									✓		✓	
General	Fredman 2008	✓		✓						✓			·|·			
General	Disegna & Osti 2016	✓						✓								
General	García-Sánchez et al. 2013	✓		✓						✓	✓				✓	
General	Vetitnev 2015	✓								✓	✓		✓		✓	
General	Aguiló & Vila 2017									✓			✓		✓	

Travel related variables

Travel related variables (continued)

Group	Study	Travel mode	Price segment of cruise	Length of travel to destination	Mobility patterns	Seasonality	Temperature	Precipitation, snow depth and stormy weather	Booking in advance	Planning of the trip
Cruise	Larsen et al. 2013	✓								
Cruise	Brida et al. 2018					✓				
Cruise	Brida et al. 2020									
Cruise	Pino & Tovar 2019					✓				
Cruise	Parola et al. 2015									
Cruise	Casado-Díaz et al. 2021		✓ (highest only)	✓						
Cruise	Marksel et al. 2017									
Cruise	Brida& Fasone et al. 2014 b)					✓				
Cruise	Brida et al. 2014	✓				✓				
Cruise	Brida et al. 2012									
Literature reviews	Mudarra-Fernández et al. 2019 (Cruise tourism)			✓						✓
Literature reviews	Mudarra-Fernández et al. 2019 (Nature tourism)									
Literature reviews	Mayer & Vogt 2016	✓		✓		✓ (un-clear)				
Literature reviews	Wang & Davidson 2010					✓				
Literature reviews	Wang et al. 2006			✓						
General	van Loon & Rouwendal 2017									
General	Gómez-Déniz & Pérez-Rodríguez 2020	✓ |.							✓	
General	Wilkins et al. 2018						✓	NR		
General	Downward & Lumsdon 2004	✓								
General	Freedman 2008	✓ ext. dest.		✓						
General	Disegna & Osti 2016									
General	García-Sánchez et al. 2013									
General	Veltenev 2015									
General	Aguiló & Vila 2017									

Table: Variables used across studies (grouped by Satisfaction, Characteristics of port, Destination related variables, Dependent on place / General, and Other issues).

Study	Satisfaction destination/holiday	Satisfaction with landscape	Satisfaction with friendliness	Satisfaction with prices	Satisfaction with food and beverages	Satisfaction with products in stores	Experiences with transport services	Tranquility of port	Proportion of persons from the same region	Regarded as expensive	Famous destination	City/rural/coastal destinations	Places visited	Resort	Port of call	Islands visited	Cruise tourist overestimate spending	Expenditure patterns
General																		
Aguiló & Vila 2017	✓																	
Vettner 2015													✓					
Garcia-Sánchez et al. 2013																		
Disegna & Osti 2016		✓	·|·	·|·	✓	✓												
Fredman 2008																		
Downward & Lumsdon 2004																		
Wilkins et al. 2018													✓					
Gómez-Deniz & Pérez-Rodríguez 2020																		
van Loon & Rouwendal 2017																		
Wang et al. 2006																		
Literature reviews																		
Wang & Davidson 2010	✓												✓					
Mayer & Vogt 2016	✓									✓	✓	✓						
Mudarra-Fernández et al. 2019 (Nature tourism)													✓					
Mudarra-Fernández et al. 2019 (Cruise tourism)	✓								✓				✓					
Cruise																		
Brida et al. 2012																		✓
Brida et al. 2014 a)								✓						✓				
Brida & Fasone et al. 2014 b)					✓			✓						✓				
Marksel et al. 2017							✓											
Casado-Diaz et al. 2021	✓																	
Parola et al. 2015	✓																	
Pino & Tovar 2019	✓													✓	✓			
Brida et al. 2020														✓				
Brida et al. 2018																		
Larsen et al. 2013																	✓	