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ACHIEVING ENVIRONMENTALLY RESPONSIBLE BEHAVIOR FOR TOURISTS AND RESIDENTS. A NORM ACTIVATION THEORY PERSPECTIVE

Abstract

Applying Norm Activation Theory to tourism, this study develops a conceptual model for both tourists and residents starting from their awareness of the negative environmental consequences of tourism, addressing ascription of responsibility, environmental sensitivity, place attachment, and environmentally responsible behavior. This research shows that ascription of responsibility mediates the relationship between awareness of negative consequences and that environmentally responsible behavior and environmental sensitivity and place attachment moderate the mediation. Consequently, developing awareness of the consequences of tourism is important to developing strong responsibility ascription and environmentally responsible behavior. The model is split to compare residents and tourists, and systematic differences in the path estimates emerge for the two groups. Furthermore, different types of tourists are compared, revealing that awareness of the negative environmental consequences of tourism and ascription of responsibility are unvaried for new and experienced tourists, but that tourists' visit length significantly affects both awareness and place attachment.

Keywords: environmental sensitivity, ascription of responsibility, place attachment, environmentally responsible behavior, sustainability.

1. Introduction

Tourism and related consequences (economic, social, and environmental) affect destinations (Juvan and Dolnicar 2016). Among these consequences, the present study focuses on those in the environmental sphere, which previous literature has acknowledged as being of primary relevance (e.g., Gössling and Peeters 2015; Reynolds and Braithwaite 2001). Indeed, tourism is a multidimensional phenomenon that interacts with the environment. On the one hand, anthropogenic and natural environmental resources provide the sources of tourism; on the other hand, tourism can negatively affect (directly or indirectly) the environment. Thus, the relationship between tourism and the environment is becoming of paramount importance. Yet, the involved stakeholders might not always be aware of the negative consequences of tourism for a destination. This study aims to bring to the attention of scholars the link between being aware of the negative consequences of tourism, feeling responsible for them, and behaving in an environmentally friendly way. In doing so, it also advances considerations of individuals' attachment to the destination location and sensitivity to the environment.

The analysis is set in the context of Venice. Venice is a particularly relevant setting not only for its worldwide fame but because it is a preferential setting for the analysis of the effects of negative consequences of tourism on the environment. Each year, over 20 million tourists visit Venice, a city of 55,000 residents on just 44 square kilometers (13 square miles): the daily arrivals of 60,000 visitors far exceed the city's average daily maximum capacity (calculated by Costa [2018] at less than 14,600 visitors per day). As a consequence, the population has decreased by 67% since 1951, while prices for houses, rents, and general living have increased, making it the most expensive city in Italy (VeneziaToday 2018). This negative population trend carries the risk of turning the city into an empty shell, an inhabited amusement park for tourists where young couples cannot find houses and older residents sell their houses to foreign investors to turn into hotels and restaurants and relocate to nearby cities (Arte TV 2017). The unbearable

pressure from tourism has led those locals who have not abandoned the city to engage in protests, with thousands marching through the city against rising rents, pollution, and other issues they blame on tourism (Coldwell 2017; Seraphin, Sheeran, and Pilato 2018). The city has tried several interventions to regulate the flow of tourists, including making tourists pay an entrance fee—not only because most tourists are excursionists and provide the city no significant economic benefit (Arte TV 2017) but especially to attempt to address the threats that tourism poses to the city. Yet, for any policy to be effective, it must be developed in and sustained by the commitment of the involved stakeholders: in this case, Venice's tourists and residents.

It would appear reasonable to expect that awareness of tourism's negative consequences for the environment would affect both residents' and tourists' ascription of responsibility for environmental activities/issues. In this regard, previous literature mainly focused on tourists' awareness of consequences, with a few noteworthy exceptions (e.g., Lin et al. 2017). This study aims to enrich the existing research in understanding how a high degree of awareness of tourism consequences would affect not only tourists' perceived responsibility for environmental issues but also residents' commitment. In practice, in the case of residents' perception of tourism's negative consequences, residents would decide whether to leave the city or to participate in the movements against tourism or, conversely, in the case of a positive perception of tourism's consequences, they could decide to invest or to stay in the city where they live thanks to their perceptions of tourism's positive consequences. Although several studies have investigated awareness of tourism's consequences for either tourists or residents, few have directly compared the two groups of stakeholders, investigating how the same set of relationships unfolds across them. By providing a double perspective, we answer recent calls in the literature (Lin et al. 2017), with the potential to provide more granularity on the impact of tourism on a destination's sustainability. Accordingly, this study adopts not only the perspective of tourists but also the perspective of residents and compares them.

Further, the present research envisions the consequences of tourism from an environmental perspective and assesses whether awareness of tourism's negative environmental effects triggers a sense of responsibility (ascription of responsibility) in stakeholders and translates to an intention to enact more environmentally responsible behavior toward the place. In doing so, it builds on Gao, Huang, and Zhang (2017), who investigated tourists' perceived responsibility for the negative consequences of tourism in terms of their awareness of those consequences and self-ascription of responsibility. Finally, it addresses the role of individuals' environmental sensitivity and place attachment in shaping responsibility ascription and behavioral intentions. To do so, it adopts the theoretical lenses of Norm Activation Theory (NAT; Schwartz 1977), according to which an individual's awareness of an adverse consequence for others or for the environment leads to the ascription of responsibility for that consequence to herself/himself, and—consequently—to the activation of personal norms and prosocial/pro-environmental behaviors (Schultz et al. 2007).

Awareness of the negative environmental consequences of tourism is the focus of this research, in line with previous studies on Venice (Seraphin, Sheeran, and Pilato 2018). Finally, in the past, tourism was often mainly seen as a means to strengthen economies. Still, more recently the focus has gradually shifted to its negative social, cultural, and environmental impacts (Postma and Schmuecker 2017), as it is the awareness of the negative effects of tourism that affects the long-term sustainability of tourism and its support from residents, so that sustainable tourism development requires greater efforts to investigate the negative consequences of tourism (Choi and Murray 2010; He, He, and Xu 2018). Literature in psychology has long suggested that corrective actions stem from an awareness of negative consequences when there is a feeling of responsibility (Sogin and Pallak 1976); thus, it appears particularly meaningful to focus on the negative consequences and relate them to responsibility ascription. Accordingly, in the following, we investigate the relationship between tourists' and

residents' awareness of the negative consequences of tourism, which leads to a higher ascription of responsibility and pro-environmental behavioral intentions.

By investigating two stakeholder perceptions of a destination, those of tourists and residents, the present research develops a multiple moderated mediation model, which is tested using the PROCESS macro in SPSS on two data collections, in total reaching about 1,000 tourists and residents. Compared with previous studies (e.g., Lin, Chen, and Filieri 2017), the present research adopts a green perspective in investigating awareness of tourism's consequences, enriching the theoretical foundation by adding considerations of environmental sensitivity, place attachment, and responsibility ascription, addressing mediation and moderation path relationships in addition to direct relationships, and setting the analysis in the unique, emblematic context of Venice.

The paper is structured as follows: the first section discusses the theoretical background, advancing specific hypotheses that are combined in a conceptual model. Then, the methodology section explains how the data were collected and how the models were empirically tested. Next, the results from the model estimation for both tourists and residents are presented. Further analyses compare several types of tourists (new vs. returning; short vs. long stay). Finally, the discussion is developed alongside the limitations and directions for future research.

2. Theoretical background and hypotheses

In this section, we develop a conceptual model of multiple moderated mediation, where ascription of responsibility mediates the relationship between individuals' awareness of tourism's environmental negative consequences and the intention to enact environmentally sustainable behavior. Further, we posit environmental sensitivity as a moderator of the relationship between awareness of negative consequences and ascription of responsibility, and place attachment as moderator of the relationship between ascription of responsibility and

environmentally sustainable behavior (see Figure 1). The next headings detail the constructs and the hypothesized relationships.

Fig. 1 The conceptual model

2.1. Awareness of tourisms' negative consequences

Research on sustainable tourism has recently received significant academic and policy attention (Boley, McGehee, and Hammett 2017; Nepal, Irsyad, and Nepal 2019), with several studies related to the impact of tourism from an economic, social, and environmental perspective (Lyon, Hunter-Jones, and Warnaby 2017). Both literature and praxis have documented that tourism can have different consequences, reflecting both on the members of the local communities and the physical destination (Kim, Uysal, and Sirgy 2013). Several recent studies have highlighted the importance of focusing on the negative effects of tourism. For instance, Monterrubio (2016) and Liang and Hui (2016) demonstrated that tourism-related overcrowding, traffic congestion, noise, and waste increasingly worsen residents' perceived well-being. In particular, scholars have highlighted that the negative consequences of tourism could be not only economical (Monterrubio 2016) or cultural (Kim et al. 2013) but—in particular—also environmental (Kim et al. 2013; Lin et al. 2017; Nunkoo and So 2016): for instance, because of increased pollution and more difficult waste management. Considering that the overall effect of those negative tourism-related consequences also reflect on residents, and could compromise their support for tourism development (Gursoy et al. 2002; Lee 2013; Lin et al. 2017), recent literature has advocated the need for and the importance of research focusing on the environmental impact of tourism. In this vein, focusing on awareness of the negative consequences of tourism for the environment has been advocated as key for achieving tourism sustainability (Lin et al. 2017; MacNeill and Wozniak 2018; Ng et al. 2017).

Previous research has emphasized the importance of adopting the perspective of residents' attitudes toward tourism (Gursoy and Rutherford 2004; Ko and Stewart 2002), highlighting that when residents perceive tourism as beneficial, it further supports their willingness to cooperate and significantly aids in the development of further tourism initiatives (Lin et al. 2017; Yu et al. 2011). Along the same lines, other studies have shown that when residents envision tourism as positive, tourism positively affects residents' life satisfaction (e.g., Kim et al. 2013) and perceived quality of life (Woo, Kim, and Uysal 2015).

2.2. Norm Activation Theory as a framework for understanding the negative consequences of tourism

Researchers in sustainable tourism (and in many other fields) have suggested several extensions to traditional attitude-behavior models such as the Theory of Reasoned Action and/or the Theory of Planned Behavior, particularly when predicting the relationship between attitude and sustainable behaviors (e.g., Gao et al. 2017; Stern 2000; Passafaro 2020). In particular, NAT has more recently been successfully applied to the study of tourism for understanding awareness of tourism's consequences for a destination (Gao et al. 2017; Landon, Woosnam, and Boley 2018; Han et al. 2019).

Norm Activation theorizes that "altruistic behavior originates from a moral obligation to prevent harm to a valued object" (Landon et al. 2018, 959). The theory is based on awareness of consequences and ascription of responsibility. It posits that awareness of a problem is an antecedent of responsible behavior. Specifically, when "an individual is aware of an adverse consequence for others or the environment (awareness of consequence) and ascribes responsibility for that consequence to him or herself (ascription of responsibility), a corresponding personal norm is activated and then followed by prosocial/pro-environmental behavior" (Gao et al. 2017, 278).

2.3. From awareness of the negative environmental consequences of tourism to the ascription of responsibility for environmental issues

Previous studies have shown that the more perceptive of environmental problems individuals are, the more inclined they are to assume responsibility (Liobikienė and Juknys 2016). Even individuals who attach a strong personal value to preserving the environment have been found not to do anything for the environment if they are not aware of environmental problems or do not feel an individual responsibility (Juvan and Dolnicar 2014). Thus, there appears to be a relationship between awareness and responsibility. In this vein, literature in environmental psychology has discussed the issue of perceptions of the environmental problem. Although the topic has been only partially explored in environmental psychology (van der Werff et al. 2013), previous studies have shown that feelings of responsibility do not mature simply because individuals perceive an environmental problem but rather when individuals are aware of the consequences of their behavior for the solution or aggravation of that problem (Lopez-Mosquera and Sanchez 2012; Wang et al. 2014). Thus, those who behave in a more environmentally friendly way should be those who can relate environmental problems to their behavior, taking responsibility for them (Juvan and Dolnicar 2014; van der Werff et al. 2013). In this vein, psychology has long suggested that responsibility is implied by an internal locus of causality, meaning that individuals feel responsible when they are aware of the consequences of their behavior (Sogin and Pallak 1976). We translate these considerations into the domain of tourism, focusing on tourists' and residents' awareness of the negative environmental consequence of tourism. Building on those considerations, we posit that feelings of responsibility stem from an awareness of the negative consequences. More formally:

> *H1a. Awareness of the negative environmental consequences of tourism positively impacts ascription of responsibility for both tourists (H1a) and residents (H1b).*

Furthermore, tourism is—by definition—due to tourists. Thus, we expect that tourists could blame tourists for the environmental consequences of tourism, whereas residents would probably blame tourists rather than themselves or other residents. Accordingly, blame attribution could differ between tourists and residents. Given that literature in clinical psychology has documented that blaming oneself (or one's group of peers) rather than blaming others increases the ascription of responsibility (Schwartz and Howard 1980; Stratton 2003), we advance the following:

H1c. The relationship between awareness of the environmental consequence of tourism and ascription of responsibility will be stronger for tourists than for residents.

2.4. The role of environmental sensitivity

Environmental sensitivity is an empathetic perspective on the environment and a harmonious relationship with natural environments (Hungerford and Volk 1990). It represents a predisposition toward and concern for the environment that encompasses both a preference for natural environments and the intention to take action for their preservation (Chiu, Lee, and Chen 2014). As a measure of environmental concern, a high degree of environmental sensitivity affects specific attitudes and norms related to environmental issues and, indirectly, behaviors (Hungerford and Volk 1990; Yuksel et al. 2010).

Accordingly, previous research in tourism has identified a positive connection between individuals' environmental sensitivity and the development of pro-environmental behaviors (Cheng and Wu 2015). In particular, previous studies support the notion that the negative environmental consequences of tourism could be perceived as more vivid when stakeholders have a higher sensitivity to issues of environmental sustainability (Cheng and Wu 2015; Hungerford and Volk 1990).

Based on these considerations, we introduce environmental sensitivity as a possible feature that may help shape feelings of environmental responsibility in both residents and

tourists. We argue that high environmental sensitivity, being a strong personal attitude toward the environment, could further strengthen the tie between awareness of tourism's negative consequences and ascription of responsibility. Thus, tourists and residents may feel more responsible for a tourism-related environmental issue if they have high environmental sensitivity, defined as an empathetic attitude that helps enforce the effect of awareness of tourism's negative consequences on the ascription of responsibility. In other words, we posit environmental sensitivity as a positive moderator of the relationship between perceived awareness of consequences of tourism and ascription of responsibility (as advanced in H1). Furthermore, environmental sensitivity has more to do with one's value system than with one's status as a resident or tourist (Olearnik and Barwicka 2019). Accordingly, we do not anticipate differences in the impact of environmental sensitivity between tourists and residents. More formally:

> *H2. Environmental sensitivity moderates the relationship between awareness of tourism's negative environmental consequences and ascription of responsibility, such that high levels of environmental sensitivity increase the degree of the ascription of responsibility for both tourists (H2a) and residents (H2b), with a similar strength (H2c).*

2.5. From ascription of responsibility to environmentally responsible behavior

According to NAT, when individuals ascribe to themselves the responsibility for consequences for others, they activate a personal norm (Onwezen, Antonides, and Bartels 2013; Schultz et al. 2007). Personal norms refer to the sense of obligation to take pro-environmental action, and they derive from awareness of the existence of environmental problems (awareness of consequences) and the belief of being responsible for alleviating those problems (ascription of responsibility) (Juvan and Dolnicar 2016; Landon et al. 2018). Previous studies identified personal norms as the most relevant predictors of environmentally sustainable behavior (e.g., Stern 2002).

Adopting the theoretical lenses of NAT, other studies have documented the relationship between personal norms and environmentally sustainable behavior (e.g., Klöckner 2013; Kormos and Gifford 2014). This relationship has also been documented for tourists (Juvan and Dolnicar 2016) and awareness of the negative consequences of tourism activities (Gao et al. 2017). Overall, there is shared agreement among these studies, both old and new, both related and unrelated to tourism, that the more one sees oneself as a responsible agent, the more one will engage in environmentally sustainable behavior (Gao et al. 2017). Such behavior pertains to actions that preserve and help the environment, such as saving water, not littering, and using public transport. Thus, it could be of particular relevance for crowded touristic locations, where negative externalities from the environmentally negative behavior of one individual could easily spill over to many others and aggregate dramatically.

More recently, environmentally responsible behavior has been related to ecotourism (Poudel and Nyaupane 2017), whose impact on a destination's environment ultimately depends on on-site tourist behavior. Accordingly, most studies on ecotourism focus on individuals as tourists rather than as residents (e.g., Chiu et al. 2014). However, NAT applies to individuals in general, and therefore also to residents. Besides, environmentally responsible behavior potentially has a much broader range of applications than ecotourism (e.g., sustainable tourism; Cheng, Wu, Wang, and Wu 2017). Accordingly, this study advances a positive relationship between ascription of responsibility and environmentally responsible behavior:

H3. Ascription of responsibility is positively related to environmentally responsible behavior, such that high levels of the ascription of responsibility increase environmentally responsible behavior for both tourists (H3a) and residents (H3b).

H1c posited a higher level of responsibility ascription in tourists than in residents. However, by definition, residents are those residing in a location, whereas tourists are merely passing by.

Thus, one might expect responsibility ascription to more likely translate into actions by those individuals who will benefit most (or for a longer time) from those actions (Modica and Uysal 2016). Literature in psychology has suggested that corrective actions stem from negative consequences when there is a feeling of responsibility (Sogin and Pallak 1976), and that the more the negative consequences affect oneself, the more likely and intense one's corrective action and reaction mechanisms (Luhmann et al. 2012). Accordingly, translating this consideration to the comparison of tourists and residents, we posit the following:

> *H3c. The relationship between ascription of responsibility and environmentally responsible behavior will be stronger for residents than for tourists.*

2.6. The role of place attachment

Place attachment reflects bonds and associations (Zhang, Zhang, Zhang, and Cheng 2014) and a feeling of identification and relationship with a specific place. Although there are different definitions of place attachment, and some studies even disagree on the dimensionality of the construct (e.g., for Devine-Wright [2011], it is one-dimensional; for Ramkissoon, Smith, and Weiler [2013], it is multidimensional), previous studies agree that place attachment represents a set of affective bonds between individuals, communities, and their daily life setting (Brown, Smith, and Assaker 2016). As a result, the degree of attachment that tourists and/or residents have to a place will increase with their involvement in, bond with, and feeling of belongingness to that place. Tourists have been found to develop affection and a sense of belongingness when the quality of the destination offering is high (Bricker and Kerstetter 2000). In turn, the quality of a destination stems from the amount and level of the tourism activities, and from the ratio of tourism's costs to benefits (Lin et al. 2017), such that the value of tourism and visitors' place attachment appear related.

Additional insights might be gained from research in psychology on the relationship between people and the environment. These studies have documented that when individuals feel a strong tie to a socio-physical environment, they are more likely to enact pro-environmental behavior (Brown et al. 2016; Zhang et al. 2014).

One could argue that these reasons suggest a kinship with the concept of place attachment as defined in tourism literature so that such considerations could be translated into the domain of tourism. By doing so, one should expect a relationship between place attachment and environmental behavior. This expectation is in line with previous tourism studies suggesting that when individuals feel attached to a place, they show more proactive behavior toward the environment than those who are less attached do (e.g., Cheng and Wu 2015; Ramkissoon et al. 2013). This means that tourists that are highly attached to a destination will be more inclined to take care of it, refrain from damaging it, and try to persuade others to engage in pro-environment behaviors.

Although research in tourism has mostly addressed the environmental behavior of tourists, there appears to be no reason why such consideration should not pertain to residents as well. Thus, one could further advance that place attachment relates to the enactment of environmentally friendly behavior for residents also. Given that residents are, by definition, those living in a place, their affective bond to that place would make them care for it and act to preserve it. In turn, place attachment should lead tourists and residents to work together in enacting environmentally sustainable behavior, especially when they feel responsible for the negative consequences of their behavior.

Hence:

H4. Place attachment moderates the relationship between ascription of responsibility and environmentally responsible behavior, such that high levels of place attachment

increase environmentally responsible behavior attributable to ascription of responsibility for both tourists (H4a) and residents (H4b).

As aforementioned, place attachment can be broadly referred to as the cognitive and emotional connection that one feels with a place (Kyle et al. 2004). Environmental psychology has explained individuals' connection with and behavior toward a place in terms of neighborhood and non-neighborhood, or closeness and distance (Brown, Perkins, and Brown 2003; Fullilove 1996). Specifically, previous literature has shown that whether individuals are living in a place or visiting a place affects their attachment to that place (Budruk, Stanis, Schneider, and Anderson 2011; Lee et al. 2012). In particular, residents are more likely to develop a stronger attachment than tourists, because they experience the environment more often (Scarpi et al. 2019). Based on these considerations, we posit the following:

H4c. The moderation by place attachment will be stronger for residents than for tourists.

3. Method

3.1. Data collection procedure and measurements

Data were collected in Venice by means of a paper-and-pencil questionnaire in two intakes of equal size, each during a seven-day period. The questionnaire was pretested on a pilot sample of 100 respondents to ensure that the questions were easy to understand and unambiguous. In preparing and administering the questionnaire, we took particular care to avoid method biases, as described in Podsakoff, MacKenzie, Lee, and Podsakoff (2003). To reduce evaluation apprehension and social desirability biases, we reassured respondents that there were no right or wrong answers and explicitly asked them to answer questions honestly. Further, the data were collected at different times in two main languages: Italian and English.

Awareness of tourism's negative consequences for the environment was measured using a scale adapted from Lee and Back (2006; six items). Environmental sensitivity was measured as

in Cheng and Wu (2015; three items); ascription of responsibility as in Landon et al. (2018; three items); place attachment as in Kaplanidou, Jordan, Funk, and Ridinger (2012; six items); and intention to enact environmentally friendly behavior as in Cheng and Wu (2015; four items). All items were measured using 7-point Likert scales ranging from 1 (*completely disagree*) to 7 (*completely agree*). Further, respondents were asked how many days they were staying and how many other times in the past they had visited Venice (if tourists) or for how long they had lived in the city (if residents). Finally, respondents were asked about their demographics (age, gender, occupation), tested for suspicion, thanked, and debriefed. Details are presented in Appendix Table A.1.

3.2. Sample

A total usable sample of 450 tourists was collected; the response rate was about 60%, in line with previous studies (Yaeger et al. 2019). Overall, 49% of the tourists were females, with a mean age of 41 years. These figures align with the city's official figures and reports of the University of Venice (mean age of tourists around 40 years; about 50% females; Città di Venezia 2018; Paolazzi et al. 2018).

For residents, we followed Olya and Gavilyan's (2017) convenience sampling technique to administer the questionnaire, which is an effective method for achieving a high response rate (Lee 2013). As in Olya and Gavilyan (2017), we were helped by one local authority that introduced the researchers to residents and helped target respondents from different parts of the city. This permitted collecting a sample of 500 residents. The sampled residents are about 50% females, with a mean age of 42 and a median age of 44, which align with figures for city demographics (mean age 40–46 years, depending on which part of the city; VeneziaToday 2017; Tuttitalia 2018; median age 44, Urbistat 2018).

3.3. Supplementary data for comparative analysis

Collection of a second, independent sample can be a terrific tool for testing the robustness of the results; a single quantitative analysis using data from a single survey could prove less generalizable and less robust, as the findings might pertain to that sample only. Supplementary sampling is usually needed to verify critical conclusions, to clarify potential problems related to data distribution, or to check for unanticipated facets of the results. Convergence, generalizability, and stability are usually the main advantages of using a supplementary sample and justify the additional work required (Adya and Collopy 1998), as supplementary data lead to more efficient inferences and can also help prevent model misspecification (Cai et al. 2017). Furthermore, had the original sample not been representative, this could further undermine the implications of our findings. Instead, if separate, independent samples from the same population provide converging results, on the one hand, this lessens concerns about sample representativeness, as it proves that results hold nonetheless; on the other hand, it helps confirm the robustness of the findings (Hague et al. 2004).

Accordingly, supplementary data from another 200 tourists (50% females; median age = 44) and 200 residents (50% females, median age = 42) were collected in January of the following year by an independent researcher (a filter question was added to avoid sampling the same individuals again; no such case was encountered). Comparing the supplementary data with the initial sample shows no significant difference in respondents' sociodemographic profiles (F_{age} (1, 902) = .86, p = .36; F_{gender} (1, 902) = .34, p = .36) nor in any of the considered dependent and independent variables (all p-values > .10).

3.4. Scales adaptation

To ensure consistency of the meaning of questions across languages (Italian for residents, English for tourists), forward-back translation was adopted, in line with Chen, Holton, and Bates

(2005). Accordingly, the questions were translated and back-translated by bilingual personnel, and the (few and minor) inconsistencies that arose from this process were resolved to ensure equivalence of the measures at a conceptual level, based on Beaton et al.'s (2000) four points (semantic, idiomatic, experiential, conceptual). Finally, the questionnaire was pretested on a convenience sample of 20 respondents (not included in further analyses), who were asked what they thought each question and what the available answers meant (Beaton et al. 2000). This procedure ensured equivalence for the translated version. Furthermore, we checked that the adapted measures retained the psychometric properties of the questionnaire. Specifically, factor analysis (maximum likelihood; oblimin rotation) showed that the considered variables are distinct factors, that reliability ranges above the .7 threshold, and that composite reliability (CR) and the average variance extracted (AVE) exceeded their respectively recommended thresholds of 0.7 and 0.5 (Fornell and Larcker 1981).

3.5. Model estimation

Two multiple moderated mediation analyses were run to test the conceptual model illustrated in Figure 1: one for tourists and one for residents. The PROCESS macro for SPSS was used, with the mean composite scores for the items for awareness of negative consequences, environmental sensitivity, responsibility ascription, place attachment, and behavioral intention (Model 21; Hayes 2018).

Environmental sensitivity was entered as a moderator of the relationship between awareness of tourism's negative environmental consequences and responsibility ascription. Similarly, place attachment was entered as a moderator of the relationship between responsibility ascription and behavioral intention. The behavioral intention was the dependent variable (see Figure 1). The analysis assessed (1) the effects of negative-consequences awareness on behavioral intention (both directly and indirectly, through responsibility

ascription), (2) the effect of negative-consequences awareness on responsibility ascription (as moderated by environmental sensitivity), and (3) the effect of responsibility ascription on behavioral intention (as moderated by place attachment).

The analysis combined mediation and moderation to estimate the conditional indirect effect of negative-consequences awareness on behavioral intention through responsibility ascription as moderated by environmental sensitivity and place attachment (Model 21; Hayes 2018). The statistical significance of the direct and indirect effects was evaluated by means of 5,000 bootstrap samples to create bias-corrected confidence intervals (CIs; 95%) with heteroscedasticity-consistent SEs (Hayes 2018).

4. Results

4.1. Scale reliability

Cronbach's alphas for the scale ranged from .77 to .93. The CR and the AVE exceeded the recommended 0.7 and 0.5 thresholds, respectively (Fornell and Larcker 1981), the minimum CR being .78, and the minimum AVE being .54. Furthermore, the minimum AVE exceeds the squared correlation between any two variables. A confirmatory factor analysis performed with AMOS 25 resulted in adequate fit ($\chi 2/df < 3$; RMSEA = 0.05, GFI = .96, CFI = .97). The measurement model thus meets all relevant psychometric properties. Questionnaire items and the measurement properties are reported in Appendix Tables A1 and A2.

4.2. Initial descriptives from the sample

4.2.1. Tourist versus resident differences

We run a multivariate analysis of variance (MANOVA) with the respondent type (tourist vs. resident) as fixed factor, age, and gender as covariates, and awareness, environmental sensitivity, the ascription of responsibility, place attachment, and environmentally responsible behavior as dependent variables.

The MANOVA yields a significant (Wilks $\lambda = .953$, $F(5, 880) = 8.60$, $p < .001$) yet small main effect for age ($\eta^2 = .05$), a significant and small effect for gender (Wilks $\lambda = .957$, $F(5, 880) = 7.98$, $p < .001$, $\eta^2 = .04$), and a significant and large main effect for the tourist–resident comparison of the dependent measures (Wilks $\lambda = .744$, $F(5, 880) = 60.67$, $p < .001$, $\eta^2 = .26$). Further, a significant interaction emerges at the multivariate level for tourist_type × age (Wilks $\lambda = .952$, $F(5, 880) = 8.86$, $p < .001$, $\eta^2 = .05$).

Univariate follow-up analyses show that gender exerts a significant ($F(1, 884) = 13.81$, $p = .001$) although small ($\eta^2 = .02$) effect on ascription of responsibility, with higher values for women ($M_{women} = 5.86$ vs $M_{men} = 5.52$), in line with studies documenting a higher tendency of women to feel environmental (Laroche, Bergeron, and Barbaro-Forleo 2001) and ethical (Simga-Mugan, Daly, Onkal, and Kavut 2005) sensitivity. Age exerts a significant ($F(1, 884) = 10.76$, $p = .001$) although small ($\eta^2 = .01$) effect on place attachment, with older individuals displaying higher place attachment ($M_{young} = 5.41$ vs $M_{old} = 6.04$), in line with studies documenting a positive relationship between the two variables (Scarpi et al. 2019).

Univariate follow-up analyses of the tourist–resident comparison show that tourists display significantly ($F(1, 884) = 187.88$, $p <.001$) and strongly ($\eta^2 = .17$) more environmental sensitivity than residents ($M_{resident} = 4.38$ vs. $M_{tourist} = 5.80$). This finding can be easily explained in line with the literature finding that residents exhibit higher habituation in terms of the effects of tourism than those who merely pass by the location as tourists (Gu and Ryan 2008).

Further, significant and small-to-medium differences emerge for all other dependent variables, where tourists score higher than residents, except for place attachment ($F(1, 884) = 51.80$, $p < .001$, $\eta^2 = .06$), which is higher for residents ($M_{resident} = 6.11$ vs. $M_{tourist} = 5.33$). Specifically, tourists exhibit higher responsibility ascription ($M_{resident} = 5.42$ vs. $M_{tourist} = 5.97$, $F(1, 884) = 35.26$, $p < .001$, $\eta^2 = .04$) and higher environmentally responsible behavior

($M_{resident}$ = 5.34 vs. $M_{tourist}$ = 5.53, F (1, 884) = 4.50, p = .03, η^2 = .005), and they have a slightly higher awareness of the negative environmental consequences of tourism ($M_{resident}$ = 5.28 vs. $M_{tourist}$ = 5.50, F (1, 884) = 3.82, p = .05, η^2 = .004). Finally, given the significant multivariate level for the tourism_type × age interaction, place attachment was slightly stronger for older than for younger residents ($M_{young_resident}$ = 6.08 vs. $M_{old_resident}$ = 6.15; F (1, 884) = 26.55, p < .001), although this effect was small (η^2 = .03).

Overall, the findings from the MANOVA show that although the hypotheses are supported for both tourists and residents, their perceptions of the dependent variables differ.

However, these comparisons treat tourists as a single group, whereas previous literature has advanced distinctions between different types of tourists. In particular, studies have separated first-time and repeat tourists (Lau and McKercher 2004) and short and long stays (Alegre, Mateo, and Pou 2011; Thrane 2012). Accordingly, in the following, we compare how the dependent variables differ for these types of tourists.

4.2.2. Differences due to tourists' visit repetition

We run a MANOVA on the awareness of negative environmental consequences of tourism, environmental sensitivity, the ascription of responsibility, place attachment, and environmentally responsible behavior as dependent variables, with visit repetition (first-time vs. repeat tourists) as the independent variable.

The MANOVA yields significant (Wilks λ = .953, F (5, 397) = 5.53, p < .001) and medium (η^2 = .06) main effects for visit frequency. Univariate follow-up analyses show that visit frequency exerts a significant (F (1, 401) = 19.56, p < .001), medium (η^2 = .05) effect on place attachment only, with first-time visitors displaying lower place attachment than repeat visitors ($M_{first\text{-}time}$ = 4.25 vs. $M_{frequent}$ = 5.50). Thus, while attachment to the destination location increases for repeat tourists, awareness of the negative environmental consequences of

tourism, environmental sensitivity, and ascription of responsibility are unvaried for new and experienced tourists. Overall, this evidence aligns with findings by Joo, Cho, and Woosnam (2019) of no difference between first-timers and repeat tourists in emotional solidarity with residents, or their attitudes toward tourism.

4.2.3. Differences due to tourist length of stay

We run a MANOVA on the awareness of negative environmental consequences of tourism, environmental sensitivity, the ascription of responsibility, place attachment, and environmentally responsible behavior, with visit length (short vs. long stay) as the independent variable. The literature identifies the cut-off between short and long stays as one day versus several days (Alegre and Pou 2006; Thrane 2012). Similarly, local policies in the city of Venice treat one-day and multi-day visitors differently, as the latter must pay for a ticket to stay in the city, whereas the former does not. Thus, we compared one-day with multi-day visits.

The MANOVA yields a significant (Wilks $\lambda = .966$, $F(5, 385) = 2.74$, $p = .02$) though small ($\eta 2 = .03$) main effect for visit length. Univariate follow-up analyzes show that visit length significantly affects awareness of tourisms' negative environmental consequences ($F(1, 389) = 12.34$, $p < .001$, $\eta 2 = .03$), with short-stayers being less aware than long-stayers ($M_{short} = 5.28$ vs. $M_{long} = 5.82$). This makes sense as, staying for a limited period, they have less time to become aware of the effects of tourism on the location. Further, a marginally significant effect emerges on place attachment ($F(1, 389) = 3.48$, $p = .06$, $\eta 2 = .01$), with short-stayers coherently displaying less place attachment than long-stayers ($M_{short} = 5.17$ vs. $M_{long} = 5.48$).

4.3. Model estimation

Ten questionnaires of the 450 collected from tourists and 17 of the 500 collected from residents were deleted by the software because of missing data in estimating the model.

Evidence from the estimation of the model on the remaining questionnaires shows a significant index of multiple moderated mediation both in the tourist sample (Effect = 01, 95% CI [00, 01]) and in the resident sample (Effect = .01, 95% CI [.00, .02]), as the 95% CI interval does not include zero (Hayes 2018). This evidence supports the robustness of the conceptual model.

Results show that awareness of tourism's negative environmental consequences increased responsibility ascription in both tourists (Effect = .87; $p < .001$) and residents (Effect = .45; $p < .001$), although more strongly in tourists (.87 vs. .45, $p < .001$), providing support for H1. As advanced in H2a and H2b, environmental sensitivity significantly moderated the effect of awareness of tourism's negative environmental consequences on responsibility ascription for both tourists (Effect = .11; $p < .001$) and residents (Effect = .07; $p = .001$). Specifically, the relationship between the perceived impact of tourism and responsibility ascription was stronger for those with high environmental sensitivity, but the moderation had the same strength in both groups, as advanced in H2c (.11 vs. .07, $p > .05$).

Furthermore, responsibility ascription was positively related to the behavioral intention of tourists (Effect = .52; $p < .001$) and residents (Effect = .75; $p < .001$), in line with H3a and H3b, respectively. As anticipated in H3c, the relationship was higher for residents than for tourists (.52 vs .75, $p < .001$). In line with H4a and H4b, place attachment significantly moderated the effect of responsibility ascription on behavioral intention in the tourists' sample (Effect = .06; $p = .01$) and in the residents' sample (Effect = .12; $p < .001$). Specifically, the relationship between responsibility ascription and the behavioral intention was stronger for those with high place attachment, and this effect was stronger for residents (.12 vs. .06, $p < .05$), as

anticipated in H4c. In other words, the attachment one feels to a place further strengthens the relationship between feeling responsible for the negative consequences of tourism and acting to preserve that place, especially for residents.

Further, a significant direct effect emerged for awareness of tourism's negative environmental consequences on behavioral intention (Effect = .14; $p < .001$), although not for tourists (Effect = .04; $p = .21$). Overall, this evidence shows that responsibility ascription is a full mediator of the relationship between awareness and behavioral intention for residents, and a partial mediator for tourists. In other words, being aware of tourism's negative environmental consequences increases both residents' and tourists' responsibility ascription, which in turn leads to positive behavioral intention, especially under conditions of higher place attachment. However, for tourists, awareness is sufficient per se to make them behave in an environmentally friendly way. In other words, the development of feelings of responsibility ascription adds to tourists' intentions to enact environmentally friendly behavior, whereas for residents, it is a condition necessary to developing such intention.

Results of the model estimation are illustrated in Figure 2 and reported in Tables 1 through 3.

Table 1. The moderated mediation analysis for tourists and residents (in italics).

Fig. 2. The model with estimates for tourists and residents (in italics).

Finally, the model was estimated also using the supplementary data detailed in section 3.2. for both tourists and residents. A test of model indifference was computed (Hayes 2018), whose results ensure path indifference between the estimates on the supplementary data for the tourists, with no significant difference in the effects' beta and a model-comparison F-statistic of .98.

Similarly, results ensure path indifference between the models estimated on the supplementary data on the residents, with no significant difference in the effects' beta and a model-comparison F-statistic of .99.

Overall, the use of thousands of bootstrap samples in PROCESS, on the one hand, and the reliance on supplementary samples, on the other hand, enhance the convergence, generalizability, and stability of the findings (Adya and Collopy 1998); insure against model misspecification (Cai et al. 2017); and avoid problems related to insufficient sample representativeness (Hague et al. 2004).

5. Discussion

This research examined the path relationships between awareness of tourism's negative environmental consequences, responsibility ascription, environmental sensitivity, place attachment, and the intention to behave in an environmentally friendly way. Further, it compared residents with tourists, and different types of tourists (long- vs. short- stayers; first-time vs. repeat tourists). The analysis was set in the context of Venice, a case par excellence, where the negative environmental consequences of tourism show their effects up to the point of jeopardizing the very existence of Venice itself.

The findings of this research contribute in several ways to the literature on environmentally sustainable tourism. First, this study translated the NAT approach to the domain of tourism literature, to examine the relationship between the awareness of tourism's negative environmental consequences and the environmentally responsible behavior of tourists and residents. In doing so, it expanded the perspective of NAT compared with previous studies (e.g., Gao et al. 2017), by adding two significant moderators: environmental sensitivity and place attachment. Overall, in translating to the domain of tourism management considerations from environmental psychology for the relationship between ascription of responsibility, place

attachment, and environmentally responsible behavior, it reinforces the validity of the NAT framework within the field of tourism, as the inclusion of place attachment was found to play a significant role in the activation of environmentally responsible behavior of both tourists and residents. Second, in adopting the theoretical lenses of NAT, the present research adopted a dual perspective, looking at both tourists and residents.

These two points fill several gaps in the literature. First, they answer recent calls to explore NAT and its dimensions from the perspective of more stakeholders (Gao et al. 2017). Second, they answer calls in the tourism literature to address residents, not just tourists (Yu et al. 2011; Nunkoo and So 2016; Olya and Gavilyan 2017). NAT is usually adopted from the tourist's perspective, yet other members living in the destination community, such as residents, might have a different awareness of the negative consequences of tourism, as they have a different experience of the place. Consequently, the commitment of residents and tourists to the destination and its environmental issues could differ. The adoption of a dual viewpoint enriches the analysis, widening the perspective of the research questions, and places the present research in an enclave studying tourism vis-à-vis both tourists and residents, together with previous studies such as Lin et al. (2017), Zhou et al. (2018), and Ribeiro et al. (2018).

This study developed additional hypotheses for the comparison of residents and tourists and tested the same relationships in the two samples. The present research, instead, to the best of our knowledge, is the first to assess the relationships between awareness, responsibility, and behavior across the two samples simultaneously. In fact, findings from previous studies addressed residents and tourists in different contexts and times, and for different relationships, so that findings for the two stakeholder groups would not be fully comparable.

Third, beyond the theory and the model employed in this research, the issue related to sustainable tourism for the specific context of Venice is relevant in practice, as the analysis presented in the paper could be helpful at a managerial level for other destinations facing a

similar problem. From a methodological perspective, the present research is an advancement in that it envisions the NAT-derived constructs in a sophisticated model of multiple moderated mediation, accounting for several constructs simultaneously that previous studies have either neglected or treated in isolation.

Last, this study enriches existing contributions in tourism that have adopted the PROCESS methodology for the development of moderated mediation analysis (e.g., Aleshinloye et al. 2019; Letheren, Martin and Jin 2017; Liu, Pennington-Gray, and Krieger 2016; Patwardhan et al. 2020; Pham, Tučková, and Jabbour 2019; Ribeiro et al. 2018). Specifically, the model posited ascription of responsibility as a mediator of the relationship between awareness of tourism's negative environmental consequences and environmentally responsible behavior, with environmental sensitivity and place attachment as moderators of the relationships between awareness, responsibility ascription, and behavioral intentions, respectively. Results from thousands of bootstraps on data collected from several hundreds of tourists and residents overall support the model and show that responsibility ascription mediates the relationship between awareness of tourism's negative environmental consequences and behavioral intention, with environmental sensitivity and place attachment moderating the mediation.

However, for residents, place attachment is the strongest moderator and responsibility ascription a full mediator; for tourists, mediation is partial and environmental sensitivity is the strongest moderator. In addition, whereas place attachment increases with the number of visits and the length of stay, awareness of tourism's negative environmental consequences, environmental sensitivity, ascription of responsibility, and, ultimately, tourists' environmentally responsible behavior remain invariant. Such findings integrate existing research on residents' versus tourits' drivers of sustainable behavior (e.g. Yu et al. 2011; Passafaro 2020).

6. Managerial implications

Several managerial implications emerge from the present research. First, developing awareness of the negative environmental consequences of tourism is important to developing strong responsibility ascription and, consequently, proactive, environmentally responsible behavior. Hence, destination managers and local governments should make tourists aware of their impact on the destination. This can be achieved, for instance, through ad-hoc campaigns to increase sensitivity to environmental issues related to tourism and by facilitating interaction between tourists and residents of the destination location. These campaigns could take place also before a visit, with the collaboration of tour operators and travel agencies (Cheng and Wu 2015). Furthermore, beyond the message and the target decisions, it would be important to determine the frequency and timing of these campaigns to increase pro-environmental behaviors. Targeted communication could provide policymakers the opportunity to activate tourists' and residents' ascription of responsibility, which our findings suggest influences environmentally responsible behavior. Besides, policymakers could communicate the negative consequence of tourism together with the importance of pro-environmental values, to build environmental sensitivity in the recipients. In this vein, policymakers could help tourists co-create value with residents (Lin et al. 2017).

Second, the present research highlights the importance of primary stakeholders' perceptions of the issue of awareness of tourism's negative environmental consequences in formulating a bilateral understanding (tourists and residents) of the intention to behave in an environmentally sustainable way. In this case, destination managers should listen to residents, to understand their beliefs about tourism and its impact on their everyday lives. This would help local communities feel more strongly that they are part of the city and become more involved in destination management and integrated into the tourism-related value creation process. Ultimately, residents could be important not only for destination planning and development but

also for enhancing the level of hospitality and goodwill toward tourists. This could be a win-win strategy, to help residents and tourists together create the value of tourism. This goal can be achieved only if its awareness is shared and communicated (Lin et al. 2017).

Third, a key dimension in the conceptual model is the ascription of responsibility. Beyond communicating the potential negative environmental consequences of tourism to both tourists and residents, to make them more aware, destination managers and policymakers should improve and cultivate a sense of responsibility toward environmental issues: for instance by communicating the consequences of individual behaviors that, although individually bearable, when cumulated over thousands of people become unbearable (e.g., throwing litter on the streets).

Further, the findings from the present research show that having a high sense of responsibility is key to developing positive behavioral intentions, but so is having a sense of place attachment. This evidence holds not only for residents but also for tourists, particularly for those loyal tourists who have visited the destination more than once and who stay for longer. As place attachment for nonresidents is affected by the presence of local events for both tourists (Scarpi et al. 2019) and residents (Hixson, Vivienne, McCabe, and Brown 2011), destination managers could increase place attachment by engaging tourists and residents in the life of the destination via events. Social and cultural events might be particularly easy in locations that are so famous that they are overcrowded by tourists, given the wealth of associations they evoke in people's minds.

Finally, in the considered context, the government has decided to apply an "entrance" fee to short-staying tourists, and it often accuses short-stayers of representing a form of hit-and-run tourism. Other high-density touristic locations suffering from tourism have adopted or are considering adopting similar initiatives and make similar accusations of certain tourist groups, in addition to the tax applied in many locations of Europe to long-staying tourists. However, the

price discrimination between long- and short-staying tourists is not supported by the present findings, as no significant differences emerge in environmentally friendly behavioral intentions, environmental sensitivity, or responsibility ascription—neither for first-time and repeat tourists, in line with recent evidence (Joo et al. 2019), nor for short- and long-staying tourists. It seems that such taxes would not reduce the negativity of tourists. Instead, it would appear that more effort is required from the local government to build awareness, for instance, through education programs.

7. Limitations and future research

Like any study, the present case is not exempt from limitations. First, the findings refer to Venice. Hence, caution is needed before generalizing to less-known, less-endangered locations. We welcome studies applying the present model to different contexts, such as locations where natural attractions prevail over historical and artistic ones. Second, the survey of the present study was conducted during the winter vacation period. Future research could consider collecting data also during different time windows. However, the tourism flow in Venice is always high and relatively stable from month to month, and from year to year, at least since 2007 (Lenassi et al. 2016).

The present research has expanded the NAT framework by adding environmental sensitivity and place attachment. Future studies could expand it further, with other variables accounting for individuals' personal values, green self-identity, and personality traits, for instance. Another variable that future studies could address is emotional solidarity between residents and tourists (Joo and Woosnam 2019; Ribeiro et al. 2018), which could affect environmentally responsible behavior. Future research could also investigate how emotional solidarity could lead to improved sustainable tourism.

Further, recent literature has highlighted the importance of focusing on the negative environmental consequences (Lin et al. 2017; MacNeill and Wozniak 2018; Ng et al. 2017). The present study focused specifically on awareness of negative environmental consequences. However, as tourism's impact can also be social and economic (see, e.g., Ko and Stewart 2002; Lee and Back 2006), future research could also include these aspects in the model.

Additionally, future research could focus on the actions that policymakers and destination managers can undertake to make tourists aware of their environmental impact on a destination. This could be done via ad-hoc campaigns, where, beyond the message and the target decisions, it will be important to determine the frequency and timing of these campaigns to become effective at increasing pro-environmental behaviors.

Last, future research could investigate the effectiveness of entrance fees and other type of restrictions in improving the sustainability of tourism for destinations. This could be realized via the assessment of both residents and tourists of their perceptions of the new regulations that have been applied in Venice and other, similar destinations.

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Appendix

Table A.1

Construct measures for tourists and residents (*italics*):

Items	Cronbach alpha	AVE	CR
Awareness of tourism's negative environmental consequences (adapted from Lee and Back 2006)	.90 *.89*	.66 *.60*	.92 *.90*
1. Tourism makes this a worse place to stay			
2. This place is overcrowded because of tourism			
3. Tourism compromises the preservation of this place's beauty			
4. Tourism brings too much noise to this place			
5. Tourism compromises the preservation of the historic sites of this place			
6. This place is polluted because of tourism			
Environmental sensitivity (Cheng and Wu 2015)	.83 *.80*	.65 *.60*	.84 *.82*
1. I enjoy well-preserved environments			
2. I appreciate the environment of this place			
3. I care about the impact of my habits on the environments of this place			
Responsibility ascription (Landon et al. 2018)	.79 *.77*	.60 *.55*	.81 *.78*
1. It is my responsibility to minimize my impacts on this place			
2. I feel jointly responsible for tourism impacts on the environment			
3. Minimizing my impacts on the environment is my responsibility			
Place attachment (Kaplanidou et al. 2012)	.93 *.92*	.77 *.70*	.93 *.93*
1. I enjoy being in this place more than any place			
2. No other place can compare with this place			
3. Venice is the best place for events			
4. I am very attached to this place			
5. This place means a lot to me			
6. I feel like this place is part of me			

Items	Cronbach alpha	AVE	CR
Environmental behavior (Cheng and Wu 2015)	.86 *.83*	.65 *.56*	.88 *.84*
1. I try to solve the environmental problems in this place 2. I read the reports, advertising, and books related to the environments of this place 3. I discuss with others about environmental protection of this place 4. I try to convince companions to adopt positive behaviors in the environments of this place			

Table A.2. Means, standard deviations, correlations, and correlations.

Variables		Mean	St.Dev	1	2	3	4	5
1 Awareness	Tourists	5.55	1.50	1.00	-0.10	0.29	0.31	0.29
	Residents	*5.26*	*1.52*	*1.00*	*-0.22*	*0.11*	*0.28*	*0.13*
2 Sensitivity	Tourists	5.70	1.28	-0.10	1	0.12	0.06	-0.03
	Residents	*4.30*	*1.68*	*-0.22*	*1*	*0.13*	*-0.14*	*-0.09*
3 Responsibility	Tourists	6.04	1.18	0.29	0.12	1	0.02	0.29
	Residents	*5.48*	*1.30*	*0.11*	*0.13*	*1*	*0.03*	*0.44*
4 Place attachment	Tourists	5.27	1.72	0.30	0.06	0.02	1	0.31
	Residents	*6.05*	*1.40*	*0.28*	*-0.14*	*0.03*	*1*	*0.32*
5 Eco_behavior	Tourists	5.57	1.21	0.29	-0.03	0.29	0.31	1
	Residents	*5.39*	*1.20*	*0.13*	*-0.09*	*0.44*	*0.32*	*1*

Notes: Values for residents are in italics

Tables recalled in the text

Table 1. The moderated mediation analysis tourists and residents (in italics).

Hp	Path	Group	coeff	se	*t*	*p*	LLCI	ULCI
H1	Awareness on responsibility ascription	Tourists	0.87	0.14	6.21	0.000	0.59	1.14
		Residents	*0.45*	*0.10*	*4.41*	*0.000*	*0.25*	*0.64*
H2	Moderation of environmental sensitivity	Tourists	0.11	0.02	4.66	0.000	0.06	0.15
		Residents	*0.07*	*0.02*	*3.41*	*0.001*	*0.03*	*0.11*
H3	Responsibility ascription on environmentally responsible behavior	Tourists	0.52	0.11	4.59	0.000	0.30	0.75
		Residents	*0.75*	*0.19*	*3.90*	*0.000*	*0.37*	*1.13*
H4	Moderation of place attachment	Tourists	0.06	0.02	2.81	0.005	0.02	0.10
		Residents	*0.12*	*0.03*	*3.84*	*0.000*	*0.06*	*0.18*
Direct effect (awareness on behavior)		Tourists	0.14	0.04	3.85	0.00	0.07	0.21
		Residents	*0.05*	*0.04*	*1.26*	*0.21*	*0.03*	*0.12*

LLCI = lower limit confidence interval; ULCI = upper limit confidence interval.

Figures recalled in the text

Fig. 1 The conceptual model

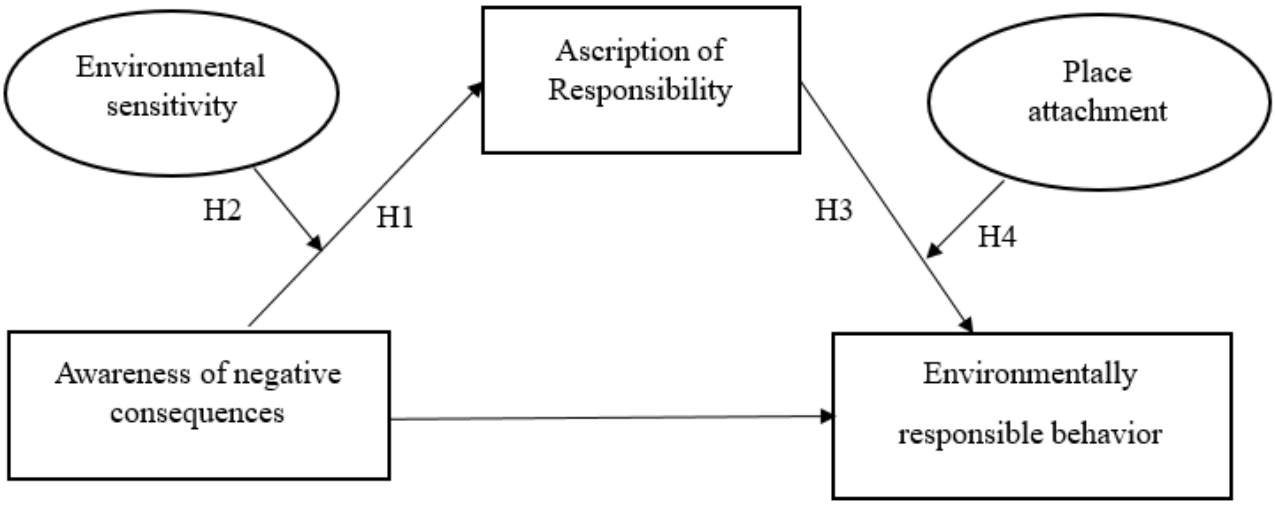
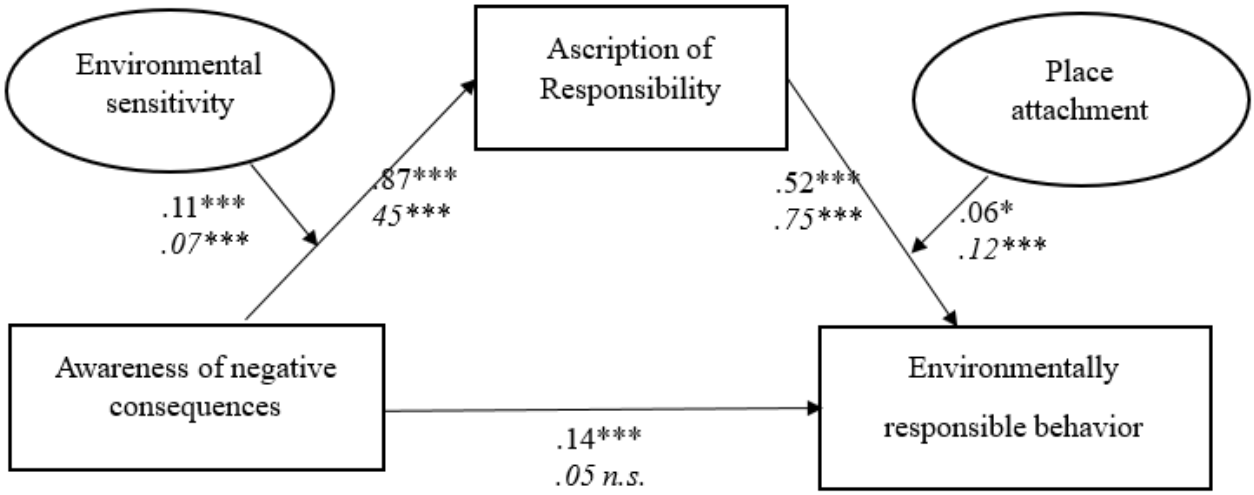
Fig. 2. The model with estimates for tourists and residents (in italics).