Cultural participation of tourists - evidence from travel habits of Austrian residents

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Post-print of the paper published in *Tourism Economics, Vol 23 (2), 2017, 295-315.*
The final publication is available at
http://journals.sagepub.com/doi/full/10.1177/1354816616656264

Abstract

This paper examines how the individual characteristics of tourists and the attributes of a trip affect the decision that those visitors would choose cultural participation as their primary travel reason. In particular, we examine the effect of demographic and socioeconomic characteristics of tourists, and of the attributes of their trip, on both the likelihood and the frequency of their cultural participation. The data was gathered based on a national telephone survey in Austria, known as 'Travel Habits of Austrian Residents' which has been conducted over the years 2008 and 2009. Using observations of 8587 respondents and their 14,646 trips, a series of logistic and negative binomial regressions were employed. The findings of this study have practical implications for cultural managers both in Austria and in global markets. Although tourism is often promoted as a way to escape from everyday routines, the actual choice of cultural consumption in the tourism arena appears to be dictated by individual characteristics of tourists. Nevertheless, factors related to the character of a trip are also significant in determining cultural participation of tourists.

Keywords: Austrian residents, cultural tourism, logistic and count-data regression, tourist behaviour

JEL Codes: Z11, L83, D12, H44

As noted by McKercher (2002) there have been few recent studies concerned with the examination of market for cultural tourism in general, and to our knowledge there is currently no published research which evaluates the cultural participation of Austrian tourists. This is mainly because of the lack of appropriate data that could quantify the importance of cultural tourism on international basis (Richards, 1996). On the other hand, there have been several studies examining the demand for

cultural goods (see for example Diniz and Machado, 2011), the participation in the arts and culture (O'Hagan, 2014; Falk and Katz-Gerro, 2016), and in particular the consumption of performing arts from both the individual survey data (households or individuals) and aggregate data (countries, regions or institutions) perspective.[1]

The previous literature suggests that cultural tourism is a major future growth area both in Europe and in global markets (see for example Richards, 1996; Hall and Zeppel, 1990). The important role of tourism in cultural consumption has been recognised by World Trade Organisation (WTO) and more recently by the European Commission Communication (2010) and OECD (2009). According to OECD, whereas in 1995 there were 199 million cultural trips (37 per cent of all trips), 359 million trips were for cultural reasons in 2007 which accounted for 40 per cent of all trips. The OECD also recognised the mutually beneficial relationship between culture and tourism which can strengthen the attractiveness and competitiveness of regions and countries. However, in the absence of adequate data and further research, the rational policy formation might be difficult.

There are also two reasons why the examination of cultural tourism in Austria is an important and interesting case study. First, Austria is one of the most favoured tourist destinations in the global tourist market where the number of foreign visitors is growing considerably and where the tourist spending per capita has become one of the highest in Europe (BWMFJ, 2011). Second, Austrian residents also frequently travel, both domestically and abroad. According to BWMFJ (2011), whereas in 1969 only 28 per cent of all Austrian residents travelled to their main holiday destination (at least four nights), in 2006 a record number of 63 per cent of Austrian residents was achieved. In general, the number of all trips made by Austrian residents increased threefold from 2.4 million in 1969 to 8.9 million trips in 2011. Furthermore, the number of foreign (outbound) trips increased 5 times from 1.1 million in 1969 to 5.7 million in 2011. The number of domestic trips of Austrian residents also increased from 1.3 million to 3.1 million trips over the same time period.

This research contributes to the growing debate on the important relationship between tourism and culture. The paper investigates how individual characteristics of tourists and the attributes of a trip affect the decision that those visitors would choose cultural participation as their primary travel reason. The data source for this study is the national survey, known as 'Travel Habits of Austrian Residents', conducted by the Central Statistical Office in Austria. The data set was collated for the period 2008 – 2009 and includes information on 14,646 trips collected from a sample of 10,695 residents that made such trips. Using this detailed and novel data set, we employ the logistic and count data regression techniques in order to examine both the likelihood of participating in cultural tourism as well as the intensity (or frequency) of such participation.

As noted by OECD (2009), in the recent past, culture and tourism were viewed as largely separate aspects of the destinations. Cultural resources were largely related to the education of the local population and the underpinning of local or

national cultural identities. Tourism, on the other hand, was largely understood as a leisure activity not related with everyday life and with the culture of the local population. Thus, in this paper, in order to explain factors influencing the cultural consumption of Austrian tourists, we test two contrasting hypotheses which were proposed in the earlier studies (Stylianou-Lambert, 2011; Kim et al, 2007). First, according to the 'spillover' theory cultural participation of tourists is an extension of everyday life and hence preferences of tourists correspond with their habits at home. In line with this theory, we assume that all important determinants of cultural participation at home will also influence the decision to participate in cultural attractions while on a trip. There is a broad consensus in the literature about the direction of the influence which socioeconomic and demographic characteristics have on the cultural consumption (Falk and Katz-Gerro, 2016). Previous research also found that demographic characteristics such as age, gender or marital status, and the socioeconomic factors such as education, income and employment, have an important impact on the participation in the arts (see for example O'Hagan, 2014; Borgonovi, 2004). Thus, given the available data, this study investigates the extent to which those characteristics of individuals would affect their cultural participation while on a trip.

Second, we test the 'traditional' or 'compensation' hypothesis assuming that a tourist's experience might be separated from everyday life. Hence, tourists once away from home will tend to consume other goods or services. To test the latter hypothesis, we examine how the type of the trip (domestic or abroad) will affect their travel habits with regard to cultural participation. We also examine attributes of the trip such as the length of stay, accommodation type, travelling mode, the number of persons travelling and the month of travel. In fact, this is the first article to look at such a broad range of factors which might have an effect on cultural tourism, some of which have not been used before in any study.

The paper is organized as follows. The next section presents the literature review, and this is followed by the description of data sources, the variables used, the summary statistics and the methodology. The last two sections discuss the empirical findings and conclude the paper.

Literature review

It should be noted that the tourism literature has not yet settled on a single definition for the term "cultural tourist". Cultural tourism usually refers to trips that include visits to such places as museums, art galleries, historical and archaeological sites, festivals, architecture, artistic performances, and heritage sites. A similar definition of a cultural tourist is also employed in Craik (1997, p. 121).[2] Many studies also attempted to classify different types of cultural tourists, both by type of cultural attraction (e.g. museums, performing arts or cultural heritage) and by individual preferences of tourists (e.g. occasional or intentional cultural tourists). In particular,

Stylianou-Lambert (2011) and McKercher (2002) provide an extensive discussion of the different cultural tourist typologies.

In the literature we can generally find two main hypotheses which can serve as explanation for cultural participation of tourists. Under the 'traditional' hypothesis, also called 'compensation' theory, tourists, once away from home, will consume other goods and services. 'Tourists are envisioned to adopt a *tourist gaze* as soon as they find themselves at a foreign destination' (Stylianou-Lambert, 2011, p. 407). As argued by McIntyre (2007, p. 124), we can define the 'tourist experience as a form of escape from the constraints of the individual's everyday world and the need for the compression of *worthwhile* time – the *might never be back here* syndrome'. Another argument explaining the traditional hypothesis is the fact that consuming cultural experience requires the consumer's own time. Zieba (2009) and Withers (1980) confirm, for example, that the price of leisure has a significant but negative effect on the demand for theatre. However, tourists may have more leisure time at their disposal so their price of leisure may be lower and as a result they may consume more cultural goods while on their holiday than at home. Tourists may also be more likely to visit an opera, festival or museum simply because of the fact that a theatre or a museum is one of the attractions in the region. As noted by Craik (1997), for the non-opera-goer, placed in 'causal' contact with opera at a chosen destination, the availability of the opera – and time to kill – may persuade the tourist to sample something they never would at home. We can argue that the latter argument is relevant mostly for foreign trips on which tourists take the opportunity to visit foreign cultures and places in order to learn about their people, lifestyle, heritage and arts in an informed way.

The recent research also suggests that tourists carry over their everyday life experiences to the tourism arena which results in a similar pattern of cultural consumption while on the trip as at home. Even in the cases where the main motivation for traveling was to leave one's everyday life behind, it was found that tourists still tend to retain many of the routines of their own culture, or at least those who are close to their sense of identity (Stylianou-Lambert, 2011). This argument implies that a tourist who visits an opera performance or a museum, is already predisposed to do so (Craik 1997). Hughes (2002) argues that certain tourists will be present in the opera audience as non-holiday makers, as an extension of the normal journey to attend an opera production. The concept of everyday life often appears in opposition to behaviour that takes place away from home. Hence, this view supports the so-called 'spillover' hypothesis implying that individual characteristics of residents and their habits at home will correspondingly impact their cultural participation while on a trip.

To our knowledge, there has been relatively little research that could identify a relationship between individual characteristics of tourists or the attributes of their trip, and their cultural participation. Nevertheless, the support of both hypotheses can already be found in previous literature on cultural tourism. With regard to the compensation hypothesis there is a proof indeed that tourists prefer to visit art

museums when they travel abroad (McIntyre, 2007; Borowiecki and Castiglione, 2014; Brida et al, 2012). Zieba (2016) finds that foreign tourists, in contrast to domestic visitors, have a positive and significant effect on attendance at large theatres in Austria. It has also been shown that, in line with spillover hypothesis, tourists attending art festivals tend to be mature professionals with high income who are willing to travel in order to take part in major cultural events (Hall and Zeppel, 1990). Similar findings were found for foreign tourists visiting museums (Harrison, 1997; Brida et al, 2012). Craik (1997) also suggests that people with lower educational level are unlikely to consume cultural tourism.

Perhaps the most comprehensive study that could quantify the effects of education but also of other socioeconomic and demographic factors on cultural participation of tourists was the work by Kim et al (2007). The authors used a series of logistic regression models and identified the effects of gender, age, income and education of domestic tourists on their participation in four clusters of cultural attractions in the U.S. market. They found that income and education are positively related to participation in the cluster "festival and musical attractions" which includes, among others, the participation in theatre festivals, opera, ballet and dance performances, and also classical concerts. Moreover, their results indicate that rather the youngest group (below 30) had significantly higher tendency for the participation in this group of performances, compared to the other two age groups.

In this paper, we also attempt to shed some light on the factors that might affect the decision that a tourist will participate in cultural attractions. Applying both logistic and count-data regression procedures, we examine not only the decision of a tourist to participate in culture but also the frequency of such participation. Although there is no such data that allows us to segment cultural tourists into different arts clusters, in this research we define as a cultural tourist any individual whose motivation is solely cultural participation or cultural consumption. Consequently, our study is concerned with 'true' cultural tourists as opposed to 'casual' cultural tourists. Thus, tourists who combine their cultural participation with other leisure activities are not subject of our analysis.

Furthermore, in line with spillover hypothesis, we argue that the decision to choose cultural activities as the main travel purpose will depend on the individual preferences of individuals at home which in turn will correspond with their demographic and socioeconomic characteristics. For this reason we investigate if these individual characteristics have a similar effect on cultural participation of tourists. Nevertheless, in line with the compensation theory, we study the differential role of temporal effect on consumer behaviour and argue that not only the characteristics of the individuals but also the attributes of a trip can influence the decision to participate in cultural tourism. It should also be noted that this study, similarly to Kim et al (2007), contributes to the existing literature by employing the national survey data set which does not limit our results to a specific context but examines a representative sample of all tourists in Austria.

Data, variables and descriptive statistics

Data source

The data set applied for this research is taken from a survey known as "The Travel Habits of Austrian Residents" (*Reisegewohnheiten der österreichischen Bevölkerung*)[3]. The data was collated on quarterly basis during the period 2008-2009 by the Central Statistical Office in Austria (*Statistik Austria*). The sampling method consisted of one stage. The interviews were conducted through telephone survey, following a stratified random sampling.[4] About 3,500 persons above 15 years of age were contacted over the phone each quarter in 2008 and 2009. The participation in the survey was voluntary and the respondents were asked about any of their trips in the past three months. From the comprehensive data set, about 55 variables were collected and some of the categorical variables were anonymised through the generalisation of categories.

The data set includes observations on 20,318 individual trips collected from the population of 23,701 Austrian residents. The data set is split into two files. The personal data file provides information on individual characteristics of respondents such as age, gender, socioeconomic and demographic variables. It also provides data on the number of trips, if any and if the trip was domestic or abroad, and also if the trip was a one-day or a longer journey. The second data file includes observations on attributes of individual trips such as mode of travel, month of travel, type of accommodation and the number of persons travelling. The latter data file also provides information on cultural participation of those residents who travelled during the past three months. The cultural participation was identified by the question "*What was your main travel purpose*" where *"culture and sightseeing"* was one among nine mutually exclusive answer categories.[5]

For the purpose of this study, we matched the demographic and socioeconomic characteristics of tourists available in the personal data file with the observations available for every trip. Furthermore, we filtered the population of Austrian residents by imposing the threshold that only those residents who travelled at least once during the specified period of time are included in our sample. We also excluded observations on one-day trips as such information was available for foreign but not for domestic trips. The data on one-day foreign trips were also incomplete and as a result could not be included in our analysis. Although excluding the one-day travellers from our sample is consistent with the official definition of tourism, we also acknowledge the fact that the examination of the cultural behaviour of those visitors could be a useful extension of this research in the future.[6]

Accordingly, the effective population in our data set reduced to a total of 10,695 observations in the personal data file and a total of 17,178 observations in the individual trips data file. Furthermore, after excluding missing observations for the main variables of interest, the effective sample reduced to 8587 tourists and 14,646 trips. The individual trips were also split into two subsamples which include 7692 domestic and 6954 foreign trips, respectively. Moreover, with regard to the other

two variables of interest, *child* and the *expenditures* per trip (see the next subsection for details), the sample was further reduced to 5312 trips and 7627 tourists.

Description of Variables

In this study we investigate both the likelihood of participating in cultural tourism and the intensity (frequency) of such participation. Hence, we formulate two empirical models using two alternative dependent variables. First, we employ the participation model (*model 1*) using the sample on individual trips. The dependent variable (Y_1) takes the value of one if a resident has chosen culture as his/her travel motivation while on his/her trip during the past three months and zero otherwise. Second, we employ a count-data model (*model 2*) to examine the frequency of cultural participation. We group observations on individual trips for every respondent in the sample who travelled at least once during the past three months. In this specification, the dependent variable (Y_2), is a count variable that indicates a number of times (zero, one or more) a tourist had chosen culture as his/her main travel reason during the past three months.

Appendix provides an overview of the dependent variables and the explanatory variables that were used to estimate both models. In line with the spillover hypothesis, we assume that the same factors which influence cultural participation at home, will also influence the cultural consumption of tourists. According to previous literature, the main factors influencing the likelihood and frequency of cultural participation are the socioeconomic and demographic characteristics of individuals (see for example, Wen and Cheng, 2013; Falk and Katz-Gerro, 2016; Borgonovi, 2004). There has been so far an agreement that education is one of the most important factors influencing the participation of individuals in the arts (see O'Hagan, 2014). According to Palma et al (2013), a higher general education is linked to cultural capital which in turn is the ability to understand the symbolic message of cultural goods. Ateca-Amestoy and Prieto-Rodriguez (2013) argue that cultural capital is determined by the following factors: the one's own general education, education transmitted by parents, early exposure to the arts and specific artistic training. Findings in the empirical literature of the performing arts attendance provide evidence that participation increases as general education and income levels rise (Falk and Katz-Gerro, 2016; Borgonovi, 2004). The previous literature on cultural tourism also indicates a close linkage between socioeconomic status of tourists and their participation in cultural attractions (see for example, Hall and Zeppel, 1990; Kim et al, 2007; Brida et al, 2012). Thus, according to spillover hypothesis, education should have a positive effect on the decision of tourists to choose culture as their primary travel motivation. Following this, we use the highest educational level attained by the respondent as the proxy variable for education of Austrian tourists.

Another important socioeconomic factor is the income level of tourists. Numerous studies evaluating the demand for cultural goods (e.g. O'Hagan, 2014;

Falk and Katz-Gerro, 2016) confirmed the important association between rising levels of income and cultural consumption. We also would expect the income elasticity of demand for cultural goods to exceed one but the empirical evidence with regard to the effect of income is mixed. This may be due to the fact that the participation in cultural attractions usually requires a sizeable amount of leisure time. Thus, the income effect can be a net effect of two factors: a positive large full-income effect and a negative leisure-price substitution effect (see Zieba, 2009; Zieba and O'Hagan, 2013; Withers, 1980). Whereas our data set does not include information on personal income of respondents, we include the average expenditures per trip as the proxy variable explaining the effect of income on cultural participation of tourists.

We also assume that the age is an important demographic determinant of cultural participation of tourists as culture is an acquired taste and people need time to appreciate arts. If cultural tastes develop over a long period of time, there should be a positive effect of age on cultural participation of tourists. Furthermore, we include the status of employment and distinguish between the employed persons, those seeking employment, students and retired persons. Nevertheless, the exact effect of the status of employment is difficult to predict. First, we can assume that the employed persons have a higher probability of choosing cultural performances as their main travel reason due to the fact that they are better educated and with higher incomes. Herbert (2001), for example, found that tourists visiting heritage sites usually belong to relatively higher social class (managerial, professional and white-collar workers). On the other hand, those in employment may have higher opportunity costs of leisure time and as a result, they will not consume cultural performances both at home and when away on a trip.

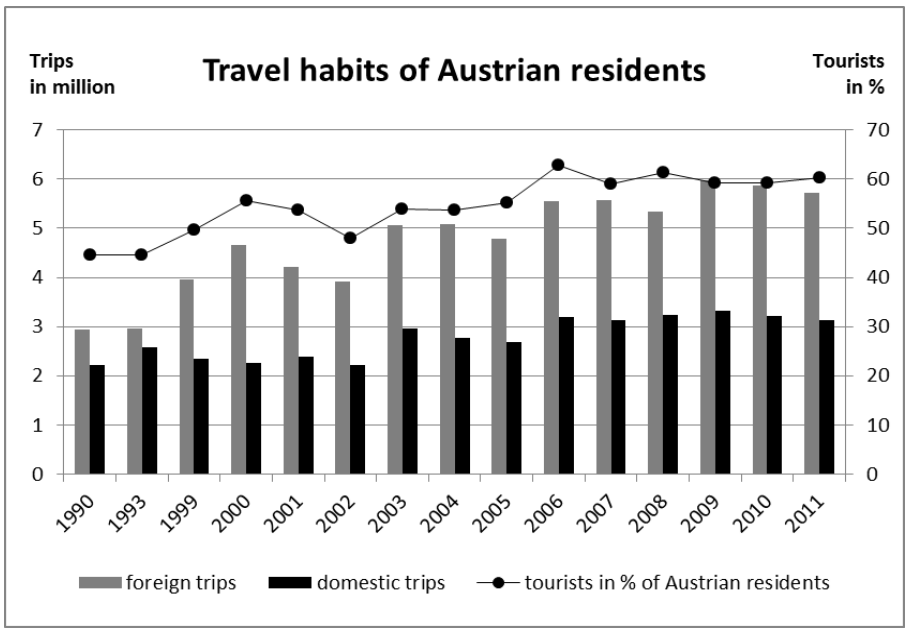
In this research we also include a dummy variable equal one if one or more than one child under the age of 15 are present in the respondent's household. We assume that adults with children are less likely to participate in cultural activities at home due to higher opportunity costs of leisure time. Thus, in line with the spillover hypothesis, they will be less likely to participate in cultural activities once away on a trip. Moreover, as found by McIntyre (2007), children are an integral part of determining a holiday experience and they are largely considered as a constraint in the ability of adults to take their ideal holidays.

Besides individual characteristics of tourists, we also include, in line with the compensation hypothesis, the factors which are connected with a traditional concept of tourist experience as separated from everyday life. First of all, we differentiate between domestic and foreign trips. As already noted earlier, previous research indicates that foreign visitors to a region or city will be more likely to attend museums and performing arts events. The analysis in Zieba (2016) reveals, for example, that foreign, in particular non-German tourists have a highly significant and positive impact on theatre attendance in Austria. In contrast, the domestic tourists are less interested in attending artistic performances while travelling within their country. Moreover, in this research, we include other attributes of the trip such

as the number of persons travelling, number of nights spent, mode of travel, type of accommodation and the travel month. The exact effect of the numerous trip characteristics cannot be, however, predicted a priori.

Finally, we should note that our data set refers to four quarters of 2008 and three quarters of 2009 which falls on the period of the global financial and economic crisis. We could argue that the 'Great Recession' could have led to abnormal behaviour of Austrian tourists. It should be noted, however, that although the crisis started in fall 2008, the contraction of Austrian economy occurred first in 2009. Thus, we could expect that travel habits of Austrian residents could be affected in 2009 but not in 2008. Figure 1 presents the travel habits of Austrian residents from 1990 until 2011. There has been an upward trend in both the number of domestic and foreign trips despite the Great Recession in 2009. Nevertheless, the tourist intensity rate, measured in the percentage of Austrian residents who went on at least one trip (4 days duration), slightly declined in 2009. Thus, in order to examine if the Great Recession could have an impact on cultural participation of Austrian tourists, we include in the participation model (*model 1*), the dummy variable for every trip which was undertaken in 2009.

Figure 1 Domestic and foreign trips of Austrian residents 1990-2011.



Source: BWMFJ (2011)

Descriptive Statistics

Table 1 reports the summary statistics of the dependent variables for both participation model (*model 1*) and the frequency model (*model 2*), respectively. In relation to the first dependent variable (Y_1), 15.6 per cent of all trips were for cultural reasons. As we might expect, only 8 per cent of all domestic trips were cultural trips in contrast to 24 per cent of foreign trips. With regard to the second

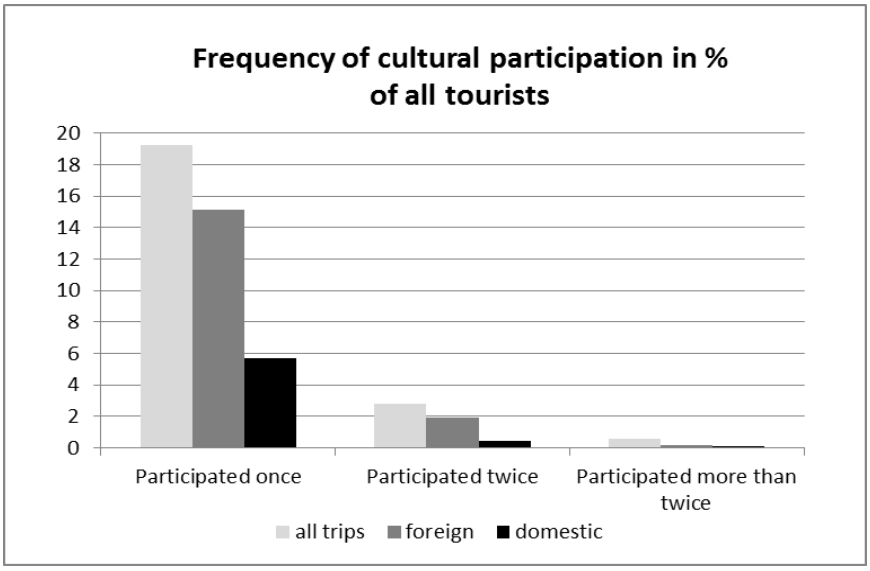
dependent variable (Y_2), the average number of all cultural trips per tourist is only 0.26.

Table 1 Summary statistics for the dependent variables.

variable	description	mean/ percentage	all trips	domestic trips	foreign trips
Y_1	Trip for cultural reasons: 1=yes, 0=no	percentage	15.6	8.0	24.1
		observations	14,646	7692	6954
Y_2	Number of cultural trips	mean	0.26	0.07	0.19
		(st. dev.)	(0.55)	(0.31)	(0.46)
		observations	8587	8587	8587

Figure 2 presents the distribution of the second dependent variable. It shows the frequency of cultural participation of Austrian tourists in per cent which is also split between domestic and foreign trips. The majority of Austrian tourists never go on cultural trips (77 per cent). Whereas 19 per cent of tourists went on a cultural trip only once, 3 per cent of tourists have chosen cultural activities twice, and only 1 per cent of all tourists participated in culture more than twice. There is also a much higher frequency of choosing cultural attractions while going on a foreign trip than on a domestic tour.

Figure 2 Cultural participation of Austrian tourists.



Source: Travel Habits of Austrian Residents 2008-2009.

Table 2 provides the descriptive statistics for the individual characteristics of Austrian tourists who travelled domestically or abroad during the past three months, and also for the number of trips made by those individuals. First of all, the gender is

equally distributed in the sample and 40 per cent of all tourists are aged between 35 - 54 years, followed by those aged 55 years or more, and the youngest group aged between 15 - 34 years. Educational background is also split into three dummy variables measuring no education or primary education (17 per cent), the secondary/intermediate education (63 per cent) and the tertiary education (20 per cent). With regard to occupational status we use seven different categories and those in employment represent 49 per cent of all tourists in the sample. With regard to family status, the two thirds of tourists do not have any children under the age of 15. Furthermore, the average number of domestic and foreign trips is equally distributed in the sample.

Table 2 Summary statistics for characteristics of tourists.

Variable	Percent	Variable	Percent
Gender (%)		*Occupational status (%)*	
female	50.2	employed*	41.2
male*	49.8	selfempl	7.6
		civilservant	7.6
Age class (%)		housework	4.2
age_1 (15 - 34 years)	23.9	trainee	9.7
age_2 (35 - 54 years)	39.9	retired	27.7
age_3* (> 55 years)	36.2	unempl	2.0
Education (%)		*No. of trips (mean)*	
edu_1 (1=no education/primary)	17.3	all	1.70 (1.29)
edu_2 (2=secondary)	63.0	domestic	0.89 (1.20)
edu_3* (3=tertiary)	19.7	abroad	0.81 (0.91)
Family status (%)		No. observations[a)]	8587
Child (1=one or more than 1 child	31.4		
Child-free*	68.6		

Notes: * denotes reference category. Where applicable, the standard deviation is presented in parentheses.
[a)] The number of observations for variable *family status* is 7627.

In addition to individual characteristics of tourists, we also take into account different aspects of the trip. Table 3 presents the summary statistics for all relevant attributes of the trips and the sample is divided into the domestic and foreign trips, respectively. The majority of Austrian tourists travel alone (44 per cent of all trips) or with one accompanying person (39 per cent of all trips), followed by two persons or more (17 per cent of all trips). Furthermore, Austrian tourists tend to travel for shorter intervals on domestic trips in contrast to foreign trips. Two thirds of the trips are organised with paid accommodation as opposed to unpaid accommodation (33%). Whereas car is the most common means of transport for domestic trips, plane is also the dominating role of transport for foreign trips. With regard to seasons, there is approximately an equal distribution of trips during autumn, winter and spring season, whereas around 40 per cent of all trips occur during summer. The average expenditure per trip is 871 EUR and as we would expect, given the distance

and longer trip duration, an average expenditure per foreign trip is two times higher than an average expenditure for a domestic trip.

Table 3 Summary statistics for characteristics of the trip.

Variable	all trips	domestic trips	foreign trips
	(1)	(2)	(3)
No. persons travelling (%)			
pers_1 (1 person)*	43.5	43.9	43.0
pers_2 (2 persons)	38.8	38.5	39.1
pers_3 (>2 persons)	17.7	17.6	17.9
No. nights (mean) - length	5.16	3.70	6.75
	(5.57)	(4.20)	(6.40)
Accommodation (%)			
paid	67.4	65.3	69.8
unpaid*	32.6	34.7	30.2
Means of transportation (%)			
car	60.9	77.91	42.3
train	10.4	14.23	6.11
bus	7.81	5.62	10.2
ship	1.71	1.52	1.9
aeroplane*	19.2	0.65	39.5
Season of travel (%)			
spring	23.7	22.5	25.0
summer	39.2	37.3	41.4
autumn	18.5	16.8	20.4
winter*	18.5	23.4	13.2
Expenditures per trip (EUR)	871.6	508.8	1319.0
	(952.6)	(408.2)	(1206)
Year of trip			
2008*	53.8	55.6	52.5
2009	46.2	44.4	47.5
Type of trip			
domestic*	52.32	n/a	n/a
foreign	47.68	n/a	n/a
No. observations (maximum)	14,646	7692	6954

Notes: * denotes reference category. Where applicable, the standard deviation is presented in parentheses.

Methodology

In this study we examine factors influencing the travel choices of cultural tourists by employing two alternative methods. First, we formulate a participation model (*model 1*) in which we examine the likelihood of a tourist that he or she would choose cultural activities as the main reason for travel. We assume that the decision of a tourist to travel for cultural reason is influenced by his/her cultural preferences. In line with spillover hypothesis, the cultural preferences of tourists correspond with their habits at home and as a result they depend on their personal characteristics. Following the 'compensation' theory, we similarly argue that not only the individual factors but also attributes of a trip may influence the decision of an individual to travel for cultural reason. Thus, both personal characteristics and the trip-related factors will determine the optimal choice of travel where cultural consumption will be the main travel motivation. The following relation is given in equation (1):

$$Y_i = f(X_i) = f(Edu_i, Dem_i, Soc_i, Child_i, Trip_i) \quad (1)$$

where the dependent variable (Y_1) is dichotomous taking the value of 1 if a tourist travels for cultural experiences during the past three months and 0 otherwise. Among the explanatory variables, Edu_i represents the level of education which is used as a proxy variable of stock for cultural capital. Dem_i, Soc_i provide information on the demographic and socioeconomic characteristics of tourists, such as age, gender and occupational status, and $Child_i$ is the dummy variable indicating the presence of children under the age of 15 in the respondent's household. Finally, $Trip_i$ denotes the vector of attributes connected with the nature of the trip: destination of the trip (foreign or domestic), number of persons travelled, number of overnight counts, accommodation type, transportation mode, season of travel and the expenditures per trip.

Following Reece (2004), the participation model (*model 1*) is estimated using the logistic regression. We assume that each individual chooses whether to travel for cultural reason to maximise his/her utility. The logit model estimates then the probability of a tourist to travel for cultural reasons, as a function of explanatory factors explained above and it takes the following form:

$$p_i = \Pr[Y_i = 1 | X_i)] = \frac{\exp(X_i \beta)}{1 + \exp(X_i \beta)} \quad (2)$$

where p_i is the probability that y = 1 and X_i is the vector of explanatory variables as specified in equation (1). The values of the β - coefficients are estimated using maximum likelihood technique with the assumption that the error term is independently and identically distributed. In this specification we use pooled (longitudinal) data on individual trips which are the repeated number of observations for each individual who has made more than one trip. As different trips

can be assigned to the same respondent, this may lead to correlation in the patterns of cultural participation and standard logit models may produce incorrect standard errors. Therefore, we estimate the pooled logit model with cluster–robust standard errors by allowing the individual trips to correlate within the individuals (see also Falk and Katz-Gerro, 2016).

For our second specification (*model 2*), we examine the intensity of cultural participation using a count nature of the dependent variable (Y_2) which is defined as the number of times a tourist has chosen culture as his/her main travel reason during the past three months (see Table 1). In this specification, the variables which are related to the personal characteristics of tourists and are presented in equation (1), remain unchanged whereas the variables related to the attributes of a trip reduce to the number of trips only. The regression models for counts have been widely used in the literature to analyse the consumption of various cultural goods such as: Palma et al (2013) and Ateca-Amestoy (2008) for the performing arts, Brida et al (2012) for museums, or Fernandez-Blanco et al (2015) for books.

To estimate the second model, we proceed first by employing a simple Poisson regression that explains the number of times a tourist reports choosing that activity during the past three months. The main limitation of this method is, however, that only one parameter describes the mean and the variance of the distribution. Due to the fact that our variable has excess of zero values, we estimate a negative binomial regression model that allows a greater degree of flexibility in the functional form by not imposing the same mean and variance. The negative binomial regression model takes on the following form:

$$p_i = \Pr[Y_i = y_i \mid \lambda_i, \alpha)] = \frac{\Gamma(\alpha^{-1} + y_i)}{\Gamma(\alpha^{-1})\Gamma(y_i + 1)} \left(\frac{\alpha^{-1}}{\alpha^{-1} + \lambda_i} \right)^{\alpha^{-1}} \left(\frac{\lambda_i}{\lambda_i + \alpha^{-1}} \right)^{y_i} \qquad (3)$$

where λ_i is equal to $\exp(X_i\beta)$, $\Gamma(.)$ is the integral of the gamma function and α is the parameter of overdispersion. If parameter $\alpha = 0$, then the conditional mean is equal to conditional variance and there is no overdispersion indicating that the Poisson distribution is appropriate (Cameron and Trivedi, 2005, p.675). However, if $\alpha>0$ then the conditional mean is greater than the conditional variance and the negative binomial distribution is preferred. Given the presence of considerable overdispersion in our data (see earlier section and Figure 2), the negative binomial model should be considered. In addition, the negative binomial method is particularly preferred if the goal is to model the probability distribution and not just the conditional mean. This is important for our study as the negative binomial distribution of observed counts can be generated by both unobserved heterogeneity and the contagion effect. The latter implies that tourists have the same probability of going on cultural trips but this probability will change as these events occur. For example, after a single cultural trip a tourist may be motivated to travel again for cultural reasons and hence might increase intensity of cultural participation in the future.

It should be noted that as our data sample includes a large amount of zero values, another alternative for the count-data model presented in equation (3) would be the zero-inflated negative binomial regression method. This method has been applied in several studies on cultural participation in the arts and culture (e.g. Ateca-Amestoy, 2008; Fernandez-Blanco et al, 2015; Falk and Katz-Gerro, 2016; Wen and Cheng, 2013). The underlying assumption of this method is that the zeros are generated by two different data generating processes and that there are two latent groups of tourists. One group has no chance of choosing cultural tourism, i.e. going beyond zero ('*Always Zero Group'*), and another group of tourists might have a zero count but they have probability of having a positive count, i.e. choosing culture as their main travel motivation is nonzero. However, in contrast to the studies on cultural consumption, we do not apply this specification for one important reason. Namely, in line with the compensation theory, we assume that individuals who never participate in culture at home, may still be likely to consume culture while on a trip. Thus, we do not assume that some tourists in the sample might never choose cultural tourism but we argue that all tourists have a likelihood of having a positive count. Following this, the negative binomial model is applied.

Empirical findings

The results of the logistic regression (*model 1*) are presented in Table 4 while the estimates of the negative binomial regression (*model 2*) are presented in Table 5. Both tables provide the results for all trips but also for domestic and foreign trips (columns from 3 to 6), respectively. Furthermore, for all trips (total, domestic and foreign) we also consider an alternative specification for the reduced sample of observations (columns 2, 4 and 6) where we include the following variables: the dummy variable indicating the presence of children in the household (*child*) and the expenditures per trip in EUR (*expenditures*).

In both tables numerous variables are statistically significant in explaining the likelihood that a respondent wants to travel for cultural reasons (*model 1*) or the occurrence rate of such trips (*model 2*). The $\chi 2$ value for each of the models is not presented but indicates that all specifications in Tables 4 and 5 are statistically significant at the 1 per cent level.[7] For the pooled logit model presented in Table 4, robust standard errors are used which are clustered within individuals. For the negative binomial model presented in Table 5, a likelihood ratio test for alpha (α) parameter is applied. In each column of this table, the hypothesis that α - parameter is equal to zero is strongly rejected. This test confirms an overdispersion in our data and that the Poisson estimator is inefficient with the standard errors biased downwards. Therefore, we conclude that the negative binomial estimator should be used.

Table 4 Regression results for the participation model (*model 1*).

	All trips		Domestic trips		Foreign trips	
	(1) full sample	(2) subsample	(3) full sample	(4) subsample	(5) full sample	(6) subsample
female	0.412*** (0.059)	0.168 (0.108)	0.135 (0.109)	-0.625*** (0.202)	0.544*** (0.068)	0.513 (0.129)
age_1	-0.131 (0.126)	0.039 (0.249)	-0.196 (0.225)	0.402 (0.429)	-0.085 (0.147)	-0.069 (0.295)
age_2	-0.318*** (0.098)	-0.228 (0.184)	-0.257 (0.162)	0.062 (0.348)	-0.311** (0.121)	-0.286 (0.215)
edu_1	-0.213** (0.111)	-0.022 (0.194)	0.374* (0.199)	1.644*** (0.365)	-0.443*** (0.128)	-0.632*** (0.230)
edu_2	-0.104 (0.077)	0.171 (0.138)	0.093 (0.164)	0.851** (0.333)	-0.176** (0.087)	0.009 (0.167)
selfempl	0.265** (0.116)	0.383* (0.212)	0.161 (0.208)	0.369 (0.402)	0.322** (0.136)	0.239 (0.230)
civilservant	0.317** (0.127)	0.412** (0.206)	0.025 (0.249)	0.463 (0.367)	0.494*** (0.146)	0.573** (0.257)
housework	0.606*** (0.135)	0.680*** (0.245)	0.844*** (0.216)	0.644 (0.467)	0.398** (0.172)	0.668** (0.315)
trainee	0.515*** (0.134)	1.028*** (0.231)	0.025 (0.238)	0.099 (0.377)	0.751*** (0.148)	1.424*** (0.268)
retired	0.386*** (0.110)	0.568*** (0.204)	0.475** (0.188)	0.367 (0.408)	0.444*** (0.134)	0.761*** (0.240)
unempl	0.109 (0.224)	0.645* (0.359)	0.584* (0.329)	1.096** (0.445)	-0.236 (0.322)	0.346 (0.519)
pers_2	0.773*** (0.065)	1.238*** (0.127)	1.014*** (0.131)	2.141*** (0.241)	0.680*** (0.076)	1.022*** (0.157)
pers_3	0.190* (0.099)	0.682*** (0.213)	0.702*** (0.189)	2.058*** (0.350)	0.015 (0.116)	0.145 (0.268)
length	-0.027** (0.006)	-0.046*** (0.015)	-0.292*** (0.029)	-0.301*** (0.054)	-0.004 (0.006)	-0.024* (0.014)
accommpaid	0.571*** (0.071)	0.518*** (0.138)	0.572*** (0.131)	0.564** (0.224)	0.633*** (0.086)	0.623*** (0.185)
car	-1.185*** (0.074]	-1.087*** (0.138)	-1.497*** (0.145)	-2.295*** (0.258)	-1.171*** (0.084)	-0.926*** (0.152)
train	0.285*** (0.098)	0.534*** (0.181)	-0.077 (0.163)	-0.344 (0.285)	0.404*** (0.125)	0.523** (0.234)
bus[b)]	0.597*** (0.088)	1.043*** (0.155)	b)	b)	0.769*** (0.102)	1.124*** (0.180)
ship	0.434** (0.193)	-0.209 (0.345)	-0.009 (0.303)	-0.819 (0.644)	0.532** (0.232)	-0.339 (0.387)

Notes: Table 4 continued on next page.

Table 4 Continued.

	All trips		Domestic trips		Foreign trips	
	(1) full sample	(2) subsample	(3) full sample	(4) subsample	(5) full sample	(6) subsample
spring	0.613*** (0.090)	0.568*** (0.165)	0.278* (0.152)	0.218 (0.278)	0.703*** (0.117)	0.775*** (0.225)
summer	0.695*** (0.089)	0.916*** (0.164)	0.828*** (0.141)	0.903*** (0.252)	0.616*** (0.117)	0.968*** (0.224)
autumn	0.663*** (0.099)	0.711*** (0.177)	0.758*** (0.166)	0.567* (0.297)	0.557*** (0.124)	0.753*** (0.236)
year 2009	0.128** (0.057)	0.189* (0.102)	0.227** (0.105)	0.109 (0.191)	0.067 (0.066)	0.172 (0.123)
expenditures		0.248*** (0.055)		-0.047 (0.331)		0.272*** (0.055)
child		-0.139 (0.159)		-0.055 (0.278)		-0.125 (0.203)
abroad	0.978*** (0.067)	1.012*** (0.125)				
Observations	14,646	5312	7692	2897	6954	2415
log-likelihood	-5233	-1618	-1845	-532	-3269	-1010

Notes: Cluster-robust standard errors are in parentheses. * significant at 10%; ** significant at 5%; significant at 1%. [b)] For domestic trips, 'bus' is the reference category.

The results for the sample of all trips in column (1) of Table 4 show that the dummy coefficient indicating gender is positive and statistically significant at the 1 per cent level, indicating that female tourists are more likely to choose cultural participation as their main motivation to travel than male visitors. The same result is found for foreign trips (column (3)) but the effect of gender is insignificant or even negative for domestic trips (column (5)). However, in Table 5 (*model 2*) where the intensity of cultural participation is being tested, the effect of being female is always positive and statistically significant indicating that women are more likely to participate in cultural attractions than men. These results confirm that cultural tourists tend to be females (see Kim et al, 2007) and this finding is also compatible with cultural participation studies (e.g. Falk and Katz-Gerro, 2016).

When examining the effect of age in Table 4, the oldest group (>55) which has been the reference category, has a statistically higher tendency to choose cultural participation than the other two groups. Persons aged between 35 and 54 years of age, denoted by parameter *age_2*, are statistically less likely to choose culture as their travel motivation. This finding is confirmed for all trips (column 1) and for foreign trips (column 5) but not for domestic trips in column 3 of Table 4. The same results can be found in Table 5 when the intensity of cultural participation is being tested. Furthermore, the coefficient of *age_1* defining persons aged 35 or less, is almost always negative but not significant for any group of tourists in Table 4 but negative and significant for all trip categories in Table 5. These findings are in

contrast to those found by Kim et al (2007) but they are in line with Falk and Katz-Gerro (2016). They overall confirm our earlier discussion that the arts is an experienced good and consequently the most frequent cultural tourists are coming from the older age groups. Nevertheless, in the participation model in Table 4 the younger group of tourists is not less likely to choose cultural tourism than the oldest age category which is the reference group. The latter finding indicates that definitely those in the middle age (*age_2*) are less likely to participate in cultural tourism.

Table 5 Regression results for the frequency model (*model 2*).

	All trips		Domestic trips		Foreign trips	
	(1) full sample	(2) subsample	(3) full sample	(4) subsample	(5) full sample	(6) subsample
female	0.315*** (0.045)	0.321*** (0.049)	0.220** (0.095)	0.174* (0.104)	0.478*** (0.055)	0.501*** (0.059)
age1	-0.413*** (0.097)	-0.315*** (0.107)	-0.373* (0.203)	-0.392* (0.223)	-0.393*** (0.118)	-0.270* (0.131)
age2	-0.454*** (0.077)	-0.281*** (0.085)	-0.281* (0.163)	-0.272 (0.181)	-0.510*** (0.095)	-0.263** (0.104)
edu1	-0.347*** (0.079)	-0.338*** (0.085)	0.168 (0.165)	0.360 (0.184)	-0.318*** (0.096)	-0.341*** (0.103)
edu2	-0.196 *** (0.057)	-0.174* ** (0.062)	0.066 (0.126)	0.273* (0.147)	-0.139*** (0.067)	0.142* (0.073)
selfempl	0.164* (0.094)	0.219** (0.101)	0.231 (0.195)	0.207 (0.214)	0.191* (0.114)	0.280** (0.120)
civilservant	0.146 (0.093)	0.092 (0.102)	-0.065 (0.210)	-0.171 (0.244)	0.338*** (0.112)	0.302** (0.119)
housework	0.420*** (0.108)	0.506*** (0.112)	0.954*** (0.202)	0.971*** (0.209)	0.235 (0.142)	0.335** (0.146)
trainee	0.411*** (0.103)	0.453*** (0.111)	0.220 (0.231)	0.296 (0.245)	0.535*** (0.121)	0.568*** (0.131)
retired	0.352*** (0.084)	0.379*** (0.089)	0.522*** (0.176)	0.481** (0.187)	0.392*** (0.104)	0.451*** (0.110)
unempl	0.051 (0.193)	0.041* (0.208)	0.683* (0.320)	0.624* (0.342)	-0.209 (0.268)	-0.183 (0.290)
trips	0.185*** (0.013)	0.183*** (0.015)	0.506** (0.038)	0.496*** (0.044)	0.672*** (0.028)	0.664*** (0.030)
child		-0.484*** (0.065)		-0.168 (0.131)		-0.601*** (0.081)
Observations	8587	7627	8587	7627	8587	7627
LR test that α=0 [a)]	28.51***	25.47***	162.5***	112.83***	91.79***	80.93***
Log-Likelihood	-5399	-4632	-2125	-1802	-4053	-3481

Notes: Standard errors are in parentheses.. * significant at 10% ; ** significant at 5%; significant at 1%.

[a] LR test = Likelihood ratio test

With regard to the education level, the results obtained for the participation model (Table 4) vary slightly from the results obtained using the frequency model (Table 5). When considering the first model, respondents with primary education (*edu_1*) but not those with secondary education (*edu_2*), are significantly less likely to choose culture as their travel motivation in contrast to those with tertiary education (reference category). This finding holds for the group of all and foreign trips but not for domestic trips. For the latter group of trips, both the primary and secondary education dummies are not statistically significant. In the frequency model (Table 5), however, both dummy coefficients for primary and secondary education levels are negative and highly significant, indicating that tertiary education positively and significantly affects the number of times a tourist chooses culture as his/her travel motivation. This result confirms the finding of Brida et al (2012) that generally those with higher education will be more frequent visitors of cultural attractions. Nevertheless, the results hold again only for all and foreign trips but not for domestic trips. For the latter group of trips there is no significant association between education level of a tourist and the number of 'cultural' trips.

Interesting results are also obtained for the variable representing occupational status. The employed respondents have lower probability of attending in contrast to civil servants, trainees and those out of the labour force (retired individuals and those doing the housework). The most striking result perhaps is that the retired people are more likely to choose cultural tourism in contrast to other employment categories. The intensity of cultural participation of tourists is also strongly associated with the person being retired as the dummy variable for the retired persons is positive and highly significant.

Furthermore, when we consider the reduced sample of observations, the dummy variable for *child* has a negative effect on cultural participation as expected, although it is not significant in columns (2), (4) and (6) of Table 4. However, this coefficient is highly significant and negative in Table 5 where the frequency of cultural participation is considered. There are two possible explanations for this result. First, children decrease the probability of their parents or caregivers to participate in culture due to time constraints and according to spillover theory those with children will also be less likely to consume culture while on vacation. Second, in line with the compensation theory, children while on a trip may be a real barrier to participate in cultural attractions given the fact that an adequate amusement and facilities must be provided for them (see McIntyre, 2007).

The attributes of the trip are jointly estimated in the participation model in Table 4 and they are highly significant not only for foreign trips but also for domestic trips. These findings confirm the compensation hypothesis and indicate that tourists travelling with two or more persons, represented by the coefficients *pers_2* and *pers_3* respectively, are more likely to participate in culture than travelling alone. This is confirmed for all trips and domestic trips where both coefficients are positive and significant. For foreign trips, the optimal number of persons that are travelling

together on a cultural trip is two, as the coefficient of *pers_3* does not differ significantly from the reference category which is one person only.

As regards the length of stay measured by the number of overnight counts, it is striking to note that the coefficient of *length* is highly significant and negative. This result confirms that Austrian cultural tourists prefer to travel for shorter intervals, especially on domestic trips which is in line with the results found in Figini and Vici (2012). This finding is, however, not confirmed for foreign trips for which the coefficient of *length* in column (6) of Table 4 is significant at the 10 per cent level only. Moreover, as indicated by highly significant and positive parameter of *accommpaid*, there is a higher probability that tourists choose culture as their travel reason when they pay for the professional accommodation (bed & breakfast or hotel) in contrast to unpaid accommodation (relatives and friends or free of charge hostels). As regards the mode of transport, Austrian residents who travel abroad by plane (reference category) are more likely to choose cultural activities than tourists travelling by car but they are less likely to choose cultural participation than tourists travelling by bus, train or ship. When we consider domestic trips only in Table 4, plane is excluded as the transport mode due to insufficient number of observations and bus is the reference category. As a result, bus, in contrast to car, is the main transport mode for domestic trips of cultural tourists. There is also no statistical difference between travelling by train or ship than by bus on domestic trips. With regard to the season, during the winter tourists are definitely less likely to travel for cultural reasons both in Austria and abroad, than during the summer, autumn or spring period. The latter finding is in line with discussion presented in Figini and Vici (2012) that 'summer' tourists will usually ask for more cultural offers.

It was also possible to examine the effect of *expenditures* per trip on cultural participation of tourists using the reduced number of observations in Table 4. The coefficient is highly significant and positive for all trips and foreign tours (columns 2 and 6) but it is not significant for domestic journeys (column 4). This result confirms that income, approximated by the expenditure per trip, is an important factor determining the decision of tourists to choose cultural consumption during their vacation at foreign destinations.

With regard to the year of the trip, the dummy variable for 2009 is positive and significant at the 5 per cent level in column (1) for all trips and in column (3) of Table 4 for domestic trips. The same coefficient is, however, not significant for foreign trips in column (5) of Table 4. This finding implies that the Great Recession in 2009 could have led to a slight increase in cultural participation of tourists for domestic trips in contrast to foreign trips. The foreign trips were unaffected by the year 2009 ceteris paribus indicating that there was an increase in domestic cultural trips due to the global recession. Thus, the demand of Austrian tourists could have shifted from foreign to domestic cultural tourism.

In order to distinguish between foreign and domestic trips, we include a dummy variable in column (1) and (2) of Table 4 which takes the value of one if the trip was abroad and zero otherwise. The coefficient of *abroad* is positive and highly

significant indicating that Austrian tourists travelling abroad are more likely to choose cultural participation than those travelling within the country. This finding is compatible with results found in Zieba (2016) that arrivals of foreign tourists in Austria positively affect theatre attendance in contrast to arrivals of domestic tourists. This is also consistent with finding of Brida et al (2012) that foreigners are more likely to revisit museums in Italy. Given also the fact that only 8 per cent of all domestic trips are cultural trips (see Table 1), we can suggest that Austrian tourists are not very much involved in cultural participation at home. Furthermore, it might also be the case that domestic tourists would rather consume culture on their excursions (one-day trips) but the latter trips were not included in our model specification due to the data limitations (see our earlier discussion).

Moreover, the findings in both Tables 4 and 5 clearly indicate that not the same factors affect participation of tourists when travelling domestically or abroad. Whereas higher education, income and age are relevant factors affecting cultural participation on foreign trips, these factors are less likely to affect cultural consumption on domestic trips. This finding corresponds with the traditional theory and suggests that domestic travellers can be seen as a more distinct and homogenous group of visitors in contrast to foreign tourists.

Discussion and conclusions

The objective of this empirical study was to examine the important relationship between culture and tourism. We tested both the traditional and spillover hypotheses that help us explain determinants of cultural tourism. In particular, we investigated how the individual characteristics of tourists and other factors connected with the attributes of their trips will affect the decision that they would choose cultural participation as their primary travel motivation. We examined the impact of those factors on both the likelihood and the frequency of cultural participation of tourists using the national survey data on travel habits of Austrian residents.

The empirical results confirm that both the likelihood and intensity of cultural participation of tourists are mainly determined by their personal characteristics. First, the findings indicate that female tourists are more likely and more frequent participants of cultural attractions. Age is another significant determinant of cultural participation of tourists. Furthermore, higher education has a positive and significant effect on the number of times a tourist participates in cultural attractions. The explanation behind this finding is that education may help to acquire cultural capital which is necessary to consume the arts. Hence, better-educated individuals have a greater capacity to appreciate and understand the qualities of cultural attractions. However, the latter result holds for foreign trips only but not for the domestic tours.

We also find that individuals with children under the age of fifteen are less likely to participate in cultural attractions on foreign trips than the individuals with no children. The effect does not hold, however, for domestic travellers. These results

might be consistent with the concept that time availability and opportunity costs of time are important factors determining the cultural participation at foreign destination. This finding also corresponds with the result that retired persons and those doing housework are more likely to choose cultural participation or are willing travel for cultural reasons more often than the employed people or persons actively seeking an employment. The latter finding holds not only for foreign tourists but also for domestic visits.

As we would expect, the results also indicate that individual characteristics of tourists are less important with regard to the likelihood of choosing cultural tourism than the intensity (frequency) of such participation. Whereas age and education have less influence on the decision to consume cultural tourism on an individual trip, these factors are very important with regard to the frequency of cultural consumption. Furthermore, we find that the spillover hypothesis is not confirmed for domestic trips in contrast to foreign visits. This is mainly due to the fact that some of the individual characteristics of tourists are not important factors in affecting their cultural participation on domestic journeys. Similarly, tourists are more likely to choose culture while on a trip abroad than on a domestic trip. Other attributes of a trip have also an important impact on the decision of tourists to travel for cultural reasons. We find that Austrian cultural tourists are less likely to travel alone and are most likely to travel by train or bus than by plane or car. They are also more likely to book paid accommodation and to travel during summer, autumn and spring as opposed to winter.

Overall, the findings confirm that cultural tourists, and in particular foreign tourists, display predictable demographic characteristics, like consumers of art and culture. Cultural tourists have higher income, higher education and higher cultural capital, as confirmed by numerous studies on cultural participation. Hence, our findings are in line with OECD (2009) analysis and suggest that the policymakers should engage in linking tourism and culture by developing an effective partnership between stakeholders in the two sectors. There is a common interest for both tourism and culture to attract people to the regions in which they are based. However, whereas in the tourism sector it is normal to think about customers or clients, the cultural sector is more concerned with residents, usually seen as audiences or citizens. Therefore, it should be recognized that tourists are part of the cultural audience so that these differences can be overcome.

Our findings also indicate that the attributes of a trip are significant in determining cultural participation of tourists and as such they provide an evidence for the traditional ‘compensation’ hypothesis. In particular, we find that foreign tourists might be more likely to participate in cultural activities than domestic tourists. The latter group of tourists might prefer consuming cultural attractions on their excursions (one-day trips), or simply they might prefer to consume culture as residents at home. Thus, in order to attract international tourists both in Austria and globally, it is important that those visitors are made aware of what the region has to offer. It should be acknowledged that a foreign visitor has little knowledge of local

culture and is unlikely to be impressed simply by cultural diversity. The lack of internationalisation was also confirmed by the OECD study for one of the federal regions in Austria, Voralberg. Therefore, the destination managers should engage in identifying the aspects of their cultural offerings which are likely to appeal only to specific target group from the tourist population, which are those with higher education, higher income and greater leisure time at their disposal. This also indicates the need for marketing policies which attract visitors from other groups of tourists such as male visitors, younger tourists or families with children, and perhaps also those who spend less but who stay longer in a country, and therefore are able to see more of its culture. Furthermore, domestic tourists in Austria can be treated as a single target group where education, income and age do not play the major role in their decision to choose domestic cultural tourism.

The destination managers could also cooperate with local cultural managers in order to address their supply to cultural tourists. The "Mozart Year" in 2006 which was organised in Austria to celebrate 250th anniversary of the birth of the musical genius, can serve as a good example of cultural promotions among tourists. The celebration was advertised both domestically and abroad. The campaign attracted a significant number of visitors to numerous festivals, concerts and exhibitions, both in Vienna and other cities in Austria.

Overall, the presented empirical case study on travel habits of Austrian residents and its findings highlight the need for a greater understanding of the diversity of the demographic profile of cultural tourists. This is essential for a more effective marketing and further development of cultural tourism.

Acknowledgments

I would like to acknowledge the Central Statistical Office in Austria – 'Reisegewohnheiten der österreichischen Bevölkerung'. I also would like to thank Jordi Suriñach, Karl Wöber, the Editor, and two anonymous referees for their helpful comments and suggestions.

Endnotes

[1] See Seaman (2006) for an overview of early studies and the more recent studies of Werck and Heyndels (2007), Ateca-Amestoy (2008), Zieba (2009), Zieba and O'Hagan (2013), Willis and Snowball (2009), Grisolía and Willis (2012), Laamanen (2013), and Wen and Cheng (2013).

[2] Hence, under term "culture" we understand here a broad term which, in addition to the arts, encompasses a range of characteristics which help to define an area and its population, including customs and traditions, language and literature.

[3]www.statistik.at/web_de/services/mikrodaten_fuer_forschung_und_lehre/datenangebot/standardisierte_datensaetze_sds/index.html

[4] A source of selection for the stratified random sampling was the central registration register (der *Zentrale Melderegister*) in Austria. The information about age, gender and place of residence

(federal region in Austria) was collected for both those respondents who travelled and those who did not travel in the past three months.

[5] Other possible choices included: 'business trip', 'visiting relatives or friends', 'training/education', 'shopping', 'active (recreation) holiday', 'seaside holiday', 'relaxation holiday', 'health and fitness holiday'.

[6] According to Bull (1995) and the UWTO, we define as "tourists" only those visitors to a country that are staying at least 24 hours, for the purposes of leisure or business, whereas temporary visitors staying in a country less than 24 hours, for the same purposes (excluding transit passengers) are defined as excursionists.

[7] While the sign of coefficients is directly interpretable, their magnitude is not. To obtain the latter, the marginal effects should be derived. However, the focus of this paper is the examination of the direction of the effects of the explanatory variables (the sign and the statistical significance of the estimated coefficients) and not the magnitude of these effects.

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Appendix

Table A1. Description of variables used.

Variables	Description
Dependent variable	
Y_1 (*model 1*)	1 = respondent travels for cultural purposes in the past three months, 0 = respondent does not travel for cultural purposes
Y_2 (*model 2*)	A count variable which indicates the number of times (trips) a tourist travels for cultural reason during the past three months.
Characteristics of tourists	
gender	1 = female; 0 = male
age	Age categories: age_1 = 15-34; age_2 = 45-54; age_3 => 55 (dichotomized in the final analysis).
education	Highest educational level achieved: edu_1 = no education or primary education; edu_2 = vocational training (school) or general secondary education; edu_3 = third-level/tertiary education (college, university); (dichotomized in the final analysis)
employment status	Employment status (dichotomized in the final analysis): 1 = self-employed; 2 = employed (blue collar worker, in-on the job training, civil servant, white-collar worker) 3 = Retired; 4 = doing housework; 5 = unemployed (dichotomized in the final analysis)
Family status	
child	Presence of one or more children under age of 15 in the household: 1 = yes, 0 = no
Attributes of the trip	
year	Dummy variable for the year in which the trip was made: 1 = 2009; 0 = 2008
trips	Number of trips each individual has undertaken during the past three months
abroad	Indicates if a tourist went on domestic or foreign trip: 1=trip abroad; 0=domestic trip
pers	Number of persons travelling per trip, dichotomized in the final analysis: pers_1 = 1 if one person, 0 otherwise; pers_2 = 1 if two persons, 0 otherwise; pers_3 = 1 if two or more persons, 0 otherwise.
accommpaid	1 = paid accommodation yes; 0 = free accommodation
travel mode	1 = plane, 2 = ship, 3 = train, 4 = bus, 5 = car (dichotomized in the final analysis)
travel season	Spring (March – May) = 1; summer (June – August) = 2; autumn (September – November) = 3; winter (December – February) = 4 (dichotomized in the final analysis)
expenditures	Expenditures per tourist and per trip in EUR.