Tourism and the city: the impact on residents' quality of life

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Abstract. The present work investigates the relationship between tourism presence and perceptions of the urban quality of life (UQoL) of resident populations. This is currently a hot topic, since in many European cities, residents have started to voice concerns about mass tourism. An *ad hoc* questionnaire was designed and submitted to the resident populations of two Mediterranean destinations. Following an integrative approach *à la* Sen, UQoL is analysed using the presence of services/amenities (capabilities) as well as their accessibility (functionings). Findings indicate that both presence and – mainly – accessibility of services/amenities matter for UQoL and that a negative effect from tourism prevails.

Keywords: urban tourism; quality of life; amenities; capabilities; functionings.

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1. Introduction

Cities are centres of production and consumption. The benefits of working in cities are that workers earn more, and firms enjoy a number of distinct advantages. This effect is exhausted when the costs associated with agglomeration are higher than the benefits are. Interestingly, these costs are usually listed in terms of consumption: housing rents, crime, pollution, congestion etc. Yet, Glaeser et al. (2001) showed that dense areas also enjoy positive returns in terms of consumption, which he labels as critical urban amenities: a richer variety of services and consumer goods; aesthetics and the physical setting; good public services such as education and health facilities; and higher speeds when contacting other people.

Cities specialised in tourism display further interesting characteristics. Some of their major production factors include the consumption goods for local inhabitants. In this particular case, one can anticipate that some non-desired outcomes also exist that can be labelled as disamenities. Consequently, city inhabitants compete for the consumption of local goods and services with a major production factor: tourists. This interaction is derived from the three main characteristics of the tourism product. First, it is a non-tradable good that must be consumed where it is produced; that is, the tourism destination. Second, it is not a unique and tangible good but a bundle of goods and services including many urban manmade and natural resources as well as local services. And third, tourism in urban settlements necessarily results in and even requires some form of social interaction between tourists and the local population. Residents represent an asset in the production of the tourism good. The local community can also be seen as a composite stakeholder (Meleddu, 2014) and tourism can be classified as a "community industry" (Nunkoo et al., 2013).

Overall, the presence of tourists can generate positive or negative externalities for the local population, resulting in increases or decreases in local wellbeing and urban quality of life (UQoL) (Figini and Vici, 2012; Bimonte et al. 2019). For instance, improvements in cultural amenities or local leisure possibilities are likely to increase residents' wellbeing. However, the final effect on the UQoL perception depends on the type of impact that prevails (positive or a negative). In the end, any form of congestion, noise, pollution or urban squalor caused by the presence of tourists – if not properly managed by local governments – reduces the UQoL of residents and can subsequently affect the destination's attractiveness. Stephens and Partridge (2015) describe the concerns of

policy makers when high-amenity places are converted into recreational destinations with low-paying hospitality-oriented jobs. In their analysis on the effect of amenities in the proximity of the Great Lakes zone (Stephens and Partridge, 2015), they warn that the deterioration of lake water quality in the region can act as a disamenity due to the clear interaction between various production factors of the tourism industry. In many European cities, resident populations have started to raise concerns about mass tourism. The cities of Barcelona in Spain and Venice in Italy are examples of this discontent. Recent literature points out the rise of anti-tourism urban movements (Pasquinelli, 2015; Trancoso González, 2018).

This prevailing type of externality affects the UQoL of residents and, consequently, their attitude towards tourists. However, if residents develop an unfriendly attitude towards tourists, the whole sector suffers, threatening the viability of the development in question. For all these reasons, numerous studies in the tourism literature have investigated residents' attitude towards tourism. A recent review by Nunkoo et al. (2013) finds that Social Exchange Theory (Ap, 1992) and the Tourism Area Life Cycle (Butler, 1980) are the theoretical approaches most used in the majority of studies on this topic. Moreover, the authors find that 65% of reviewed studies provide only descriptive statistics. Thus, they suggest the need for research that combines the theoretical background with more advanced applications and innovative approaches.

The premise of our research is that the attitude of the local population towards tourists depends on how tourism activity affects their UQoL. Overall, residents' attitudes can be considered a consequence of the change in resident wellbeing due to tourism activity. Despite this, few studies have focused on the impact of tourism on residents' UQoL. Our work investigates the effect of tourist activity on the UQoL of resident populations in two touristic cities (Alghero in Italy and Sitges in Spain) by using a novel approach.

We define residents' UQoL in destinations using an integrative definition of the UQoL that combines objective and subjective elements (Rogerson et al., 1989; Costanza et al., 2007). Specifically, we use the capability approach *à la* Sen (1985), which has seldom been applied to the analysis of the UQoL in urban contexts (for a recent application, see Biagi et al., 2018). Applying this theoretical approach to the UQoL, this work distinguishes between the possibilities that individuals have to enjoy amenities (i.e., capabilities/accessibilities) from what they actually do (i.e., functionings/the frequency

of use). The basic idea is that residents' UQoL perception depends not only on the quantity of locally supplied amenities, disamenities and services, but also on the real accessibility to them within the city. The presence of tourists might affect the quantity and quality of urban services that are also available for residents.

An *ad hoc* questionnaire was designed to ask respondents to rank their degree of satisfaction with life in the city (i.e., "How satisfied are you with the quality of life in the city in which you live?") using a 5-point Likert scale (0 to 4). The resident population's perception of the UQoL depends on a set of variables, including tourism, which are converted into capabilities and functionings. In the econometric application, the UQoL perceptions are regressed on the variables related to tourism and a list of controls by using an econometric model.

Findings show that for our case studies, the presence of tourists is detrimental for the UQoL of residents, particularly when considering the interaction between locals and tourists. The paper is organised as follows. Section 2 focuses on the literature review. Section 3 illustrates the model and the used approach. Section 4 is devoted to the case studies and the questionnaire. Sections 5 and 6 illustrate and discuss the most robust results while section 7 gives some conclusions and policy implications.

2. Literature review

With the growth in cities and with their increasing share of the world's urban population, the general concern regarding peoples' quality of life (QoL) moves into focus when we consider their UQoL. Marans (2015) reviews the operational definitions of QoL and UQoL, starting from the historical works of the social indicator movement in the 1970s when studies examined objective indicators, the next generation of works including people's perception and judgement, and recognising that there are both objective and subjective dimensions to the QoL constructs. There is a vast amount of literature on both theoretical approaches and empirical studies devoted to analysing the association between space and wellbeing. For the sake of brevity, to review this literature, we recommend reading Węziak-Białowolska (2016), Ballas and Tranmer (2012), Insch and Florek (2008) and Lambiri et al. (2007).

All works recognise that wellbeing is a multidimensional concept. From a spatial point of view this is also true, as the provision of services promoting wellbeing is not spatially

neutral. Thus, improving people's wellbeing has become an increasing problem for urban planners and local governance, who have to design policies managing the reality of the cities, which, when referring to many urban areas and to the scope of this paper, is linked with tourism.

In a parallel and connected stream, studies on urban tourism have seen an increasing trend in the last decades due to the growth in visitors boosted by low-cost air transport (Pasquinelli, 2015). Urban tourism has the potential to be a development tool that contributes to improving the UQoL of communities (Hall and Page 2009). Indeed, the vast majority of contributions find a positive effect from tourism on a variety of life domains such as family life, social life, leisure life and cultural life (Uysal et al., 2016). However, tourism might also generate negative externalities for the local population that affect several aspects of their everyday lives in urban settlements (e.g. environmental, social and cultural issues; Renda et al., 2011; Pasquinelli, 2015; Bimonte et al., 2019). The persistence of those effects, eventually, can reduce the QoL perceptions of the resident population. Despite the relevance of the investigation on the impact of tourism on the UQoL, a limited number of studies have specifically considered the connection between the two variables in urban contexts (see for instance Andereck et al., 2009 for two ethnic communities in Arizona; Yu et al., 2011 for the case of rural Midwestern communities in the USA; Aref, 2011 for the case of Shiraz in Iran). The majority of the research is focused on residents' attitudes towards tourism and not on the impact of tourism on the UQoL of residents (see Vargas-Sánchez et al., 2011 for a literature review of resident attitude studies; see also Cañizares et al., 2014; Nkemngu, 2015; Carneiro and Eusebio, 2015).

However, as Andereck and Nyaupane (2011) underline, attitude/impact studies differ from UQoL studies in that the former largely focus on the way people perceive how tourism influences communities and the environment, whereas the latter are typically concerned with the way these impacts affect an individual's or family's life satisfaction. The authors go beyond research on residents' attitudes and explicitly consider tourism's influence on the UQoL.

Upon reviewing the literature investigating tourism and residents' UQoL, three main shortcomings emerge. First, all studies measure the impact of tourism on the UQoL in a direct way by asking respondents about the role of tourism in the local community

(Andereck et al., 2009; Andereck and Nyaupane, 2011; Carneiro and Eusebio, 2015; Nkemngu, 2015). Second, they consider subjective indicators to measure the UQoL, but they do not analyse objective measures such as the distance and accessibility to the amenities/disamenities and services from individual places of residence (Andereck et al., 2009; Andereck and Nyaupane, 2011; Yu et al., 2011). And third, only a few studies focus on European contexts (for instance, Renda et al., 2011; Carneiro and Eusebio, 2015; Bimonte at al., 2019). On average, European cities are much denser and more compact than American cities are, and destinations where strong agglomeration effects arise might experience negative impacts from tourism activity on the UQoL of the resident population.

The present work aims to contribute to the literature by addressing these shortcomings. We do not ask directly how residents feel about tourism or how and to what extent tourists interfere with their daily lives. Instead, the prevailing type of externality/effect of tourism is studied by looking at how having contact with tourism, or living in touristic neighbourhoods, affects the overall UQoL perception. Furthermore, we use an extended concept of the UQoL based on Sen's capability approach, combining objective and subjective elements, as suggested by Rogerson et al. (1989). Also, Costanza et al. (2007) relate the UQoL to "the opportunities that are provided to meet human needs in the forms of built, human, social and natural capital" (p. 267). For Uysal et al. (2016), the combination of objective and subjective indicators is a way "to better capture UQoL of both community residents and tourists". And third, we look at two European touristic destinations: Alghero in Italy and Sitges in Spain.

The operationalisation of Sen's framework in applied research on the UQoL is a field that requires more investigation (see Biagi et al., 2018), and this constitutes a further aim of the present analysis. Employing this framework to analyse residents' UQoL in tourism (urban) destinations implies considering not only the opportunities (capabilities) supplied by the city in terms of services and amenities but also controlling for the actual "frequency of use" or "time spent" enjoying them.

3. Model and theoretical approach

Following Biagi et al. (2018), the QoL perception of the resident population in urban contexts depends on domains such as personal characteristics, urban-related features like the presence of natural or manmade amenities and disamenities, and the possibility of

interacting with friends and relatives. In tourism cities the QoL perception might also be affected by the activities of the tourist population. The presence of tourism in destinations might affect the everyday lives of the resident population in various ways. It generates positive effects when urban services, and recreational and natural amenities are improved to attract and retain tourists in destinations. On the contrary, it generates negative effects when it increases environmental and social negative externalities such as congestion, noise, pollution and crime.

The general model is presented in Equation 1 in which the UQoL perception of individual *i*, in city *j*, at time *t* depends on:

$$QoL_{ijt} = f(P_{it}, E_j, A_{jt}, D_{jt}, SI_{ijt}, T_{jt}) \quad (1)$$

where:

QoL=Quality of life;
P= Personal characteristics;
E= Environmental amenities;
A= Manmade amenities;
D= Disamenities;
SI= Social interactions;
T= Tourism.

The UQoL in urban contexts depends on the presence of amenities (disamenities and social interactions) but also on the possibilities that the resident population have to enjoy them. Following Biagi et al. (2018), we consider the presence of amenities as capabilities, and whether people can actually enjoy them as functionings. The presence of an amenity *per se* does not necessarily increase the UQoL if residents are unable to experience it, and the reasons for this can either be personal (lack of time) or external (accessibility of the amenity).

Specifically, the functionings are measured by the actual frequency of use or "time dedicated to" a set of tasks that include individual/family-related activities (i.e. sleeping, childcare etc.) as well as urban-related activities (i.e. use of public transport, use of parks etc.). To better identify the model, the capabilities and functionings related to personal characteristics are included too. Therefore, the final model is represented by Equation 2:

$$QoL_{ijt} = \beta_0 + \beta_1 P_{it} + \beta_2 FP_{it} + \beta_3 E_{jt} + \beta_4 FE_{it} + \beta_5 A_{jt} + \beta_6 FA_{it} + \beta_7 D_{jt} + \beta_8 FD_{it} + \beta_9 SI_{ijt} + \beta_{10} FSI_{it} + \beta_{10} T_{jt} + \beta_{11} FT_{ijt} + \varepsilon_{ijt} \quad (2)$$

For each domain we include the capability and the related functioning.

- In the domain of personal characteristics (*P*), we consider gender, age, civil status, presence of children, education, employment and income. We measure as functionings (*FP*) the *Time dedicated to childcare* and we use *Time dedicated to sleep* as a generic functioning in the domain. The literature on self-reported wellbeing has found that time dedicated to sleep affects UQoL perceptions as a whole (Krueger et al., 2009).
- *Environmental Amenities* (*E*) are measured by the presence of public green spaces and blue amenities as capabilities able to improve individual wellbeing. The related functionings (*FE*) are represented by the *frequency of use* of the pure amenities.
- *Manmade Amenities* (*A*) refers to educational services, health, transport services and cultural amenities. We aim at capturing possible problems individuals could experience in accessing services such as local education (*school*), and general services such as public transportation, health services and cultural amenities. Among the functionings (*FA*), we measure the *use of public transport* and time dedicated to recreational activities (*recreation*).
- In the case of *Disamenities* (*D*), we measure capabilities such as crime and pollution (*dirty streets*). We did not find a satisfactory way of measuring functionings for the selected items (*FD*). It is worth noting that pollution and crime are commonly used as indicators of disamenities in urban studies on the UQoL (Lambiri et al., 2007).
- *Social Interactions* (*SI*) are measured by opportunities such as having friends, and the related functioning (*FSI*) is *Time dedicated to social interactions with friends*.
- *Tourism* (*T*), which is measured by one economic-related capability: whether the individual or his/her family members work in tourism. The corresponding functioning (*FT*) measures whether the individual has contact with tourists in his/her daily life.

Tourism measures reflect the idea according to which the perception of life in tourism cities depends on how the range of options change (capabilities) and are actually experienced (functionings) by the resident population as a result of the presence of tourists. Whether *the individual or his/her family members work in tourism* is considered as a capability because it is an economic opportunity that tourism cities give to the local community. Whether the resident *has contact with tourists in his/her daily life* is considered as a functioning because it represents a measure of the actual impact of the daily interaction with tourists as well as an indicator of the overall effect of tourism on the residents' UQoL perception. In general, tourism activity is expected to increase the

vitality of cities from an economic and social point of view; therefore, when tourism acts in this direction, the expected effect on the UQoL is positive. However, when the costs exceed the benefits, a negative effect prevails. The empirical model tests the two hypotheses in the case studies under analysis. The summary of the indicators of capabilities and functionings for every domain is presented in **Table 1**. A full description of all variables used in the regression analysis is shown in **Table A1** in the Appendix.

Table 1. Quality of life domains and indicators of capabilities and functionings.

Domains	Indicators of Capabilities	Indicators of Functionings
PERSONAL CHARACTERISTICS	Education Employment Income	Time dedicated to childcare Time dedicated to sleep
ENVIRONMENTAL AMENITIES	Green amenities Blue amenities	Frequency of use
MANMADE AMENITIES	Local education Health services Public transportation Cultural amenities	Use of public transport Time dedicated to recreational activities
DISAMENITIES	Pollution Crime	
SOCIAL INTERACTIONS	Having friends	Time dedicated to social relationships with friends
TOURISM	Family members working in tourism sector Income from tourism Living in a tourism area	Contact with tourists in everyday life

Source: Our elaboration on Biagi et al. (2018).

4. The case studies and the questionnaire

The work is focused on two small Mediterranean cities, Alghero and Sitges (see **Figure 1**), both strongly tourism-oriented and, consequently, cities where tourism may have a strong impact on the UQoL of local people. We chose two localities with strong similarities yet important differences, which will ultimately allow us to interpret any finding as robust evidence of the relationship between tourism and the UQoL. Our choices are both located on the Mediterranean Sea but in two different countries: Alghero, located on one of the biggest islands in the Mediterranean Sea, and the other one, Sitges, located

on the continent. The latter is close to a large metropolitan area, while the former's nearest large urban agglomeration has just 120,000 inhabitants.

Alghero is an Italian city located in the province of Sassari in north-western Sardinia, next to the Mediterranean Sea. According to the Italian Statistical Institute, the city had 44,082 inhabitants in 2014, 4% of whom were foreign born and 21.4% of whom were over 65 (compared to the figures of 8% and 20.5%, respectively, for Italy as a whole). Alghero is approximately 40 km from Sassari, the capital of the province. The international airport of Alghero-Fertilia is closer to Alghero than to Sassari and is connected to 40 international and national destinations. In 2014, 1.6 million passengers used the airport. A large proportion of the city's economy is devoted to tourism. There are 39 hotels as of 2013 (6,171 beds), which implies a ratio of 8.9 units per 10,000 inhabitants. There are four campgrounds with a total maximum occupancy of 4,660 (as well as173 B&Bs with 678 beds). In 2014, there were nearly 900,000 nights spent in tourist accommodation establishments in Alghero, 70% of which were by international tourists. Overall, the ratio of yearly tourists per 1,000 inhabitants is around 20,000. The rate of change for the number of nights spent in tourist accommodation establishments between 2013 and 2014 reveals that there was an increase of 15% for international tourism, while the domestic demand was rather sluggish (+3%). In 2011, income per capita was €11,890, the second highest in the province, while the unemployment rate was 16.5% (Census data). Alghero is a marine tourist destination that offers a combination of history, architecture and culture. The town, named as the capital of the Coral Riviera, was conquered by Carthaginians, Phoenicians, Byzantines, Arabs and finally, by the Catalans. The latter stayed from the mid-14th century until the 18th century. The presence of Catalans strongly influences the identity of the city, which still maintains the traditions and language of Catalonia.

Sitges is a Spanish village by the Mediterranean Sea, located in the northeast of Spain in the region of Catalonia. It has 28,171 inhabitants, 27% of whom were born in a foreign country and 16.5% of whom are over 65 years old. Sitges is situated 40 km from the municipality of Barcelona, a large city with 1.6 million inhabitants, whose international airport received 34 million passengers in 2014. Sitges is a very popular weekend and summer vacation destination for people from Barcelona. Additionally, it has the reputation of being a gay-friendly city. Sitges is a highly touristic city, with 47 hotels, which implies a ratio of 16.7 hotels per 10,000 inhabitants, well above the average for the

region (4.04). The municipality also has two campgrounds with a total maximum occupancy of 2,238. In 2016 (the first year for the available statistics from the Spanish Statistical Institute), Sitges had 821,000 overnight stays, which results in a ratio of 29,000 yearly tourists per 1,000 inhabitants. Most jobs in the city (up to 90%) are in the services sector. The average per capita gross disposable income is €16,900 (2012), slightly above the region's average. The unemployment rate according to the 2011 Census (during the deepest period of the Great Recession) was 21%.

Figure 1. Location of Alghero and Sitgeson on the Mediterranean Sea.

In order to analyse the UQoL of residents in these two cities, we conducted two parallel surveys. Both of them involved face-to-face structured interviews. In the first stage (November 2013), the survey was administered in Alghero, and in the second stage (April 2015), it was translated and administered in Sitges. To capture heterogeneous demographic features and to account for the differences within each town, respondents were selected using a random quota-sampling procedure by age, gender and district. The population was segmented by gender and age. We identified the following age groups: 18–30 years, 31–45 years, 46–65 years and over 65 years. The survey in Alghero considered up to 14 areas, while the Sitges survey considered up to 23 neighbourhoods, which were subsequently merged into ten different local areas. The target sample size was set at a minimum threshold of 500 in Alghero and 400 in Sitges. Assuming moderate heterogeneity within the sample and a confidence interval set at 95%, the maximum error is ± 4%. The targeted sample was stratified by gender, age cohorts and areas. The questionnaire was administered in public offices, cafes, on the street and in other open spaces by trained interviewers. Eventually, a total of 508 interviews were successfully

collected in Alghero and 415 in Sitges. **Table 2** describes the main characteristics of every sample[1]. They are similar in terms of age and gender structures. Sitges displays higher levels of cohabiting and divorced people and a lower proportion of married individuals. It also shows higher average income and education levels than Alghero does.

Table 2. Sample's summary statistics: Alghero and Sitges.

	Alghero	***Sitges***
Gender		
Female	50.6%	50.5%
Male	49.4%	49.5%
Age		
Mean	49.7	47.9
Q1	36	36
Q3	64	63
Education		
No title	0.2%	1.8%
Primary school	8.3%	10.2%
Lower secondary l	32.3%	15.7%
Upper school	42.5%	35.8%
University degree	16.7%	36.5%
Second degree –	2.6%	19.3%
Civil status		
Single	28.7%	22.5%
Married	53.9%	51.4%
Cohabiting	5.4%	13.3%
Separated/Divorced	6.0%	8.0%
Widowed	6.0%	4.8%
Income		
≤15,000 €	57.5%	45.9%
15,001–28,000 €	32.4%	39.3%
28,001–55,000 €	9.0%	13.7%
55,001–75,000 €	0.7%	1.0%
>75,000 €	0.5%	0.2%

As displayed in **Figure 2**, the residents of Sitges report a higher UQoL perception than those surveyed in Alghero do. This graph shows the distribution of the UQoL perception in touristic versus non-touristic areas of each city. We find differentiated patterns within each city. Thus, residents of the touristic areas of Alghero report a higher UQoL perception than residents of non-touristic areas do. The opposite pattern is found in Sitges, where residents of non-touristic areas report a higher UQoL perception.[2] This pattern can also be observed in **Figure 3**, which shows different spatial patterns for UQoL perception.

[1] As we developed a stratified survey, our surveys mimic the population distribution in terms of age and gender. The sample also mimics the population trends in terms of education.

[2] There is an interesting academic debate surrounding what a tourism area is. See one such recent debate in Rodríguez Rodríguez and Hernández Martín (2018).

In Sitges, with the exception of the western part of the city, the UQoL is not at its highest in the central and more touristic area. In Alghero, it is the opposite.

Figure 2. Perception of the UQoL in tourist and non-tourist areas in Alghero and Sitges.

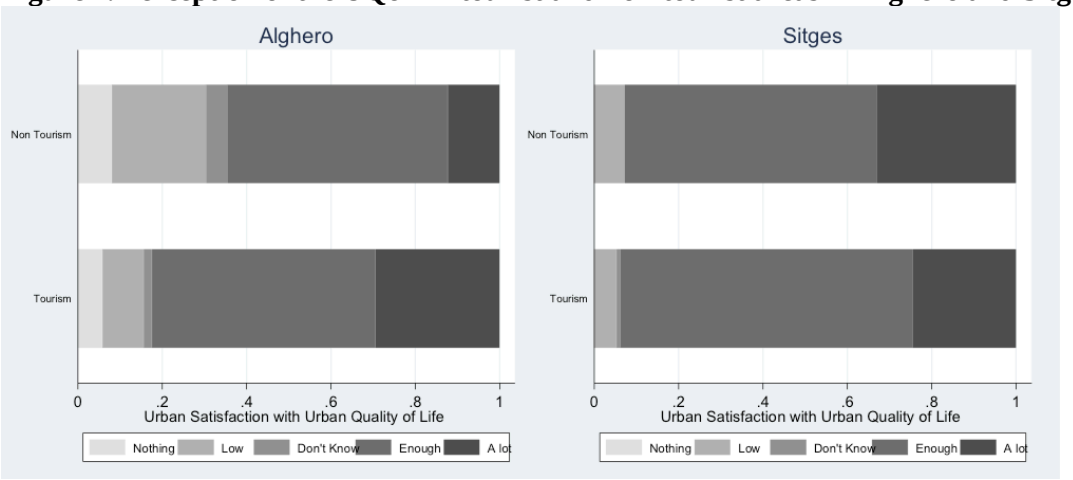
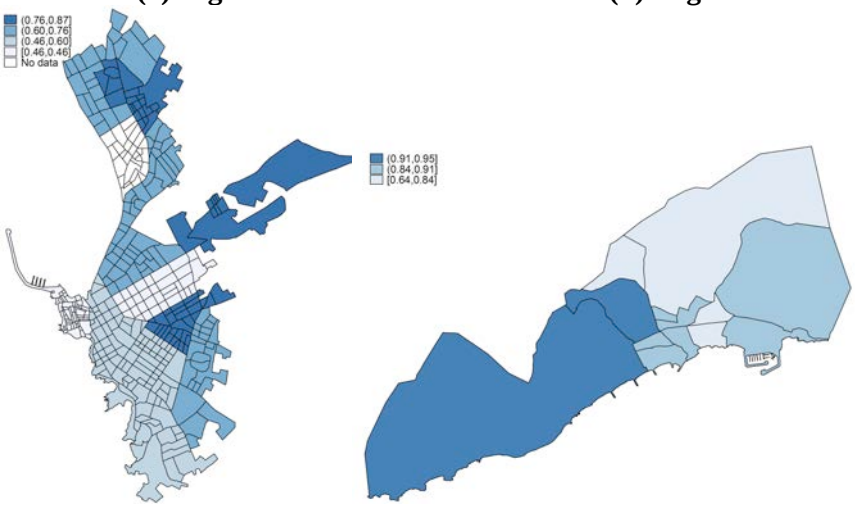


Figure 3. Share of residents who are highly satisfied with their UQoL.

(a) Alghero **(b) Sitges**



5. Method and results

5.1 Method

The question addressing the UQoL asks respondents to indicate, on a 5-point Likert scale, their degree of satisfaction with the UQoL in the city. As the dependent variable has more than two categories, and the values of each category have an expressive sequential order corresponding to the level of UQoL satisfaction, we first employed an ordered logit model in the empirical analysis. This model, also called a *proportional regression model (or*

parallel regression model), implies that the observed ordinal variable *Y* is a function of a continuous latent variable, Y^*, which is not observed. Y^* has various threshold points, and the value of *Y* depends on whether a particular threshold is crossed (Menard, 2002).

This specification assumes that the relationship between all pairs of groups is the same (the parallel regression assumption) and a single set of coefficients can be estimated. In order to test this hypothesis, the likelihood-ratio test of proportionality of odds was performed and it produced a borderline result (chi2(99) = 127.31; Prob > chi2 = 0.02929). This result was also confirmed via a Brant test[3]. To overcome this issue, we opted for combining categories and we created a new dependent dichotomous variable $Y_i = (Y_0, Y_1)$. Specifically, if individual *i* declares being 0 = not at all satisfied, 1 = not very satisfied, or 2 = do not know, Y_0 takes the value of zero; likewise, if respondent *i* states he or she is 3 = quite satisfied or 4 = very satisfied, Y_1 takes the value of one. We then estimate a logit model that computes the probability that the binary response is a function of a set of covariates *X*. Following a latent variable approach, we estimate the underlying latent propensity to perceive a satisfactory UQoL, $Y^* = \alpha + \beta X + \varepsilon$, where the errors ε follow a cumulative logistic distribution (logit).

5.2 Results

Table 3 reports the findings of the regression analyses for the pooled sample. Model 1 shows the results without tourism as the explanatory variable. Model 2 controls for differences in the UQoL perception in the two cities by adding a dummy for Sitges; finally, Model 3 shows the final model (Equation 2) including all tourism-related variables and the dummy. The results obtained in Model 3 are discussed. Starting with *Personal Characteristics*, *Age* and *Age*^{2} suggest a non-linear relationship between life satisfaction and age as found in happiness studies (Alesina et al., 2004; Dolan et al., 2008). Indeed, younger residents show a higher QoL perception. As found in recent studies, *The time dedicated to sleep* has a positive and significant effect on the UQoL (Biagi et al., 2018). The same is also found for the variables *Employed* and *Income*, which are both positive and significant. As far as the *Environmental* variables are concerned, results confirm the importance of the presence of the sea (*Blue amenities*) and that the possibility of being able to enjoy the amenity (and *Blue zero*) is much more important

[3] We also employed a generalized ordered logit type of model, but due to very small numbers for some categories of the dependent variable, the model did not converge.

than the presence of the amenity itself (Roșu et al., 2015; Biagi et al., 2018). Among the *Disamenities*, only *Crime* is significant with the intended negative sign (Roback, 1982; Lambiri et al., 2007).

The dummy *Sitges* is positive and statistically significant, meaning that the resident population in this city has, on average, a higher UQoL perception compared to its Italian counterpart, once the other variables are accounted for.

Focusing on tourism-related results, only the parameter linked to the variable accounting for the functioning *Contact with tourists in everyday life* is significant and negatively correlated with the UQoL perception in both Sitges and Alghero. In the case studies under analysis, tourism turned into a negative externality and emerged as being detrimental for the QoL of the local community[4]. Interestingly, comparing these findings with the inclusion of tourism variables in Model 3 does not change the significant results for the rest of the variables under consideration in the previous models (Model 1 and Model 2, Table 3). This somewhat substantiates the fact that endogeneity or omitted variable concerns can be reported as having a limited impact on the estimates of our variables of interest.

The results, then, support the use of actual outcomes and not only subjective indicators that most of the previous literature uses. While Ross (1992) finds that residents perceive tourism as a positive externality in the economic dimension but as a negative externality for housing and crime levels, we find indirect proof of the positive association between tourism and economic variables (employment), and a significant and negative impact from the tourism indicator of functionings (contact with tourists in one's everyday life). It is not hard then to infer a sort of trade-off in the subjective perceptions of individuals obtained in other works with a strong role being played by their positive perceptions. In the present analysis, tourism activity seems to generate higher costs than benefits, producing an overall negative impact on the UQoL.

[4] The adjustments for the obtained models are reasonable, with the pseudo R^2 value being around 0.25.

Table 3. Regression results

	(1) NO TOURISM NO DUMMY FOR SITGES	(2) NO TOURISM AND DUMMY FOR SITGES	(3) TOURISM AND DUMMY FOR SITGES -FINAL MODEL
DEPENDENT VARIABLE: UQoL			
PERSONAL CHARACTERISTICS			
Age	−0.115**	−0.125**	−0.129**
	(0.0502)	(0.0512)	(0.0522)
Age^2	0.00154***	0.00166***	0.00169***
	(0.000520)	(0.000530)	(0.000539)
Male	0.197	0.177	0.213
	(0.233)	(0.234)	(0.237)
Married	−0.0621	0.0461	−0.0263
	(0.329)	(0.335)	(0.341)
Divorced	−0.260	−0.230	−0.265
	(0.491)	(0.498)	(0.500)
Widowed	−0.0612	−0.0643	−0.110
	(0.620)	(0.624)	(0.626)
Upper secondary	−0.124	−0.0926	−0.0787
	(0.248)	(0.250)	(0.252)
University	0.506	0.482	0.512
	(0.322)	(0.325)	(0.329)
1 child	0.0247	−0.0449	−0.0329
	(0.406)	(0.411)	(0.413)
2 children	0.285	0.207	0.293
	(0.397)	(0.404)	(0.408)
3 children	0.592	0.470	0.508
	(0.457)	(0.468)	(0.471)
Childcare	0.00116*	0.00104	0.000982
	(0.000685)	(0.000688)	(0.000690)
Income	0.907***	0.882***	0.889***
	(0.198)	(0.199)	(0.199)
Employed	0.545**	0.519**	0.745***
	(0.259)	(0.260)	(0.283)
Sleeping	0.00336***	0.00318**	0.00330**
	(0.00130)	(0.00130)	(0.00131)
ENVIRONMENTAL AMENITIES			
Green amenities	0.205	0.0526	0.0253
	(0.279)	(0.291)	(0.294)
Blue amenities	0.686**	0.617**	0.670**
	(0.307)	(0.313)	(0.318)
Green zero	0.553	0.520	0.632
	(0.409)	(0.416)	(0.428)
Green once	0.354	0.365	0.415
	(0.519)	(0.524)	(0.529)
Blue zero	−1.990**	−1.945**	−2.182***
	(0.776)	(0.797)	(0.816)
Blue once	−0.167	−0.161	−0.219
	(0.590)	(0.594)	(0.598)
MANMADE AMENITIES			
Public transport	−0.165*	−0.114	−0.110

	(0.0903)	(0.0933)	(0.0932)
School	0.0412	0.122	0.155
	(0.124)	(0.129)	(0.130)
Pharmacy		0.0412	
	−0.219*		−0.00873
	(0.132)	(0.171)	(0.174)
Use of public transport	0.491	0.363	0.413
	(0.443)	(0.448)	(0.455)
Cultural amenities			
	−0.289	−0.229	−0.190
	(0.250)	(0.248)	(0.250)
Recreation			
	−0.00000657	−0.000550	−0.000562
	(0.000848)	(0.000895)	(0.000902)
DISAMENITIES			
Crime			
	−0.284***	−0.275***	−0.276***
	(0.102)	(0.101)	(0.102)
Dirty streets			
	−0.187**	−0.141	−0.133
	(0.0945)	(0.0967)	(0.0970)
SOCIAL INTERACTIONS			
Having friends§	-	-	-
Friends zero			
	−1.448	−1.442	−1.242
	(0.896)	(0.912)	(0.885)
Friends once	0.288	0.296	0.323
	(0.273)	(0.275)	(0.275)
DUMMY SITGES		1.689**	1.597**
		(0.696)	(0.697)
TOURISM			
Contact with tourists in everyday life			−0.639**
			(0.287)
Individual and/or family member working in tourism			−0.0344
			(0.250)
_cons	1.089		−0.286
		−0.396	
	(1.412)	(1.561)	(1.586)
N	710	710	710
pseudo R^2	0.248	0.256	0.263
AIC	633.6	629.5	628.4
BIC	779.7	780.2	788.2

Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01. § Dropped because of multicollinearity.

6. Robustness checks

The robustness of the obtained findings is controlled in several ways, expanding Equation 2. First, to check whether tourism-related variables in terms of capability and functioning are robust to various specifications, the findings show that tourism-related variables remain stable when we exclude the indicators of functionings of those domains related to the cities: amenities, disamenities and social interactions (Model 2, Table A2 in the Appendix). Those results are confirmed when the same check is done excluding indicators

of city-related capabilities (Model 3, Table A2 in the Appendix). Second, all capabilities and functionings related to tourism interacted with city amenities, disamenities and social interactions. Specifically, the capability for tourism (*Family member working in tourism*) interacted with amenities, disamenities and social interactions (Model 2, Table A3 in the Appendix). Furthermore, a functioning for tourism (*Contact with tourists in everyday life*) also interacted with amenities, disamenities and social interactions (Model 3, Table A3 in the Appendix). Finally, all interactions are included (Model 4, Table A3 in the Appendix). As can be expected, due to multicollinearity, the variable on tourism functioning loses its significance when interacting with the other functionings. Still, as the Wald test of joint significance shows, the interactions with tourism are never significant. Besides, the final model exhibits the best fit (Akaike's information criterion [AIC] and the Bayesian information criterion [BIC]). Finally, to control for possible differences in the impacts of tourism activity in Sitges and Alghero, a set of regressions interacting the dummy Alghero with tourism capability and functioning were performed (Table A4 in the Appendix). The variable *Contact with tourists* remains negative and significant. As for the interactions, no differences were identified, and the comparisons among all information criteria (AIC and BIC) confirm that the final model is the most favourable one.

7. Conclusions and policy implications

The presence of tourism in the urban context can generate positive and negative effects on the local population's QoL. When negative impacts prevail, tourism becomes detrimental for social and economic wellbeing. This is the reason why the QoL perceptions of residents in tourism destinations need to be constantly monitored in order to evaluate the positive and negative forces at play. The majority of tourism studies do this evaluation by focusing on residents' attitudes towards tourists rather than on general QoL perceptions. Contrariwise, rather than asking directly about the local attitude towards tourists, this paper analyses whether and to what extent the UQoL perception changes in tourism destinations. Following some very recent contributions in the UQoL literature, we investigate the effect of tourism by using a capability approach *à la* Sen. The presence of natural or manmade amenities might not represent a good indicator of the UQoL if a large portion of the resident population is not able to enjoy them due to personal or external circumstances such an excessive presence of tourists. Therefore, both

the presence of amenities as well as the real accessibility to them needs to be accounted for. The same is true for the presence of tourists: To check the actual effect on the resident population, it is essential to control for how the contact with tourists in everyday life indirectly affects their QoL perceptions.

The present work investigates the relationship between tourist activity and the UQoL of resident populations in two tourism destinations: Alghero in Italy and Sitges in Spain. An *ad hoc* questionnaire was designed and submitted to representative samples of residents. Findings indicate that both capabilities and functionings are determinants for the UQoL and that, on average, a negative effect from tourism prevails, mostly from a functionings' point of view. This is as a result of the actual interaction with tourists. Specifically, the findings suggest that tourism activity generates higher costs than benefits, producing an overall negative impact on residents' UQoL: Tourism activity is reducing the UQoL of residents in Alghero and Sitges. Policy makers should not ignore this discontent for two main reasons. Firstly, residents' UQoL perceptions can be regarded as a proxy indicator for the sustainable development of the city. Secondly, if residents develop an unfriendly attitude towards tourists, the whole sector suffers, generating economic loss.

Overall, the present work opens up the possibility of including studies on tourism impacts in a broader framework of UQoL studies. It will also help policy makers to discover what aspects of the residents' perceptions can be improved. Future developments of the present work might go on the direction to develop scale or index to assess when the city has reached the point of imbalance where the advantages of tourism really do start to be outweighed by the disadvantages for the local residents. It would be interesting to find that point in real terms and develop a tool to assess that UQoL factor so as to retain the income from tourism while accounting for the people on the ground who are often negatively impacted by over-tourism.

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Appendix

Table A1. Variables Description

Variable	Description
DEPENDENT VARIABLE	
UQoL	Discrete var. The response options are: 0 = not at all satisfied, 1 = not very satisfied, 2 = do not know, 3 = quite satisfied, and 4 = very satisfied.
PERSONAL CHARACTERISTICS	
Age	Continuous var. that accounts for age of respondent.
Age^2	The square of Age.
Male	Dichotomous var. that takes the value of one if male; zero otherwise.
Married	Dichotomous var. that takes the value of one if the respondent is married; zero otherwise.
University	Dichotomous var. that takes the value of one if the respondent has a first or secondary degree; zero otherwise. It corresponds to the Italian laurea or post-lauream.
1 Child	Dichotomous var. that takes the value of one if the respondent has one child; zero otherwise.
2 Children	Dichotomous var. that takes the value of one if the respondent has two children; zero otherwise.
3 or more Children	Dichotomous var. that takes the value of one if the respondent has three or more children; zero otherwise.
Childcare	Continuous var. that takes into account the time (in minutes) that the respondent devotes to childcare in a day.
Employed	Dichotomous var. that takes the value of one if the respondent is working at the time of the interview; zero otherwise.
Sleeping	Continuous var. that takes into account the time (in minutes) that the respondent devotes to sleep in a day.
ENVIRONMENTAL AMENITIES	
Green amenities	Dichotomous var. that takes the value of one if the respondent lives less than a 15-minute walk from a green area (parks, gardens); zero otherwise.
Green zero	Dichotomous variable that takes the value of one if the respondent does not go to green areas; zero otherwise.
Green once	Dichotomous var. that takes the value of one if the respondent goes to green areas at least once a week; zero otherwise.
Blue amenities	Dichotomous var. that takes the value of one if the respondent lives less than a 15-minute walk from beaches and promenades; zero otherwise.
Blue zero	Dichotomous variable that takes the value of one if the respondent does not go to beaches and promenades; zero otherwise.
Blue once	Dichotomous var. that takes the value of one if the respondent goes to beaches and promenades at least once a week; zero otherwise.
MANMADE AMENITIES	
School	Discrete variable regarding the accessibility to schools. The response options are: 1 = no difficulties, 2 = low difficulties, 3 = do not know, 4 = medium difficulties, and 5 = high difficulties.

Pharmacy	Discrete variable regarding the accessibility to pharmacies. The response options are: 1 = no difficulties, 2 = low difficulties, 3 = do not know, 4 = medium difficulties, and 5 = high difficulties.
Public Transport	. Discrete variable regarding the accessibility to public transportation. The response options are: 1 = no difficulties, 2 = low difficulties, 3 = do not know, 4 = medium difficulties, and 5 = high difficulties.
Use of public transport	Dichotomous var. that takes the value of one if the respondent uses public transport in his or her free time; zero otherwise.
Cultural amenities	Dichotomous variable that takes the value of one for the presence of a cultural amenity in the area and zero otherwise (cultural amenities: museums, cinema, theatre).
DISAMENITIES	
Dirty streets	Discrete variable regarding the dirtiness of the neighbourhood the respondent lives in. The response options are: 1 = no dirty streets, 2 = low dirty streets, 3 = do not know, 4 = medium dirty streets, and 5 = high dirty streets.
Crime	Discrete variable regarding the crime risk level of the neighbourhood the respondent lives in. The response options are: 1 = no risk, 2 = low risk of crime, 3 = do not know, 4 = medium risk of crime, and 5 = high risk of crime.
SOCIAL INTERACTIONS	
Having friends	Dichotomous variable that takes the value of one if the respondent has friends; zero otherwise.
Friends zero	Dichotomous variable that takes the value of one if the respondent does not see friends; zero otherwise.
Friends once	Dichotomous variable that takes the value of one if the respondent sees friends at least once a week; zero otherwise.
Recreation	Continuous var. that takes into account the time (in minutes) that the respondent devotes to recreational activities in a day.
TOURISM	
Individual and/or family member working in tourism	Dichotomous variable that takes the value of one if the respondent works in the tourism sector or has at least one family member working in the tourism sector; zero otherwise.
Contact with tourists in everyday life	Dichotomous variable that takes the value of one if the respondent has contact with tourists in his or her everyday life; zero otherwise.
Dummy Sitges	Dichotomous var. that takes the value of one if Sitges; zero otherwise.
Dummy Alghero	Dichotomous var. that takes the value of one if Alghero; zero otherwise.

Table A2. Robustness check: Selective exclusion of capabilities and functionings.

	(1) FINAL MODEL	(2) ONLY CAPABILITIES AND TOURISM VARIABLES	(3) ONLY FUNCTIONINGS AND TOURISM VARIABLES
DEPENDENT VARIABLE: UQoL			
TOURISM			
Contact with tourists in everyday life	−0.639**	−0.519*	−0.797***
	(0.287)	(0.270)	(0.256)
Individual and/or family member working in tourism	−0.0344	0.00919	0.328
	(0.250)	(0.238)	(0.230)
Dummy Sitges	1.597**		
	(0.697)		
Variables on Capabilities	YES	YES	NO
Variables on Functionings	YES	NO	YES
N	710	716	710
pseudo R^2	0.263	0.224	0.198
AIC	628.4	644.4	659.9
BIC	788.2	754.2	778.6

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table A3. Robustness check. Interactions of tourism capabilities and functionings with city amenities, disamenities and social interactions

	(1) FINAL	(2) INTERACTION FAMILY MEMBERS/INDIVIDUAL WORKING IN TOURISM	(3) INTERACTION CONTACT WITH TOURISM	(4) INTERACTION WITH ALL TOURISM VARIABLES
DEPENDENT VARIABLE: UQoL				
TOURISM				
Contact with tourists in everyday life	−0.639**	−0.649**	0.0647	−0.111
	(0.287)	(0.291)	(1.080)	(1.109)
Individual and/or family member working in tourism	−0.0344	0.236	−0.00424	0.427
	(0.250)	(0.994)	(0.255)	(1.027)
DummySitges	1.597**	1.530**	2.128***	2.047***
	(0.697)	(0.712)	(0.768)	(0.783)
Variables on Capabilities	YES	YES	YES	YES
Variables on Functionings	YES	YES	YES	YES
Interaction with Tourism Capabilities	NO	NO	YES	YES
Interaction with Tourism Functionings	NO	YES	NO	YES
Wald test for joint-significance interactions		Chi^2 (8) = 4.03 Prob > Chi^2 = 0.85	Chi^2 (8) = 9.68 Prob > Chi^2 = 0.29	Chi^2 (16) = 14.44 Prob > Chi^2 = 0.57
N	710	710	710	710
pseudo R^2	0.263	0.268	0.276	0.283
AIC	628.4	640.3	634.2	645.2
BIC	788.2	836.6	830.5	878.0

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table A4. Robustness check. Interactions of tourism capabilities and functionings with city amenities, disamenities and social interactions

	(1) FINAL MODEL	(2) TOURISM AND DUMMY FOR ALGHERO	(3) FINAL MODEL WITH INTERACTION CONTACT WITH TOURISTS AND ALGHERO	(4) FINAL MODEL WITH INTERACTION FAMILY MEMBER/INDIVIDUAL WORKING IN TOURISM AND ALGHERO
DEPENDENT VARIABLE: UQoL				
TOURISM				
Contact with tourists in everyday life	−0.639**	−0.913*	−0.632**	−0.887
	(0.287)	(0.524)	(0.287)	(0.544)
Individual and/or family member working in tourism	−0.0344	−0.0200	−0.178	−0.100
	(0.250)	(0.251)	(0.494)	(0.516)
Dummy Sitges	1.597**			
	(0.697)			
Dummy Alghero		−1.766**	−1.686**	−1.800**
		(0.751)	(0.748)	(0.777)
Contact*Alghero		0.385		0.353
		(0.620)		(0.644)
Family*Alghero			0.192	0.105
			(0.568)	(0.591)
Variables on Capabilities	YES	YES	YES	YES
Variables on Functionings	YES	YES	YES	YES
N	710	710	710	710
pseudo R^2	0.263	0.264	0.263	0.264
AIC	628.4	630.0	630.3	632.0
BIC	788.2	794.4	794.7	800.9

Standard errors in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01