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Gender and Tourist Satisfaction: The Case of Sunbathers in the Azores Islands[1]

Género e Satisfação do Turista: O Caso dos Banhistas nos Açores

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Abstract

It is well established that satisfaction enhances tourists' loyalty and, consequently, understanding the determinants of tourists' satisfaction has received a great attention in the literature. Although gender differences have been widely examined in the marketing and consumer behavior literature, the study of its contribution to tourism satisfaction is still very limited. This paper intends to fill this gap. Additionally, it contributes methodologically to the analysis of the determinants of satisfaction in tourism by addressing the sample selection problem. For this purpose, we examine the existence of gendered differences in visitors' satisfaction with beaches and other coastal bathing areas in the Azores Islands. The findings indicate that satisfaction is high but that females are more satisfied than males. Such a finding is robust, since it survives across different specifications of the empirical analysis, including a correction for sample selection bias, which is a critical issue that has been systematically neglected in tourist satisfaction studies. The results are relevant for researchers, destination development practitioners and other touristic agents in the Azores.

Keywords: visitors' satisfaction; gender differences; beaches; sample selection; Azores Islands

JEL Codes: J16; L83; Z32

Resumo

Está bem estabelecido que a satisfação aumenta a fidelidade do turista e, consequentemente, a compreensão dos determinantes da satisfação do turista tem recebido grande atenção na literatura. Embora as diferenças de gênero tenham sido amplamente examinadas na literatura de marketing e comportamento do consumidor, o estudo de sua contribuição para a satisfação no turismo ainda é muito limitado.

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Este artigo pretende preencher essa lacuna. Além disso, contribui metodologicamente para a análise dos determinantes da satisfação no turismo ao abordar o problema de seleção da amostra. Para o efeito, examinamos a existência de diferenças de género na satisfação dos visitantes com as praias e outras zonas balneares costeiras dos Açores. Os resultados indicam que a satisfação é alta, mas que as mulheres estão mais satisfeitas do que os homens. Tal resultado é robusto, uma vez que sobrevive em diferentes especificações da análise empírica, incluindo uma correção para o enviesamento de seleção da amostra, que é uma questão crítica que tem sido sistematicamente negligenciada nos estudos de satisfação do turista. Os resultados são relevantes para investigadores, profissionais de desenvolvimento de destinos e outros agentes turísticos nos Açores.

Palavras-chave: satisfação do visitante; diferenças de género; praias; seleção de amostra; Ilhas dos Açores

Códigos JEL: J16; L83; Z32

1. INTRODUCTION

Customer satisfaction is theoretically and empirically an important issue which has received great attention by researchers (e.g., Churchill & Surprenant, 1982; Fournier & Mick, 1999; Tudoran, Olse, & Dopico, 2012). It has been argued that customer satisfaction can be important to maintain loyalty and formation of future purchasing intentions and generate favorable word-of-mouth communication and recommendation to other people (Richens, 1983; Anderson, 1998; Oliver, 2010), therefore being a key element for many organizations in today's competitive landscape (Patterson 1993; Oliver, 2010; Fornell, Morgeson, & Hult, 2016).

What determines customer satisfaction is a subject that pervades a vast literature, including tourism. Indeed, understanding tourist satisfaction is likely to be one of the most important areas of research within the tourist industry in a competitive setting, since satisfied tourists are more likely to recommend their experiences to others and repeat the visit (Hallowell, 1996; Baker & Crompton 2000; Kozak & Rimmington 2000; González, Rodríguez, & Brea, 2007; Petrick, Tonner, & Quinn, 2006; Lee, Yoon, & Lee, 2007; Baker & Fulford, 2016; Stumpf, Vojkto, & Janecek, 2020; Antón, Camarero & Laguna-García, 2017; Remoaldo, Vareiro, Cadima Ribeiro, Abreu, & Bettencourt, 2020). This knowledge is also important to managers in the design of successful destination marketing strategies (Kozak & Rimmington, 2000).

This paper addresses the role of gender on the determination of tourist satisfaction, an issue which has received great attention in the marketing and consumer behavior literature (Song, Sheinin, & Yoon, 2017; Kim, Park, Yoon, Choi, & Oh, 2019), but whose examination in the context of tourism is still very limited. Specifically, we examine the existence of gender differences in visitors' satisfaction with beaches and other coastal bathing areas in the Azores Islands.

The contribution of the paper is as follows. Firstly, it sheds light on the role of gender to tourism satisfaction. Secondly, it contributes methodologically to the empirical literature by explicitly accounting for customer participation (or selection) into an activity. This is an issue systematically neglected in existing studies on customer or visitors' satisfaction, which usually only examine a sub-sample of participants. Nevertheless, it is well established in the literature that overlooking agent participation selection may be a serious shortcoming, leading to biased or spurious results due to sample selection since participants might be a non-random sample of the population (Heckman, 1979; Berk 1983; Cuddeback, Wilson, Orme, & Combs-Orme, 2004; Jacobs, Hartog, & Vijverberg, 2009). Indeed, Berk (1983) argues that "This neglect represents a major oversight with potentially dramatic consequences since internal as well as external validity is threatened" (p. 386). Therefore, overcoming this limitation becomes relevant to assess the robustness of the findings and their generalization to the population of interest. Thirdly, although the existence of beach opportunities has been identified as an element that may contribute to overall tourist satisfaction with a touristic destination (Pizam, Neumann, & Reichel, 1978) and beaches constitute a pulling factor drawing visitors to some destinations, research specifically dedicated to satisfaction with beaches is rare (an exception is Hassan & Shahnewaz, 2014), and its relation with gender

is nonexistent. Finally, the Azores Islands are still an emerging tourist destination where the landscape and the ocean are usually viewed as the main attractions. However, the few existing studies approaching visitors' satisfaction with natural attractions are Bentz, Lopes, Calado, & Dearden (2016) and Vieira, Silva, Santos, and Lopes (2018) and are confined to cetacean watching activities. The examination of satisfaction with beaches and other bathing areas certainly adds to the understanding of visitors' assessment of this recent small islands' space destination.

The rest of paper is organized as follows. Section 2 briefly reviews the literature. Section 3 describes the study site, depicts the data and the statistical model specifications. The results are presented in section 4, whereas conclusions, discussion of the findings and future work directions are included in Section 5.

2. LITERATURE REVIEW

2.1 Gender and customer satisfaction in tourism

A large number of empirical studies have examined tourist satisfaction and its determinants (Danaher & Arweiler, 1996; Tribe & Snaith, 1998; Pizam & Ellis, 1999; Kozak, 2001; Akama & Kieti, 2003; Pawitra & Tan, 2003; Truong & Foster, 2006; Yu & Goulden, 2006; Thompson & Schofield, 2007; Bowen, Schouten, & Boutin, 2008; Del Bosque & Martín, 2008; Veasna, Wu, & Huang, 2013; Wang & Chan, 2013; Hassan & Shahnewaz, 2014; Della Corte, Sciearelli, Castellan, & Del Daudio, 2015). These studies show that satisfaction relates to the demographic profiles of the visitors (Danaher & Arwiller, 1996; Reynolds & Braithwaite, 2001; Musa, 2002; Kozak, 2001; Mellina & Aballe, 2013) and to the destination attributes and services (Akama & Kieti, 2003; Musa, 2002; Al-Ababneh, 2013; Hassan & Shahnewaz, 2014; Della Corte et al., 2015).

The empirical evidence on the effect of gender on tourism satisfaction is very scarce, although a few studies do exist. Regarding touristic experiences satisfaction, Mellina & Aballe (2013) found marked differences across age groups and educational attainments but no gender-based differences. However, Musa (2002), in a study regarding divers' satisfaction in Sipadan, concluded that females report higher satisfaction than males. Rubenstein (1980) and Ryan (1995) also reported that females are more likely to feel more satisfied with tourist experiences than males. Based on a sample of guests who have encountered any dissatisfaction with the hotel where they stayed, Salleh, Said, Bakar, Ali, & Zakaria (2016) found that males report greater dissatisfaction than females. Therefore, as far as touristic experiences are concerned, the limited existing empirical evidence leads to the idea that women are likely to be more satisfied than men.

2.1 Gender, customer behavior in tourism and sample selection

The role of gender differences on customer behavior in tourism has been studied and confirmed in different domains, such as leisure activities performed (Carr, 1999), life cycle travel patterns (Collins & Tisdell, 2002), perception of danger at destination (Carr, 2001), online travel information search (Kim, Letho, & Morrison, 2007), perceived importance of destination attributes (Meng & Uysal, 2008), tourist expenditures (Middaugh & Meng, 2013), and destination decision making and motivations (McGehee, Loker-Murphy, & Uysal, 1996; Meng & Uysal, 2008; Lin, Lee, Ching, Lee, & Wong 2014).

Altogether, these studies show that people make choices, namely self-selecting themselves in the leisure activities performed, likely based on their preferences, motivations or other factors, which might differ by gender. In such a case, the analysis of the influence of gender on satisfaction with a specific activity using only a subsample of participants may be undermined (or biased) due to sample selection. Indeed, this is a common problem in studies involving human behavior due to individuals' choices and self-selection into some activities (Heckman 1979; Berk, 1983; Manski 1989; Cuddeback et al., 2004; Jacobs, Hartog, & Vijverberg, 2009). This problem makes the determination of causality more difficult and must be properly addressed in order to avoid biased estimates (Heckman, 1979; Berk, 1983). To the purpose of this work, it is therefore worth testing to what extent the contribution of gender to differences in tourism satisfaction is robust and survives to corrections for sample selection bias.

3. METHODOLOGY

3.1 The Study Site

The study relies on data collected for the Azores Islands on tourists' satisfaction with beaches and other bathing areas. The Azores, a small and dispersed island region, is home to approximately 2.3% of the Portuguese population (Vieira et al., 2018). However, there is a belief that the region can make better use of the existing natural resources, namely through tourism. Indeed, tourism has growth in the Azores over the last two decades and is considered a promising activity.

As a result of public policies oriented towards the promotion of the destination and the increase of the lodging capacity highly supported by EU funds, the number of guests in the accommodation units rose by 155% between 1994 and 2014, at an average annual growth rate of approximately 4.8% (calculations based on tourism long-run series displayed online by the Azores Statistical Office). This growth sharpened after 2015 due to the entrance of low-cost airlines, which started flying from mainland Portugal following a policy of airline liberalisation (Vieira, Câmara, Silva, & Santos, 2019). Due to its central location between North American and Europe, the Azores Islands are considered a strategic commercial platform between these two continents (Fortuna, Silva, & Teixeira, 2019).

The landscape and marine-related activities constitute the main attractions of the Azores as a touristic destination. The region is characterized by a tepid, oceanic, subtropical climate, with mild annual temperatures oscillating from 15°C (59°F) to 27°C (80°F). The ocean water temperature ranges from 17°C (63°F) in the winter to 25°C (77°F) in the summer. The islands include several small beaches and many other coastal bathing areas (locally called natural swimming pools), usually formed among rocks originated by the solidification of lava from ancient volcanic eruptions and sculpted by marine and wind erosion. Due to their volcanic origin, these are mainly black sand beaches and black (basalt) rocks, a particularity also found in other island areas such as Hawaii, Canary Islands, Iceland, Aeolian Islands or French Polynesia, which sometimes intrigues travelers likely most used to typical white sand beaches.

3.2 Data

Data were collected through a questionnaire conducted by the Azores Tourism Observatory, during the touristic high seasons of 2014 and 2015. This is a non-profit association, whose founding members are the Azores Government, the Azores Tourism Association and the University of the Azores. The main mission of this entity is to monitor tourism activity, namely by gathering information on visitors' profiles and on their opinion about the destination or about specific aspects of it, in order to provide advice to various entities, improve tourist experiences and ultimately to contribute to the development of sustainable tourism in the Azores.

Regarding the data used in this study, visitors were interviewed at the departure lounge in the airports of Ponta Delgada (São Miguel Island), Lajes (Terceira Island) and Horta (Faial Island). The survey collected data on visitors' demographic profile such as gender, age, level of education, marital status, and nationality. Information was also collected on travel companion, whether the visitor was for the first time at the destination or not and on the importance they attach to environmentally friendly practices.

Those who went to beaches or other bathing areas during the visit were asked to rate their overall level of satisfaction with the experience on a Likert-type scale. However, except for the level of satisfaction, information on the demographic profile and some features of the journey was collected for all participants in the survey. This is a valuable and distinguishing feature of the data, not present in other studies examining tourism or customer satisfaction, which allows us to address and correct for sample selection bias problem.

Table 1 depicts the respondents' profile, in a sample that includes 2121 visitors. From these, 1885 went to the beach or other type of bathing area (participants), and 236 did not (non-participants). Within the whole sample as well as the sub-samples of participants and non-participants, the proportion of males and females is almost the same (nearly 50%). Most of the respondents are Portuguese, followed by German, except in the case of non-participants, among whom the second group is formed by the Swedish. In general, respondents are well educated, with most of them having a university degree. We can also observe that most of them are married (more than 70%), travel with the family (more than 60%), and are at the destination for the first time (nearly 80%). Interestingly, 46% of the respondents consider

that environmentally friendly practices are very important, but with visible differences between participants (47%) and non-participants (34%). This suggests that those who value such practices are more inclined to spend some of their time sunbathing in uncrowded beaches and swimming in the ocean clean waters. Indeed, although the visitors' perception of this issue has not been addressed in the literature, it is common sense that the ocean and coastal areas remain quite clean and uncrowded in the Azores.

Table 1 – Respondents profile (proportions)

	All	Participants	Non-participants
Gender:			
Female	0.508	0.508	0.513
Male	0.492	0.492	0.487
Education:			
Primary education	0.153	0.143	0.229
Secondary education	0.188	0.190	0.169
Tertiary education	0.659	0.666	0.602
Age:			
≤ 24 years old	0.216	0.228	0.123
25-34 years old	0.164	0.173	0.089
35-44 years old	0.212	0.219	0.157
45-54 years old	0.127	0.119	0.195
55-64 years old	0.211	0.202	0.284
≥ 65 years old	0.070	0.059	0.153
Nationality:			
Portuguese	0.246	0.251	0.199
Danish	0.102	0.096	0.153
Swedish	0.140	0.136	0.169
German	0.189	0.195	0.140
French	0.033	0.034	0.021
Spanish	0.034	0.034	0.034
Dutch	0.093	0.088	0.140
Other countries	0.164	0.166	0.144
Other variables:			
Married	0.714	0.710	0.742
Travelled with the family	0.673	0.678	0.636
São Miguel Island	0.760	0.756	0.788
Terceira Island	0.142	0.154	0.051
First time at the destination	0.819	0.821	0.801
Believes that environmentally friendly practices are very important	0.460	0.475	0.339
Number of observations	2121	1885	236

3.3 Statistical Methods Description

3.3.1 Unconditional differences in satisfaction by gender

The level of overall satisfaction is reported on four levels of the type:

Level 0 -	dissatisfied
Level 1 -	moderately satisfied
Level 2 -	satisfied
Level 3 -	very satisfied

The first analysis relies on the raw (or unconditional) differences on satisfaction between men and women. Given the ordinal nature of the variable under scrutiny, a t-test to conclude on the existence of (mean) differences in satisfaction by gender is not suitable. Alternatively, we use a non-parametric approach such as the Mann-Whitney U-test in order to test whether the distribution of satisfaction is the same across gender groups.

3.3.2 Conditional differences: ordered probit model

The method described in the previous section does not control for observable visitor attributes such as education, age, nationality and marital status, among others. Such attributes may differ by gender and influence satisfaction. In such a case, if those variables are not included in the analysis then the effect of gender on satisfaction might be spurious. However, we can overcome such a shortcoming through a regression analysis.

Considering the ordinal nature of the dependent variable, we use an ordered probit regression model. This type of model was firstly proposed by Aitchison & Silvey (1957) for the bio-statistics data analysis and taken into social sciences by McKelvey & Zavoina (1975). The advantages of the ordered probit model for analysis of customer satisfaction when the dependent variable is ordinal has been demonstrated by Peel, Goode, & Moutinho (1998).

Consider that satisfaction is determined by the following stochastic process:

$$y_i^* = \beta' x_i + \varepsilon_i \qquad i=1,\ldots,N \qquad (1)$$

where y_i^* is a dependent latent variable, x_i^* is a set of explanatory variables (which among others includes a binary variable for gender), β is vector of parameters to estimate and ε_i stands for a random error assumed to be iid~N(0,1).

In the data, we do not observe y_i^* but an indicator variable y_i, which indicates the level of satisfaction to which the individual belongs, such that:

$$y_i = j \quad if \quad \mu_{j-1} < y_i^* \leq \mu_j \qquad j = 0,\ldots,3 \qquad (2)$$

The thresholds μ are unknown and cut the standard normal distribution into segments, being that $\mu_{j-1} < \mu_j$. The probability that the individual belongs to each of the four alternatives regarding the level of satisfaction is given by:

$$\begin{aligned} P(y_i = 0) &= \Phi(\mu_0 - \beta' x_i) \\ P(y_i = 1) &= \Phi(\mu_1 - \beta' x_i) - \Phi(\mu_0 - \beta' x_i) \\ P(y_i = 2) &= \Phi(\mu_2 - \beta' x_i) - \Phi(\mu_1 - \beta' x_i) \\ P(y_i = 3) &= 1 - \Phi(\mu_2 - \beta' x_i) \end{aligned} \qquad (3)$$

Therefore, the log-likelihood function to be maximized is given by:

$$LogL = \sum_{i=1}^{N} \quad \sum_{j=0}^{3} m_{ij}\, log\{\Phi(\mu_j - \beta' x_i) - \Phi(\mu_{j-1} - \beta' x_i)\}$$

where

$$\begin{cases} m_{ij} = 1 \quad if \quad i \in j \\ m_{ij} = 0 \quad if \quad i \notin j \end{cases} \qquad i = 1,\ldots,N \qquad j = 0,\ldots,3 \tag{4}$$

The interpretation of the model is not straightforward. The explanatory variable of concern (female) is binary assuming a value of 1 in the case of a female and 0 in the case of a male respondent. In such situation, a positive parameter associated with this variable means that females have a higher conditional probability of belonging to the highest level of satisfaction (level 3) than males and a lower probability of belonging to the lowest level (level 0). The reverse is valid for a negative parameter.

However, the sign of the parameter does not provide any information on what happens to the intermediate levels of satisfaction. Nevertheless, this information can be retrieved through the calculation of the marginal effects for a reference group. The marginal effect, i.e. the impact on the conditional probability of switching the binary variable from 0 (male) to 1 (female) can be determined as:

$$\Delta = P(y = j|d = 1,\ f) - P(y = j|d = 0,\ f) \tag{5}$$

where *d* denotes the gender dummy and *f* the remaining explanatory variables.

3.3.3 Dealing with sample selection

The model described in the previous section only uses observations for those who went to beaches and other bathing areas (participants). However, this procedure may suffer from a sample selection bias problem leading do distorted inferences (Heckman, 1979; Berk, 1983; Jacobs et al., 2009). Such bias arises because those who participated may be a non-random sample (due to a self-selection effect) of the population of interest (visitors). This is the so-called incidental truncation where the inclusion in the sample depends on previous people's decision. In this case, although the whole sample is representative of the entire population, observations on the dependent variable are truncated according to a certain decision rule. If the errors of such a rule are correlated with those from the equation of interest (satisfaction) a bias arises (Heckman, 1979; Cuddeback et al., 2004).

This problem can be solved using an ordered probit model with sample selection (Greene & Hensher, 2010), which comprises the joint estimation of a participation decision and a satisfaction equation.

Regarding the participation decision, assume that it is determined by the following stochastic process:

$$z_i^* = \alpha' z_i + u_i \qquad i=1,\ldots,N \tag{6}$$

where z_i^* is a latent variable, z_i is a set of explanatory variables and u_i is an error term.

However, what we observe in the data is an indicator variable of the type $z_i = 1$ if the individual participates (that is if $z_i^* > 0$) or $z_i = 0$ in the case of non-participation (that is if $z_i^* \leq 0$).

The level satisfaction, such as before, is determined by a stochastic process:

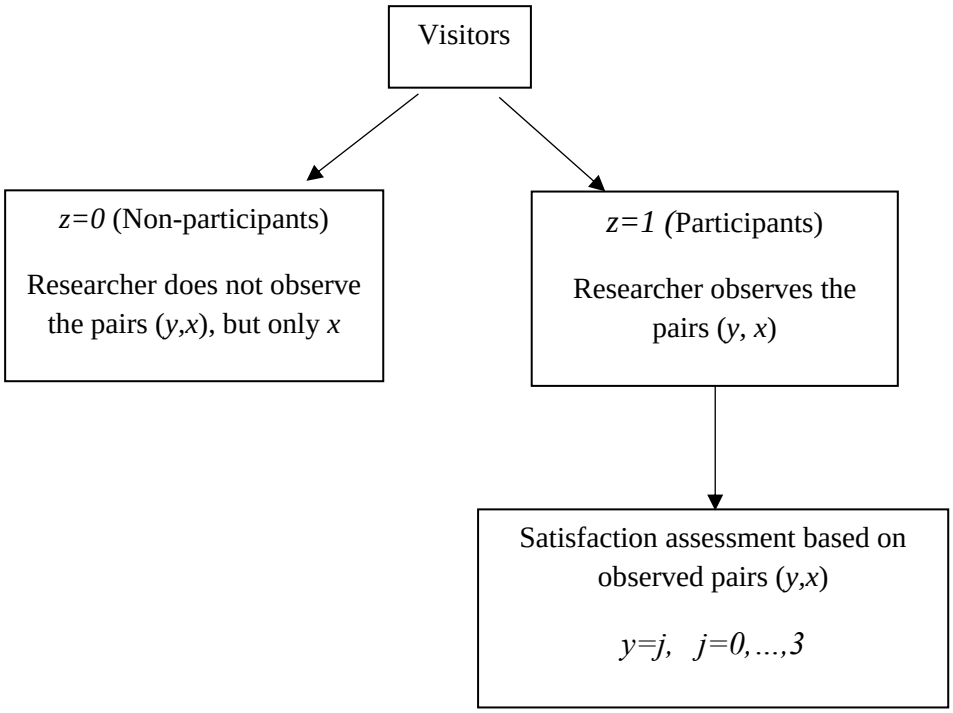
$$y_i^* = \beta' x_i + \varepsilon_i \tag{7}$$

being observed in the data the outcomes

$$y_i = j \quad if \quad \mu_{j-1} < y_i^* \leq \mu_j \qquad j = 0,\ldots,3 \tag{8}$$

Therefore, the researcher observes the pair (y_i, x_i) only when $z_i = 1$, such as illustrated in Figure 1.

Figure 1 - Sample selection problem illustration



In addition, we assume that the random components ε_i e u_i follow a bivariate normal distribution with correlation ρ, of the type $\varepsilon_i, u_i \sim N(0, 0, 1, 1, \rho)$. If $\rho=0$ there is no problem arising from estimating the satisfaction equation using only observations for those who participated such as in the previous section. However, if it is the case that $\rho \neq 0$ then the correlation between the unobserved components may lead to a selectivity bias problem.

Following closely Greene & Hensher (2010), the log-likelihood function of this model can be written as:

$$LogL = \sum_{y_i=0} log\, \Phi\,(-\alpha'\, z_i) +$$

$$+ \sum_{y_i=1} \sum_{j=0}^{3} n_{ij}\, log\{\Phi_2(\mu_j - \beta'\, x_i, \alpha'\, z_i, \rho) - \Phi_2(\mu_{j-1} - \beta'\, x_i, \alpha'\, z_i, \rho)\}$$

where

$$n_{ij} = \begin{cases} 1 & \text{if} \quad y_i = j \\ 0 & \text{otherwise} \end{cases} \qquad j = 1,\ldots,4 \tag{9}$$

4. RESULTS

Figure 2 depicts the distribution of the levels of satisfaction by gender, without conditioning on other observable attributes. We find that satisfaction is quite high. However, females' satisfaction is more likely to be at level 3 (very satisfied) than at levels 0 to 2 when compared with males. Figure 3 portrays the difference (males *minus* females) in percentage points between the two distributions. Furthermore, a Mann-Whitney U-test rejects the null hypothesis that the distribution of satisfaction is the same across gender groups at a 5% level of significance.

Figure 2 – The distribution of the level of satisfaction by gender (%)

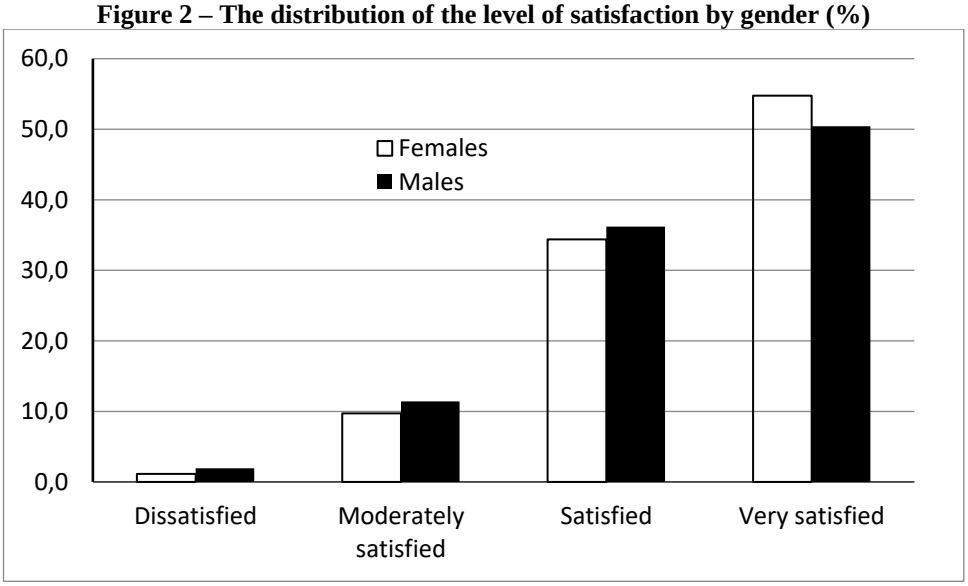
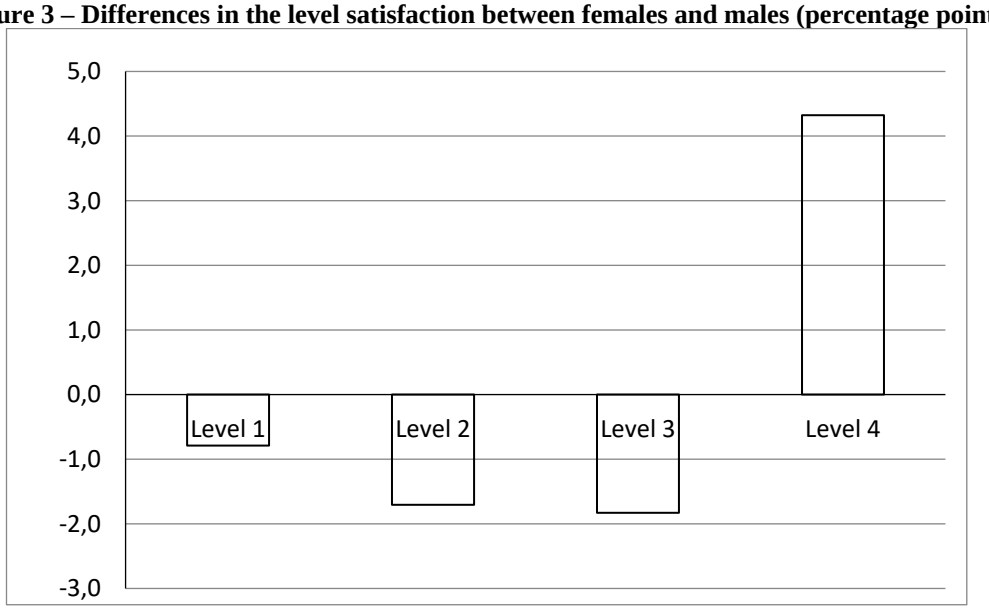


Figure 3 – Differences in the level satisfaction between females and males (percentage points)



The ordered probit estimation results are included in Table 2. Education attainment level does not explain sunbathers' level of satisfaction. The same happens with other variables such as the marital status, whether the person is for the first time at the destination, and whether the person is travelling with the family or not. Regarding nationalities, Portuguese visitors are more likely to be very satisfied and less likely to be dissatisfied as compared with those from other countries. We can also easily observe that the contrary is valid for the Swedish, Danish and Dutch visitors.

Table 2 – Level of satisfaction: Ordered Probit estimation results

	Coef.	S. Error	
Intercept	2.621	0.159	***
Secondary education	-0.078	0.095	
Tertiary education	0.009	0.081	
25-34 years old	-0.062	0.083	
35-44 years old	-0.141	0.078	*
45-54 years old	0.009	0.116	
55-64 years old	-0.107	0.083	
≥ 65 years old	0.025	0.153	
Portuguese	0.360	0.094	***
Danish	-0.378	0.109	***
Swedish	-0.297	0.100	***
German	0.001	0.092	
French	0.060	0.180	
Spanish	-0.158	0.157	
Dutch	-0.258	0.112	**
Married	-0.047	0.067	
Travelled with the family	0.038	0.069	
São Miguel Island	-0.337	0.111	***
Terceira Island	0.875	0.140	***
First time at the destination	-0.114	0.078	
Female	**0.151**	**0.055**	*******
μ_1	1.065	0.038	***
μ_2	2.293	0.041	***
Log-L	-1736		
Number of observations	1885		

*** $p \leq 0.01$ ** $p \leq 0.05$ * $p \leq 0.1$

Gender influences satisfaction, even after wiping out the effect of other variables. As we can see, the gender coefficient is positive and statistically different from zero at the 1% level of significance. Therefore, females have a higher probability of being very satisfied and a lower probability of being dissatisfied than males.

The marginal effects calculated for a reference group for which all the remaining explanatory (binary) variables are set equal to zero indicate that females have a probability of being very satisfied that exceeds that of males by nearly six percentage points. They have, however, a lower probability (negative marginal effect) of being found at levels 0 to 2. These conditional results are plotted in Figure 4 and resemble the unconditional information depicted in Figure 3.

The estimation results for the ordered probit model with sample selection are included in Table 3. The results indicate that participation depends on age. Older visitors are less likely to go to beaches or other coastal bathing areas (those aged above 55 years). The island where interviews are conducted also matters as well as the importance that the visitor attaches to environmentally friendly practices. Individuals who consider environmentally friendly practices to be very important for them are more inclined to engage in those activities. Marital status, gender, nationality, travelling with the family or not, and whether the visitor is a first timer or not at the destination have no explanatory power on participation.

Figure 4 - Marginal Effects on the Probability of Belonging to each Level of Satisfaction (percentage points)

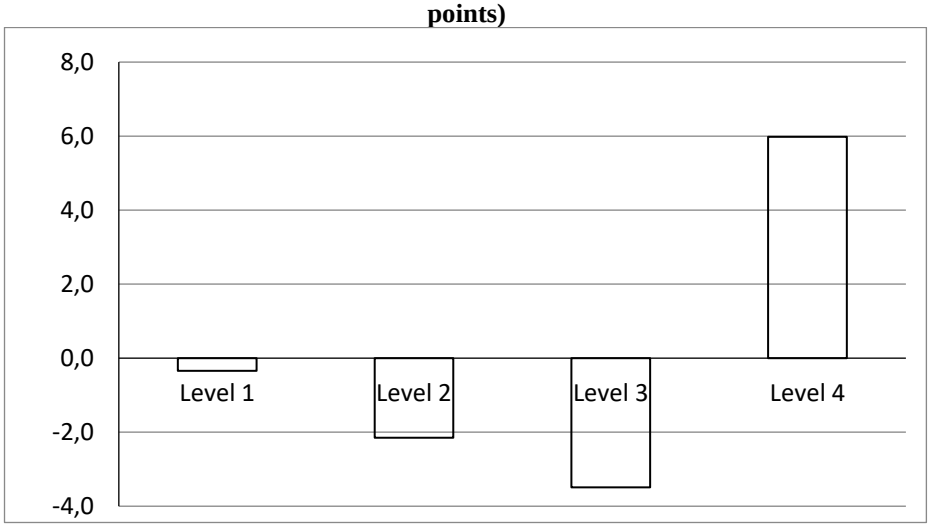


Table 3 – Ordered Probit with sample selection estimation results

	Participation Equation			Satisfaction Equation		
	Coef.	S. Error		Coef.	S. Error	
Intercept	0.554	0.197	***	2.724	0.170	***
Secondary education	0.215	0.125	*	-0.136	0.092	
Tertiary education	0.145	0.097		-0.040	0.076	
25-34 years old	0.280	0.131	**	-0.097	0.080	
35-44 years old	0.044	0.114		-0.137	0.077	*
45-54 years old	0.247	0.134	*	-0.067	0.106	
55-64 years old	-0.247	0.106	**	-0.029	0.079	
≥65 years old	-0.671	0.161	***	0.265	0.140	*
Portuguese	0.029	0.130		0.314	0.091	***
Danish	-0.220	0.148		-0.290	0.108	***
Swedish	-0.135	0.138		-0.232	0.094	**
German	0.184	0.139		-0.042	0.090	
French	0.128	0.263		0.016	0.192	
Spanish	0.041	0.272		-0.160	0.157	
Dutch	-0.197	0.149		-0.167	0.104	
Married	0.013	0.089		-0.020	0.065	
Travelled with the family	0.001	0.086		0.002	0.063	
São Miguel Island	0.434	0.128	***	-0.376	0.109	***
Terceira Island	0.689	0.183	***	0.734	0.137	***
First time at the destination	0.069	0.102		-0.117	0.073	
Female	-0.034	0.075		**0.143**	**0.053**	***
Believes environmentally friendly practices are very important	0.327	0.080	***			
μ_1				1.030	0.074	***
μ_2				2.162	0.080	***
$\rho(u,e)$				-0.974	0.215	***
Log-L				-2443		
Number of observations				2121		

*** $p \leq 0.01$ ** $p \leq 0.05$ * $p \leq 0.1$

The results suggest that overlooking sample selection may lead to biased estimated probabilities for each level of satisfaction, since there is a statistically significant correlation between the unobserved elements of the participation and satisfaction equations. Although the signs of the coefficients in the satisfaction equation remain unchanged between the two models, there are a few visible changes concerning the size and sometimes the levels of significance. A tiny age effect emerges among those aged above 65 years old, who are more likely to be very satisfied, although the coefficient is statistically different from zero at only 10% of significance. The significance level associated with Swedish travelers is reduced. The coefficient associated with Dutch visitors becomes statistically not significant at a 10% level or less.

Nevertheless, the gender coefficient remains positive and statistically significant at the 1% level, which means that the previous conclusions are still valid and robust: females are more likely to be found at level 3 (very satisfied) and less likely to be found at level 0 (dissatisfied) than males. This reinforces the idea that there is a gender effect on satisfaction, since such a result survives across different specifications of the empirical analysis, including a sample selection correction procedure.

5. CONCLUSIONS, DISCUSSION, AND FUTURE WORK DIRECTIONS

Satisfaction has been considered as influencing visitors' loyalty (Opperman, 2000; Stumpf et al. 2020; Antón et al., 2017; Remoaldo et al., 2020) and therefore its determinants have received great attention in the literature (Danaher & Arweiler, 1996; Kozak & Rimmington, 2000; Truong & Foster, 2006). Nevertheless, just a few works have addressed the role of gender to satisfaction in tourism. This paper aimed at contributing to this topic by analyzing the extent to which gender has an impact on satisfaction with beaches and other coastal areas located in the Azores Islands.

The main results reveal that satisfaction is high but also that females are more likely to be very satisfied than males. Such a finding is robust, since it survives across different specifications of the analysis, including sample selection correction. The results are in line with those of few previous empirical studies, namely the notion that female tourists in leisure experiences are likely to be more satisfied than males (Rubenstein, 1980; Ryan, 1995; Musa, 2002; Salleh et al., 2016). High satisfaction indicates that those natural attractions will play a role in the development of this emerging destination, namely due to recommendation to others and repetition of the visit or experience such as suggested in the literature (Hueng & Chu, 2000; Kosak & Beaman, 2006; Oppermann, 2000; Ozdemir, Aksu, Ehtiyar, Çizel, Çizel, & Içigen, 2012; Santos, Vieira, & Sarmento, 2013; Remoaldo et al., 2017). Furthermore, gender differences in satisfaction may advise the need to pursue tailored measures or policies for males and females.

It is worth saying that this work contributes methodologically to the literature on customer satisfaction with touristic events or activities by explicitly approaching and correcting for the sample selection bias problem (Heclman, 1979). This problem has been generally overlooked in the literature on customer and visitor satisfaction, which has only relied on information about participants. Such a shortcoming can, however, lead to serious biases and preclude a generalization of the findings to population of interest (Berk 1983; Manski, 1989; Cuddeback et al., 2004), which, in this case, corresponds to Azores Islands' visitors. Indeed, humans make choices self-selecting themselves into some activities and therefore participants are unlikely to form a random sample of the entire population. In particular, the literature has revealed the existence of gendered behavioral differences in tourism namely participation in leisure activities (Carr, 1999). Altogether, this warns that correction for sample selection is a worth task to confirm and check the robustness of the results regarding the effect of gender, and likely other variables or attributes, on visitors' satisfaction.

Finally, little is found in the theoretical literature on satisfaction to support the view that males and females differ. Indeed, this is a subject that calls for further research in a future work. For instance, based on the expectation disconfirmation model (Oliver, 1981), it may also be the case that men have different expectations or perceived outcomes concerning the experience. They may also result from gender-related differences in the reaction to the gap between expectations and disconfirmation. Another possible explanation relies on the equity theory presented by Oliver and Swan (1989), according to which men and women may differ in the evaluation of the relationship between sacrifices and expected rewards. Additionally, men may have different reference points (i.e., past tourist experiences) against which the current trip can be evaluated (Yoon & Uysal, 2005). Finally, it may only result from the fact that men are more prone to verbalize dissatisfaction than women (Hodson, 1989). This discussion requires, however, further empirical testing, which due to data limitations does not fall within the scope of the current

paper. Replication and, hence, more work, on a larger scale, regarding tourist satisfaction is necessary to verify whether these gendered differences do exist across-the-board, namely in other touristic or leisure environments and attractions.

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