Eco-guilt in tourism: Do tourists intend to behave environmentally friendly and still revisit?

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ABSTRACT

Although the role of (eco)guilt is relatively well-established in the literature on environmentally-friendly behaviors, little empirical research has been dedicated to this topic in tourism. Nevertheless, this topic has been gaining special interest in a spate of recent publications on tourists' (eco)guilt worldwide. A natural question arises: What is the influence of (eco)guilt in the context of environmentally-friendly tourism behavior (EFTB) and how does it effect tourists' revisiting intention? To answer this question, data were collected via Amazon Mechanical Turk (MTurk) through a convenience sampling method. The hypothesized relationships were analyzed with structural equation modeling (SEM). The results of this study provide empirical evidence that (eco)guilt's effect on EFTB is significant and positive. Altogether, environmental concerns, environmental knowledge, and (eco)guilt explain more than three-quarters of EFTB variance. Regarding the persistent assumption of (eco)guilt's negative impact on revisiting intention, the results show that this direct relationship is insignificant. Instead, the indirect effect of (eco)guilt reveals itself to be positive and significant through EFTB. Implications of this study in tourism literature are outlined, along with its insights for tourism managers and marketers.

1. Introduction

Touristic activities create a chain of negative impacts on a destination's ecological health (López-Sánchez & Pulido-Fernández, 2016). Previous research supports the notion that tourists behave in a less environmentally friendly way when on vacation compared to their everyday life (Barr, Shaw, Coles, & Prillwitz, 2010; Dolnicar, 2010; Dolnicar, Laesser, & Matus, 2010; Juvan & Dolnicar, 2016). And yet, one's status as a tourist does not exclude that individual from the shared responsibility of protecting and preserving the environment of a destination. Indeed, destinations are invested in engaging initiatives that push tourists to be thoughtful in minimizing or even eliminating the negative environmental impacts of their activities whenever possible. Substantial research has been dedicated to environmentally friendly tourism behavior (EFTB), also known as green behavior or (eco) behavior. In essence, EFTB is intended to lower the ecological footprint of tourists while vacationing (Dolnicar, Crouch, & Long, 2008). Destination marketers have attempted to promote such behaviors at various stages, whether by sending information prior to arrival at the destination, signing tourism pledges (in the case of Iceland), or engaging tourists during their visit.

A great deal of research has been dedicated to studying EFTB, from which a number of variables and models have been proposed. Recently, with the formation of an (eco)guilt/shame culture among tourists, the role of emotions as a stimulus for EFTB is attracting strong interest from tourism scholars and practitioners. According to the 'affect as information' theory, emotions are behavioral stimuli (Schwarz, 2011). The general literature recognizes that (eco)guilt is an action-oriented emotion that influences environmentally friendly behaviors (Bissing-Olson, Fielding, & Iyer, 2016; Juvan & Dolnicar, 2017; Mallett, 2012; Rees, Klug, & Bamberg, 2015). Thus, (eco)guilt is an awareness of or concern over environmentally harmful behaviors (Mallett, 2012). Considerable research suggests further exploration of (eco)guilt appeals in marketing communications to foster prosocial behaviors, including environmentally friendly behaviors (Antonetti, Baines, & Jain, 2018; Antonetti & Maklan, 2014; Elgaaied, 2012). However, this relationship is not as systematic as expected (De Hooge, 2019). O'Keefe (2000) indicated a 'threshold of guilt', after which a counteracting effect such as 'reactance' is likely to be experienced. For instance, Burnett and Lunsford (1994) recognize that guilt influences repeated purchasing intentions from a level of discouragement to a potential total avoidance of the product or service.

Although the effect of guilt in environmentally friendly behavioral intentions in tourism has been documented by a handful of studies (Han & Hyun, 2018; Han, Yu, & Kim, 2018; Juvan & Dolnicar, 2016), this branch of literature is still nascent and calls for more research (Juvan & Dolnicar, 2017). While the role of guilt is cherished as a potential influencer for prosocial behaviors, its impact on other behaviors remains debatable. Considering that guilt is a type of negative emotion tangled in subjective distress and non-pleasurable situations, red flags are raised over its influence on tourists' behavioral intentions (Bonsu, Godefroit-Winkel, & Chelariu, 2017). Indeed, Font and Hindley (2017) argue that induced guilt behaviors in tourism are associated with denial, discomfort, dissonance, and even an increase of unsustainable products. Negative emotions, including guilt, have a significant negative effect on revisiting intentions (Han & Back, 2007; Su, Swanson, & Hsu, 2018). And yet, how the individual effect of guilt translates in the context of tourists' revisiting intentions remains to be investigated, especially considering the detrimental role of this issue in the long-term success of a destination. To the best of authors' knowledge, the relationship between (eco)guilt and tourists' revisiting intentions remains uninvestigated.

Considering these gaps in the literature, the purpose of this study is twofold: a) to examine the impact of (eco)guilt on EFTB empirically, and b) to investigate the effect of (eco)guilt on tourists' revisit intentions. This study contributes to the tourism literature by providing empirical evidence on the role that (eco)guilt plays as a trigger of EFTB and the impact on revisiting intentions. Insights into the role of (eco)guilt present an attractive opportunity to destination marketers and managers to nudge tourists toward EFTB. Due to the unique characteristics of tourism, this study assists destination marketers and managers with empirical evidence on the significance of (eco)guilt's impacts on tourists' revisiting intentions. The remainder of the paper is organized as follows. The next section consists of a literature review of EFTB, (eco) guilt, and the theoretical relationships among variables. Sample, research design, data collection, and data analysis are discussed in the subsequent methodology section. Results are then presented in detail, followed by a discussion of the implications and limitations of the study. Lastly, the recommendations for future research are presented.

2. Literature review

2.1. (Eco)Guilt

Guilt is a constructive dysphoria (Leach, 2017), which is formed when a behavior does not meet one's personal moral standards (Tangney & Dearing, 2002). Indeed, the emotion of guilt is labeled as a self-conscious, action-oriented, and prosocial emotion as it leads the consumer toward reparative and compensatory action (Bamberg & Möser, 2007). Guilt takes three primary forms: guilt related to others, guilt related to society, and guilt related to the self (Dahl, Honea, & Manchanda, 2003). Regardless of its source, guilt can restrain individuals from making unethical choices (Gregory-Smith, Smith, & Winklhofer, 2013). Indeed, guilt fosters an acceptance of personal responsibility (Folkman, Lazarus, Gruen, & DeLongis, 1986). However, some studies argue that this relationship is not as systematic as expected (De Hooge, Nelissen, Breugelmans, & Zeelenberg, 2011). Graton and Mailliez (2019) argue that guilt should be explored through a critical lens that takes into account the source of the emotion, cognitive processes, and prosocial behavior. Nevertheless, based on the theory that 'feeling is for doing', research into guilt's emotional impact on behavior is growing.

Guilt-induced behaviors are a topic of focal interest in persuasive marketing communications (Brennan & Binney, 2010; Chédotal, Berthe, de Peyrelongue, & Le Gall-Ely, 2017; Prayag & Soscia, 2016; J.; Singh, Crisafulli, & Paurav, 2017; Soscia, Prayag, & Hesapci, 2019), particularly in prosocial contexts such as donations (Basil, Ridgway, & Basil, 2008; Chang, 2011; Hibbert, Smith, Davies, & Ireland, 2007) and engagement with pro-environmental behaviors (Adams, Hurst, & Sintov, 2020; Bissing-Olson et al., 2016; Chang, 2012; Ha & Kwon, 2016;

Schneider, Zaval, Weber, & Markowitz, 2017). Following the premise of cognitive dissonance theory, disconfirmation between actual behaviors and potential pro-environmental behaviors can result in guilt formation (Festinger, 1957; Juvan & Dolnicar, 2016), which can further influence engagement with environmentally friendly behaviors (Bissing-Olson et al., 2016). In light of increased environmental threats, it is essential to explore triggers of environmentally friendly behaviors, including guilt-induced behaviors. Some studies argue that when referring to nature at large, given that it is an abstract concept, perceived personal responsibility, and associated guilt by extension, can be low (Böhm, 2003; Tam, 2019). Certainly, the level of guilt varies depending on whether an individual feels he/she should have engaged in environmentally friendly behaviors (Sudindranath, 2012). Mallett (2012) refers to this type of guilt as (eco)guilt and defines it as the guilt that "that arises when people think about times they have not met personal or societal standards for environmental behavior" (p. 223). In this study, (eco)guilt is contextualized as guilt resulting from the self-perceived negative environmental impacts of touristic activities.

Literature regarding the role of (eco)guilt in environmentally-friendly behaviors is well developed in other disciplines, but has only recently garnered attention from the tourism community. While the economic benefits of tourism drive the excitement of destinations about tourism development, there are also unneglectable environmental issues that arise from the high ecological footprint of tourism activities. Some of the negative environmental impacts of tourism are manifested in the decrease of environmental quality of a destination, including over-consumption and depletion of natural resources and increased pollution levels. Tourists are major stakeholders in this issue, and their motivations to behave in an environmentally friendly manner while on vacation can increase the efforts to prevent or minimize tourism's negative impacts. In line with the mainstream literature on environmentally friendly behaviors, (eco)guilt can provide useful insights into tourism studies. A number of hospitality and tourism studies have investigated guilt's influence on specific environmentally friendly behavioral intentions, such as waste reduction (Han et al., 2018), pro-environmental behaviors at a museum (e.g. conserving water, reducing waste, recycling, and consuming local food) (Han & Hyun, 2017), water conservation intention and towel reuse intention (Han & Hyun, 2018), attending an environmentally-friendly convention (Han, 2014), and purchase of carbon offsets (Juvan & Dolnicar, 2017). The results of these studies point to a significant impact of guilt, be it anticipated guilt (Han et al., 2018), guilt associated with a specific behavior (Juvan & Dolnicar, 2017), or guilt as part of anticipated negative emotions (Han & Hyun, 2017). With the increased environmental awareness of tourists and the formation of a global (eco)guilt culture of tourists (Mkono & Hughes, 2020), the investigation of (eco)guilt becomes a highly relevant and timely topic for tourism studies that offers a valuable contribution to the tourism field. Taken together, the literature supports the following hypothesis:

H1. (Eco)guilt positively influences environmentally friendly tourism behaviors.

Emotions play an essential role in influencing consumers' behaviors (Donovan, Rossiter, Marcoolyn, & Nesdale, 1994; Lai, Yang, & Hitchcock, 2020; Lerner, Li, Valdesolo, & Kassam, 2015; Ryu & Jang, 2007). Since the 1980s, a great deal of research in consumer behavior literature has been dedicated to the effects of guilt as a marketing persuasion tool (Kayal, Rana, & Simintiras, 2018). Guilt is known to provoke a number of consumer responses, including satisfaction (Lunardo & Saintives, 2018), preference (Peloza, White, & Shang, 2013; Pestana, Parreira, & Moutinho, 2020), impulse buying (Haugtvedt, Herr, & Kardes, 2018), pre-commitment to loyalty programs (Kivetz & Simonson, 2002), and repurchase intentions (Bonsu et al., 2017; Burnett & Lunsford, 1994). In the last decade, the influence of emotions in repurchase behaviors has been investigated with high interest (Han, Nguyen, Song, Lee, & Chua, 2019; Nawijn & Fricke, 2015; Simanjuntak, Nur, Sartono, & Sabri, 2020). Su et al. (2018) conclude that negative emotions also affect

tourists' revisit intentions.

The concept of revisit intentions has been widely researched in tourism literature, and denotes the possibility of tourists returning for another visit to the same destination in the future (Forgas-Coll, Palau-Saumell, Sánchez-García, & Callarisa-Fiol, 2012; Sadat & Chang, 2016). Destinations benefit in various ways from revisiting tourists. In addition to the reduced marketing efforts when compared with first-time tourists, higher consumption, more extended stays, spread of positive word of mouth, and realistic expectations have all been positively associated with revisiting tourists (Khan, Maltezou, & He, 2019; Lehto, Cai, O'Leary, & Huan, 2004; Pike & Page, 2014; R.; Singh & Singh, 2019). With regard to emotional influence, Han and Back (2007) argue that negative emotions influence revisit intentions more than positive emotions. Su et al. (2018) further aver that tourists' negative emotions hurt their revisit intentions in a destination. Considering that guilt is a type of negative emotion tangled in subjective distress and non-pleasurable situations, its influence on revisit intentions should be of great concern. According to coping theory, engagement and disengagement strategies can be utilized when dealing with negative emotions (Miller & Kaiser, 2001). Empirical evidence confirms that guilt negatively impacts repurchase intentions toward luxury goods (Ki, Lee, & Kim, 2017) and impulsive buys (Aydin & Ünal, 2015). These findings further align with attribution theory in that customers who understand the negative impacts of their purchases are more likely to regret their decisions (Soscia, 2007). However, how the guilt translates in the context of tourists' revisit intentions remains to be investigated, especially considering the detrimental role this issue has in the long-term success of a destination. Following the literature, this study posits the following hypothesis:

H2. (Eco)guilt influences negatively tourists' revisit intentions.

2.2. Environmentally-friendly tourism behavior

Several competing definitions exist to describe environmentally-friendly tourist behavior (EFTB). These include environmentally-sustainable behavior, pro-environmental behavior, green behavior, ecological behavior, and (eco)behavior (T. Cheng, Woon, & Lynes, 2011; Dolnicar et al., 2008; Dolnicar & Grün, 2009; D. Li, Zhao, Ma, Shao, & Zhang, 2019 a; Zou & Chan, 2019). Kollmuss and Agyeman (2002) conceptualize environmentally-friendly behaviors as ethically-driven behaviors composed of intrinsic and extrinsic reactions in which individuals engage to protect the environment to meet the needs of present and future generations. Song, Lee, Kang, and Boo (2012) define EFTB as the conscious behavior of tourists toward reducing their environmental impact by purchasing (eco)friendly products and services. Juvan and Dolnicar (2016) refer to environmentally-sustainable tourist behavior as "the tourist behavior which does not negatively impact the natural environment (or may even benefit the environment) both globally and at the destination" (p. 31). In this study, EFTB refers to tourists' behavior with the intent to minimize or eliminate the negative environmental impacts of their touristic activity in a destination. Broadly speaking, environmentally friendly behaviors fall under the umbrella of civilized behaviors (Liu, An, & Jang, 2020). Literature recognizes a number of factors that influence EFTB, such as socio-demographic characteristics (age, gender, education, income, and social networks) (Diamantopoulos, Schlegelmilch, Sinkovics, & Bohlen, 2003), psychographics (environmental knowledge, environmental attitude, moral concern, ethical motives and judgment, and religiosity) (Do Paço & Raposo, 2008), contextual variables (Ertz, Karakas, & Sarigöllü, 2016; Tremblay & Dunlap, 1978), and emotions (Graton & Mailliez, 2019; Mallett, 2012).

EFTB encompasses a number of behaviors, such as careful water use, low electricity consumption, use of public transportation, purchase of green products versus traditional polluting products (e.g. renting electric cars, consuming green products, purchasing from green-certified tourism organizations), and minimizing waste production (e.g.

recycling, reusing products, zero-food waste approach) (Barr, Gilg, & Shaw, 2011; Dolnicar, Juvan, & Grün, 2020; Iaquinto, 2015). Several studies have segmented tourists based on their response to the environmental impacts of touristic activities (Dolnicar, 2010; Lee & Jan 2019; Zografos & Allcroft, 2007). Dolnicar et al. (2008) describe the characteristics of an environmentally-friendly tourist as an individual with higher education and income levels, being female, professionally active, interested in learning, culture, and adventure, and possessing more significant environmental concern and awareness. A number of studies have investigated EFTB through several theoretical lenses such as cognitive dissonance theory (Festinger, 1957), identity theory (Stryker, 1968), the theory of planned behavior (Ajzen, 1991), the value belief norm theory of environmentalism (Stern, Dietz, Abel, Guagnano, & Kalof, 1999), and the theory of environmentally-significant behavior (Stern, 2000). The nomological network of EFTB is composed of a number of well-studied antecedents such as norms, attitudes, perceived behavioral control, and new ones such as environmental knowledge and concerns (G. Li, Li, Jin, & Wang, 2019 b). Indeed, environmental knowledge and concerns have a considerable explanatory contribution to EFTB in contexts related to purchase behaviors (Albayrak, Aksoy, & Caber, 2013; Chan, Hon, Chan, & Okumus, 2014; T. M.; Cheng & Wu, 2015; De Hooge, 2019; Hedlund, 2011; M.S.; Kim & Stepchenkova, 2020; Newton, Tsarenko, Ferraro, & Sands, 2015; Wurzinger & Johansson, 2006; Yusof, Rahman, & Iranmanesh, 2016).

Environmental knowledge is "factual information that individuals have about the environment, the ecology of the planet, and the influences of human actions on the environment" (Arcury & Johnson, 1987, p. 32). It has been widely accepted that environmental knowledge is related to attitudes and behavior (Abdullah, Samdin, Teng, & Heng, 2019; Ardoin, Wheaton, Bowers, Hunt, & Durham, 2015; Hungerford & Volk, 1990). Most importantly, environmental knowledge is a precondition for responding to environmental issues (Liefländer, Bogner, Kibbe, & Kaiser, 2015; Martínez-Martínez, Navarro, García-Pérez, & Moreno-Ponce, 2019). Fraj, Matute, and Melero (2015) included that environmental knowledge stimulates the adoption of environmentally friendly behaviors and is therefore a vital antecedent to consider. In tourism, the role of environmental knowledge influences tourists' selection of sustainable transportation (Higham, Cohen, Cavaliere, Reis, & Finkler, 2016), selection of (eco)certified tourism products (Gössling & Buckley, 2016), intentions to visit environmentally friendly museums (Han & Hyun, 2017), attraction to eco-tourism products (Lee, Hsu, Han, & Kim, 2010), and intentions to visit green hotels (Chan et al., 2014; Han & Yoon, 2015; Wang, Wang, Wang, Yan, & Li, 2018). In this study, environmental knowledge is contextualized as the knowledge of tourism's negative environmental impacts.

Environmental concerns constitute another essential influencing factor for environmentally friendly behavior (Han, Hsu, & Sheu, 2010). Environmental concerns are critical perceptions of environmental problems (Do Paco & Raposo, 2009; Han et al., 2010). Dunlap and Jones (2002) defined environmental concerns as "the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate the willingness to contribute personally to their solution" (p. 485). In the context of this study, environmental concerns are defined as tourists' awareness of environmental problems related to tourism. Consumer psychology and marketing recognizes environmental concerns as substantial influential factors not only in the tendency to perform environmentally friendly behaviors (Hedlund, 2011; M. J. Kim & Hall, 2020; Yunhi Kim & Han, 2010), but also in the willingness to pay for green products (Shin, Im, Jung, & Severt, 2018), the purchase of (eco)friendly products (Yeonshin Kim & Choi, 2005), and a number of other consumption decisions (e.g. Hartmann and Apaolaza-Ibáñez (2012); Polonsky, Vocino, Grau, Garma, and Ferdous (2012); Pagiaslis and Krontalis (2014)). Drawing from previous literature, it is expected that both environmental knowledge and concerns would be significantly predictive of tourists' environmentally friendly behaviors. Therefore, the following relationships are proposed as

hypotheses:

H3. Knowledge of tourism's negative environmental impacts positively influences EFTB.

H4. Environmental concerns positively influence EFTB.

As tourists become more conscious of their negative environmental impacts, the environmental quality of a destination shifts from a passive attribute to a dynamic one (Shin, Im, Jung, & Severt, 2019). The environmental quality of a destination has been shown to influence revisit intentions (Um, Chon, & Ro, 2006). Thus, tourists' engagement with environmentally friendly behaviors helps co-create environmental quality of the destination with an impact on touristic experience. Previous literature shows that tourists' engagement activities influence their behavioral intentions, of which revisit intentions are a primary example (Brodie, Hollebeek, Jurić, & Ilić, 2011; Patterson, Yu, & De Ruyter, 2006; Vivek, Beatty, & Morgan, 2012). The relationship between customers' engagement and repurchase intention is proven in the broader consumer literature (Chen & Chen, 2017; Pansari & Kumar, 2017; Vivek et al., 2012) and in event-based tourism (Azam, Rashid, & Zainol, 2017; Scarpi, Mason, & Raggiotto, 2019). At the destination level, Bryce, Curran, O'Gorman, and Taheri (2015) demonstrated that tourists' engagement leads to a positive relationship with the destination and is reflected in loyalty outcomes. Following this body of literature, it is argued that environmentally friendly tourism behaviors lead to revisit intentions as shown in the following hypothesis:

H5. EFTB influences tourists' revisit intentions.

The conceptual model with the hypothesized relationships between variables is presented in Fig. 1. The definitions of this study's variables are tabulated in Table 6.

3. Methods

3.1. Sample

This study was designed to investigate the role of (eco)guilt in tourists' environmentally friendly behaviors and revisit intentions. To analyze these relationships, the Caribbean Islands were selected as destinations for two main reasons. First, the Caribbean Islands have tourism-dependent economies with a high daily tourist density per population (Caribbean Tourism Organization (CTO), 2018). Second, it has been acknowledged that the Caribbean Islands are experiencing worrisome environmental impacts as a result of touristic activities

(Seraphin, Zaman, Olver, Bourliataux-Lajoinie, & Dosquet, 2019). Based on the literature about the cultural dependence of guilt (Wong & Tsai, 2007), it was necessary to focus on a country as a proxy for cultural similarity. Hence, this study's focus on American tourists, who comprise the biggest tourism market for the Caribbean Islands (Caribbean Tourism Organization, 2018). In an attempt to limit the effect of retrospective bias, the targeted sample was limited to U.S. residents who had vacationed in the Caribbean Islands in the last two years.

To ensure that the data were collected from the target sample, a series of filtering questions were posed, including "Are you a resident of the United States?" and "Have you vacationed in any of Caribbean countries in the last two years?" Those who responded negatively were redirected to exit the survey. The study employs a convenience sampling technique, in which the target respondents answered the survey based on their availability. In social sciences, convenience sampling has increasingly been favored by internet-based sampling, such as the Amazon Mechanical Turk (MTurk) platform. The sample size was based on the rule of thumb of 10 observations per indicator in order to have an adequate sample size for structural equation modeling (Hair, Black, Babin, Anderson, & Tatham, 2006; Nunnally, 1970).

3.2. Research design

A cross-sectional structured self-administered web survey design was employed for this study. The survey was designed in Qualtrics and distributed via MTurk. This study adopted the scales for different constructs from previous literature as shown in Table 8. In order to measure tourism's negative impacts, six items were adopted from a study by Poudel, Nyaupane, and Budruk (2016). For EFTB, four items were adopted from Song et al. (2012), which was helpful for being conducted in a tourism context and thus yielding environmental concerns scale items. After discussions with regard to the relevance of the scale items in this study's context, the authors modified the existing scale by dropping two of its items. Regarding measurement of (eco)guilt, this study utilized the guilt subscale of the State Shame and Guilt Scale (SSGS) (Marschall, Sanftner, & Tangney, 1994). Said guilt subscale, composed of three items, has been shown to have convergent validity (Fedewa, Burns, & Gomez, 2005), construct validity (Tilghman-Osborne, Cole, Felton, & Ciesla, 2008), and internal consistency/reliability (Bottera, Kambanis, & De Young, 2020; Levinson, Byrne, & Rodebaugh, 2016; Odou, Darke, & Voisin, 2019). Lastly, revisit intention construct items reflected revisit propensity, revisit willingness, and revisit probability in the near future (Horng, Liu, Chou, & Tsai, 2012; Hung, Lee, & Huang, 2016; Zhang, Xu, Leung, & Cai, 2016). Thus, the revisit intentions scale had three items
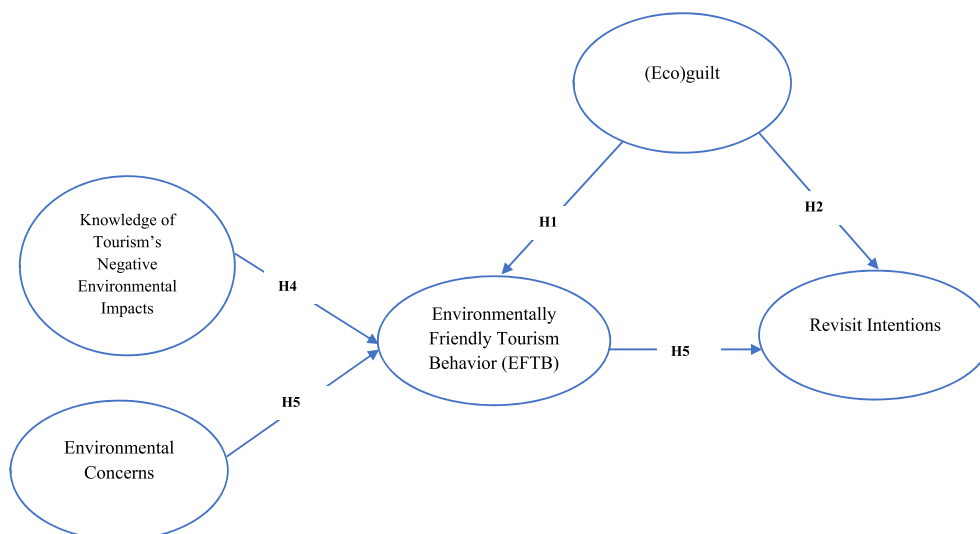

Fig. 1. Conceptual model.

and was modified from a study by Zhang, Wu, and Buhalis (2018). The responses were recorded in a 5-point Likert scale rating from 1 (strongly disagree) to 5 (strongly agree). The categories of demographic data (age groups, ethnicity, gender, education, income, marital status, and employment situation) were developed based on the U.S. Census format, as shown in Table 7.

3.3. Data collection

For the purpose of this study, two data collections were conducted: one for the pilot test and the other for the analyzed data. Fifty data points were collected for the pilot test from social media platforms, and feedback was received about the clarity of the items. The results of the pilot test were analyzed by two senior researchers, whose feedback led to minor refinements of the survey items. Given the study's interest in U. S. travelers, MTurk was considered a suitable data collection source. Despite the critiques of MTurk sampling leaning toward relatively educated and younger individuals, a number of studies argue that its results are comparable with sampling conducted face-to-face, by mail, or via telephone (Buhrmester, Kwang, & Gosling, 2016; Clifford, Jewell, & Waggoner, 2015; Heen, Lieberman, & Miethe, 2014). Furthermore, MTurk sampling has been shown to be of comparable or better quality than student and professional panel samples (Kees, Berry, Burton, & Sheehan, 2017). Indeed, the most recent methodological assessments of MTurk confirm its status as a data source fit for publishable research (Landers & Behrend, 2015; Lowry, D'Arcy, Hammer, & Moody, 2016). Data were collected in several batches in order to capture a diversified group of targeted respondents. A total of 450 respondents successfully passed the screening and attention check questions. After eliminating insufficient replies, a total of 410 valid responses were used for further analysis.

3.4. Data analysis

The data were analyzed with a two-step approach (Anderson & Gerbing, 1988). Confirmatory factor analysis (CFA) was conducted in the first step to test the validity of the measurement scales (Hair et al., 2006). CFA tests whether the hypothesized relationship between observed variables and their underlying latent constructs exists. Structural equation modeling (SEM) was then used to analyze the hypothesized relationships among variables by examining them with empirical data. The data were analyzed using SPSS and AMOS software.

4. Results

4.1. Preliminary analysis

Data were screened for missing values, outliers, and distribution. The results showed no issues with outliers and that the data followed the normal distribution (George, 2011). Data were also checked for common method bias via Harman's single-factor test. The results revealed that the study was free of common method bias with a variance of 27.64%, which is lower than the threshold value of 50% (Podsakoff & Organ, 1986). Further, exploratory factor analysis (EFA), the Kaiser-Meyer-Olkin (KMO) test, and Bartlett's test of sphericity were utilized to investigate the sampling adequacy prior to CFA. The KMO value was 0.859. According to the KMO test (Kaiser & Rice, 1974), these results are considered meritorious, while Hair et al. (2006) classify them as good. Bartlett's test of sphericity (χ^2 (df = 153) = 3782.593, p < 0.001) reveals statistical significance, which means that the null hypothesis that variables are unrelated and not suitable for structure detection is rejected (Hair, Black, Babin, Anderson, & Tatham, 1998). Based on these results, the sample met the criteria to be adequate for further analysis.

The demographic analysis revealed that respondents of the study resided in 44 of the United States and had vacationed in 33 of the Caribbean Islands. The sample is balanced gender-wise, with 50.50% comprised of female respondents. Age-wise, the sample was dominated by Generation Y (64.60%), followed by Generation X (18.80%). Overall, the married with children (33.4%) and single (29.76%) categories dominated the sample. Ethnicity-wise, the sample was dominated by white Caucasians (71.15%). A large portion of the respondents had a post-secondary non-degree award (43.52%), and most worked 40 or more hours per week (71.64%). About 69.76% of respondents took a flight for their vacations to the Caribbean Islands, while others took a cruise. Other details about demographics are presented in Table 7 in the Appendix.

4.2. Confirmatory factor analysis (CFA)

Confirmatory factor analysis (CFA) was performed to evaluate a four-factor model as the first step of analysis. The results reveal a good model fit with satisfactory values such as χ^2 (129) = 311.682, p < 0.001, and $\chi^2/df = 2.416 < 5$ (Hair et al., 1998). Furthermore, other goodness-of-fit statistics presented in Table 1 indicate a good theoretical model fit based on the reference values ($1 < \chi^2/df < 5$, $0.90 < CFI < 1$, $0.90 < NFI < 1$, $0.90 < IFI < 1$, $0.95 < TLI < 1$, RMSEA < 0.08) (Awang, 2012; Bollen, 1989; Hair et al., 1998; Kline, 2005).

The reliability of the latent variables' scales was measured by three statistics: (1) Cronbach's alpha, (2) average variance extracted (AVE), and (3) composite/construct reliability (CR). The results are presented in Table 2. The Cronbach's alpha coefficient is used for consistency of reliability. Loadings of items higher than 0.7 are said to demonstrate reliability (Nunnally, 1970). Considering that the environmental concerns scale has only two items, its inter-item correlation is further investigated with the split-half method as suggested by Eisinga, Te Grotenhuis, and Pelzer (2013). The results revealed a Spearman-Brown coefficient of 0.776, which indicates reliability of the total scale (Hulin & Cudeck, 2001).

Further, the convergent and discriminant validity values were analyzed. The average variance extracted (AVE) statistic indicated convergent validity with values higher than < 0.50 (Hair et al., 1998). Discriminant validity was judged by comparing the values (presented in Table 3) of the squared roots of AVEs with inter-construct correlation (Fornell & Larcker, 1981). Results confirm satisfactory discriminant validity overall. The small number of items about environmental concerns do not meet the requirement for validity. However, these were kept for further analysis as contributions to the explanatory power of the model. The performance of the measurement scale was confirmed to be appropriate to continue with the second step of analysis (see Table 4).

4.3. Structural equation modeling (SEM)

The second step of analysis consists in assessing the overall structural model fit statistics. The results reveal a good fit of the model with χ^2 (130) = 416.102, p < 0.001, and $\chi^2/df = 3.201 < 5$. Furthermore, other goodness-of-fit statistics indicate a good model fit based on the reference values of the indicators (Awang, 2012; Bollen, 1989; Hair et al., 1998; Kline, 2005).

The model proposed for the study revealed significant relationships between variables, confirming the hypothesized relationships, except

Table 1

CFA results for the model's goodness-of-fit (GoF).

GoF statistics	Results
χ^2/df	2.416
Comparative fit Index (CFI)	0.951
Normed fit Index (NFI)	0.919
Incremental fit index (IFI)	0.951
Tucker-Lewis fit Index (TLI)	0.941
Root mean square error of approximation (RMSEA)	0.059

Table 2
Measurement model results.

Measurement scale	Standardized Loadings	AVE	Composite Reliability	Cronbach's Alpha
Environmentally Friendly Tourism Behavior (EFTB)				
I try to purchase environmentally friendly tourism products and services if possible.	0.750	0.556	0.833	0.834
I think about how tourists' behaviors could impact natural environments.	0.740			
I try to minimize my tourism behaviors to influence natural environments.	0.751			
I prefer nature-based or (eco)tourism.	0.743			
Environmental Concern (EC)				
Tourists should be required to use recycled materials during their stay.	0.779	0.629	0.772	0.772
Non-recyclable tourism products should be taxed to reduce waste generated	0.807			
Tourism's Negative Environmental Impacts (Environmental Knowledge)				
Tourism destroys the natural environment	0.734	0.579	0.892	0.891
Tourism increases air, water, and noise pollution	0.795			
Tourism increases environmental problems such as littering and wastewater discharge	0.757			
Tourism produces long-term negative effects on the environment	0.786			
Construction of hotels and other tourist facilities destroy the natural environment	0.705			
Tourism development encourages deforestation	0.787			
(eco)Guilt				
I want to hide my environmental impacts	0.850	0.652	0.849	0.849
I feel worthless, powerless about my environmental impacts	0.779			
I feel humiliated, disgraced about my environmental impacts	0.793			
Revisit Intentions				
I will tend to visit the destination again	0.871	0.678	0.863	0.861
I would love to come to the destination again	0.773			
I think I will come back to destination in the near future	0.824			

Note: All factor loadings are significant at 0.05, N = 410.

for H4. While the direct effect of (eco)guilt on revisit intentions is not significant, its indirect effect is significant. The variance explained was 3% for revisit intentions and 76.70% for EFTB. The hypotheses results are presented in Table 5. The results of the study are illustrated in Fig. 2.

Table 3
Discriminant and convergent validity.

		1	2	3	4	5	AVE
1	EFTB	**0.556**					0.746
2	Environmental Concerns	0.757	**0.629**				0.793
3	TNEI	0.171	0.026	**0.579**			0.761
4	(Eco)Guilt	0.013	0.075	0.143	**0.652**		0.807
5	Revisit Intentions	0.013	0.026	0.002	0.006	**0.678**	0.823

Note: *(1)* Diagonal cells contain average variance extracted (AVE) (**bold**); Off-diagonal cells contain squared inter-construct correlation. *(2)* Squared root of AVEs should exceed the inter-construct correlations for adequate discriminant validity.

Table 4
SEM results for the model's goodness-of-fit (GoF).

GoF statistics	Results
χ^2/df	3.201
Comparative fit Index (CFI)	0.923
Normed fit Index (NFI)	0.892
Incremental fit index (IFI)	0.923
Tucker-Lewis fit Index (TLI)	0.909
Root mean square error of approximation (RMSEA)	0.073

5. Discussion

Despite the existing body of literature on (eco)guilt's influence on environmentally friendly behaviors, little attention has been paid to this issue in tourism studies. The present study addresses this issue by empirically examining the role of (eco)guilt in environmentally friendly tourism behavior (EFTB) and further exploring its potential direct and indirect implications regarding tourists' revisit intentions. The first finding of the study is that, along with environmental knowledge and environmental concerns, (eco)guilt explains 76.70% of variance for EFTB. The impact of (eco)guilt on EFTB is direct and positive. In agreement with previous literature (Bissing-Olson et al., 2016; Han et al., 2018; Juvan & Dolnicar, 2017; Rees et al., 2015), and based on the theoretical premise of 'affect as information' (Schwarz, 2011), it is argued that (eco)guilt serves as a stimulus in provoking environmentally friendly behavior in tourism. The findings further imply that there is potential in (eco)guilt to nudge tourists toward lowering their ecological footprint. Therefore, the study calls for future studies to investigate guilt as a nudge of sorts, all while knowing that the literature indicates some conflicting results (De Hooge, 2019; De Hooge et al., 2011). Coulter and Pinto (1995) point out that guilt's effect varies between support and rejection of prosocial behaviors. O'Keefe (2000) further discusses the 'threshold' point for outcomes of guilt-induced behaviors. Following this discussion, it is urged that studies should take a wide-ranging approach when investigating guilt, including the source of guilt, the tourists' cognitive processes, and actual behaviors (Graton & Mailliez, 2019).

In spite of the tendency of general consumer and tourism literature to signal guilt as influencing repeat purchases, this was not supported by the findings of the present study. No direct significant relationship was

Table 5
Hypotheses test results.

Hypothesis	Standardized Coefficients	Hypothesis Supported
H1: (Eco)Guilt (+)→ EFTB	0.121***	YES
H2: (Eco)Guilt (−)→ Revisiting Intentions	0.094	NO
H3: TNEI (+)→ EFTB	0.168***	YES
H4: EC (+)→ EFTB	0.851***	YES
H5: EFTB (+)→ Revisit Intentions	0.134*	YES

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$, no sign = non-significant.
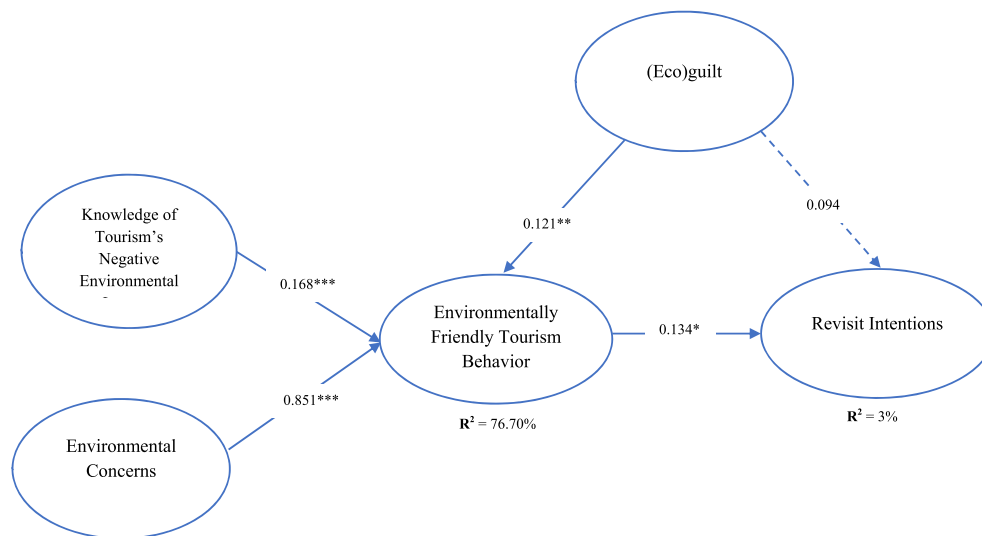
Fig. 2. Results for structural modeling analysis.

found between (eco)guilt and revisit intentions. The result differs from previous studies in which negative emotions were shown to be influential in repurchase or revisit intentions (Han & Jeong, 2013; Su et al., 2018). However, unlike previous studies, this study focused on (eco) guilt and not on negative emotions related to the overall touristic experience. In light of these differences, exclusive and meaningful insights are provided. Nevertheless, the role of (eco)guilt in revisit intentions should not be discounted only due to its insignificant direct effect. It is important to note that its indirect effect through EFTB has positive significance with regard to revisit intentions. In other words, the results suggest that provocation of tourists' (eco)guilt positively impacts their environmentally friendly behaviors, while it ensures a positive impact on their revisit intentions. While these results are optimistic, their explanatory power regarding revisit intentions is relatively weak (about 3%). This is partly attributed to the fact that while environmentally friendly behaviors may have some influence, they are not a core driver of tourists' revisit intentions when all the complex characteristics of a touristic experience are holistically considered (Gitelson & Crompton, 1984). Nevertheless, the empirical evidence regarding different aspects of environmental issues that influence revisit intentions such as a destination's social responsibility (Su et al., 2018), perceived quality of the environment (Sadat & Chang, 2016), overall green image in lodging (Han et al., 2010), and sustainability practices (Berezan, Raab, Yoo, & Love, 2013) indicates that the topic is becoming more relevant and prominent.

5.1. Theoretical and practical implications

The findings of this study advance tourism literature via two central theoretical contributions. First, the study provides empirical evidence of the role of (eco)guilt in tourism in two important outcomes: EFTB and tourists' revisit intentions. It builds upon previous studies by initiating a response to Juvan and Dolincar's (2017) study, providing evidence that (eco)guilt has a significant effect on EFTB. These findings pave the way for a new branch of literature in tourism as pertaining to the (eco)guilt appeals and (eco)guilt-induced behaviors. Furthermore, the results of this study underscore the importance of specifying the type of emotion and its context. While a number of studies try to study positive and negative emotions toward a complex experience, they risk glossing over uniquely recognizable insights for the behavioral outcomes of those emotions. For instance, shame and anger are both emotions with negative valence, but where guilt focuses on correcting behaviors, anger focuses on punishment of wrongdoers (Harth, Leach, & Kessler, 2013). Second, the study extends the literature of tourists' revisit intentions by

providing empirical evidence of their relationship with (eco)guilt. To the best of authors' knowledge, this relationship had yet to be examined in tourism, allowing this study to pioneer with its contributions. The results highlight that (eco)guilt does not pose a threat to revisit intentions but instead has an indirect desirable effect via EFTB. Lastly, in accordance with the previous literature, this study confirms that environmental knowledge and concerns are significant predictors of EFTB.

With such attention to the practical implications, this study offers unique insights to destination marketers and managers. The research findings, similar to previous studies (Dahl, Honea, & Manchanda, 2005; Peloza et al., 2013; Theotokis & Manganari, 2015), support the notion that inducing a sense of guilt serves as an underlying mechanism for increasing EFTB. Guided by the persuasive marketing literature, and previous effective results of guilt appeals in tourism (Prayag & Soscia, 2016; Soscia et al., 2019), tourism marketers should consider preparing persuasive marketing campaigns that make strategic use of (eco)guilt appeals. Furthermore, guilt appeals need to be credible (Coulter, Cotte, & Moore, 1999; Hibbert et al., 2007) and tailored for the context and type of guilt (Coulter & Pinto, 1995; Lwin & Phau, 2014) needed to produce the desired effect. Certainly, marketing messages that provoke (eco)guilt should be crafted cautiously to be impactful in provoking an emotional response from tourists (Brennan & Binney, 2010). They must exclude the doubt of manipulation and should not contain exaggeratedly negative information (Bessarabova, Turner, Fink, & Blustein, 2015; Peloza et al., 2013). Otherwise, guilt appeals can produce undesired effects, and even backfire (Chang & Chen, 2010). Employing (eco)guilt persuasive marketing strategies should be executed in conjunction with solutions (e.g. by providing infrastructure, information, and incentives for environmentally friendly behaviors) (Imran, Alam, & Beaumont, 2014). It is argued that when solutions are presented together with guilt appeals, customers are more likely to perform the suggested behaviors (Lwin & Phau, 2014). Hence, the importance of integrating marketing efforts and infrastructural support to implement EFTB successfully. This study suggests that EFTB results in positive impact on revisit intentions. While this relationship is relatively weak to explain revisit intentions, it nevertheless presents an interesting addition to the antecedents of revisit intentions. As tourism practitioners strategically consider promoting EFTB, they are more likely to inspire long-term appreciation from tourists of preservation and quality of environment, all while generating savings for the destination and relevant tourism organizations (Mihalič, 2000). Above all, perhaps, EFTB can improve local residents' negative environmental perceptions of tourism while creating a better quality of life.

5.2. Limitations and directions for future research

Despite its contributions, this study is not free of limitations. First, the study uses self-reported measures for the variables, which are prone to social desirability bias. Indeed, self-reported environmental behavioral measurements have been criticized for their lack of support regarding validity and reliability (Kormos & Gifford, 2014). Nevertheless, the self-reported measurements remain commonly used in social sciences in hope of more advanced measurements in the future. A consideration for future studies should be to collect data from observatories, or from other methods utilized by neuroscience or psychology that are specialized in capturing the emotion of guilt. Second, the accuracy of participants' responses suffers from the period of retrospection (up to 2 years) as it increases the risk of not recalling exactly the behaviors or (eco)guilt emotion. Therefore, the chances that participants may have over/under-reported their behaviors and feelings needs to be considered. Therefore, it may be of interest in future studies to consider collecting data from tourists during their vacations in the interest of eliminating any retrospection period.

Third, the data were collected exclusively via the MTurk platform, a validated online crowdsourcing market (Lowry et al., 2016; Steelman, Hammer, & Limayem, 2014). MTurk has been criticized in academic debates for being dominated by relatively young, well-educated, and frequent users (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010). A number of authors have argued that through proper control over the features of MTurk, its samples have been reported to be quite comparable with those of other online sample platforms, as well as traditional samples acquired face-to-face, via telephone, or by mail (Bartneck, Duenser, Moltchanova, & Zawieska, 2015; Buhrmester et al., 2016; Clifford et al., 2015; Heen et al., 2014; Simons & Chabris, 2012). Yet, it is argued that the literature would benefit from replication of this study with triangulated data sources.

Fourth, this study was limited to U.S. tourists in order to isolate the culture effect on guilt emotion. Despite the high cultural diversity in U.S., replication of the study in other cultural contexts is necessary to increase the generalizability of the findings. This is a critical consideration when studying the concept of guilt, as its meanings differ across societies (Wong & Tsai, 2007). Sample representativeness toward the targeted population was compared against a 2019 survey of U.S. Travelers to the Caribbean by the National Travel and Tourism Office. With regard to distribution of gender and race, the sample was representative. However, with regard to age, the sample was highly skewed toward generations X and Y, while U.S. travelers to the Caribbean yielded a mean age of 44.5 for female and 47 for men. Reports from Expedia and the Center for Generational Kinetics (2017) indicate that millennials are the leading group for traveling. While it is recognized that generational influences are important influential factors for behavior, with regard to environmentally friendly behaviors this does not seem to be problematic (Wiernik, Ones, & Dilchert, 2013). Specifically, Wiernik et al. (2013), conclude that environmental concerns, environmental knowledge, and pro-environmental behaviors are negligibly related to age groups. In addition, their results reveal no significant differences between age groups and environmental behavioral intentions in general. However,

differences were found when pro-environmental behaviors were studied individually. Furthermore, Wiernik et al. (2013) found insignificant effects of age difference across samples. The differences between age groups were compared with ANOVA by using the Brown-Forsythe test, since the sample was skewed and some groups were relatively small in size. There was no statistical significance among age groups for environmental concerns, environmental knowledge, EFTB, and revisiting intentions. Nevertheless, to claim generalizability to the U.S. traveler population, additional studies with a more representative sample of U.S. travelers to the Caribbean are needed.

Fifth, the items of environmental concerns scale adopted in this study are limited in number and scope. Subsequent studies should consider improving this scale by capturing a richer meaning of the concept and including more comprehensive items. Also, the double-barreled nature of the (eco)guilt scale should be revised in future studies. Further exploration of the nomological network for (eco)guilt in tourism opens a promising research avenue for subsequent analysis. Although it was not the focus of this study to investigate the types of (eco)guilt experienced among tourists, it is worth pointing it out as an exciting opportunity for research in the future with substantial implications. Also, this study focuses solely on tourists' negative environmental impacts; therefore, future studies should examine other important impacts of tourism, such as social, economic, and cultural.

Lastly, despite the wealth of results of this study, the value of explained variance for revisiting intentions results as weak, arguable with low effect size (Moore, Notz, & Flinger, 2013; Zigmund, 2000). Considering this limitation, the practical significance of this study should be interpreted with precaution, up until future studies deliver further empirical evidence. Important to note that Caribbean Islands offer a number of exotic destinations with comparable offerings resulting in similar attractive touristic alternatives. Hence, replicating future research for only one destination at a time with less variability among the environmental attributes may provide context information to improve understanding of revisiting intentions. Despite the overall increased effort of Caribbean Islands towards green initiatives, investigating only the publicized/branded 'green' or 'eco-friendly' destinations remains an exciting path for future research that can produce interesting results for tourists' behavioral intentions. This suggestion is consistent with previous research that green image and branding can influence behavioral intentions (Lee et al., 2010). To end, future replicated research studies should benefit a great deal by expanding the model with situational and dispositional antecedents. All things considered, replication of this study incorporating strategies to overcome the presented limitations would advance further literature by ensuring a more comprehensive understanding of guilt's role on tourists' behavioral intentions.

CRediT author statement

Frida Bahja: Conceptualization, Methodology, Data curation, Formal analysis, Writing - original draft, Writing - review & editing. **Murat Hancer:** Supervision, Writing - review & editing.

Appendix

Table 6
Definitions of variables for this study.

Concepts	As defined by other studies	As defined in this study
(Eco)guilt	"Guilt that arises when people think about times they have not met personal or societal standards for environmental behavior" (Mallett, 2012, p. 223).	Guilt resulting from the self-evaluated negative environmental impacts of touristic activities.
Environmentally Friendly Tourism Behavior	"The tourist behavior which does not negatively impact the natural environment (or may even benefit the environment) both globally and at the destination" (Juvan & Dolnicar, 2016, p. 31).	Tourists' behavior with the intent to minimize or eliminate the negative environmental impacts of their touristic activity in a destination.

Table 6 (*continued*)

Concepts	As defined by other studies	As defined in this study
Revisit Intentions	Behavioral intentions of tourists to return for another visit (Forgas-Coll et al., 2012; Sadat & Chang, 2016)	Tourists' intentions to revisit a destination.
Environmental Knowledge	"Factual information that individuals have about the environment, the ecology of the planet, and the influences of human actions on the environment" (Arcury & Johnson, 1987, p. 32).	The knowledge of tourism's negative environmental impacts.
Environmental Concerns	"The degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate the willingness to contribute personally to their solution" (Dunlap & Jones, 2002, p. 485).	Tourists' awareness and willingness to support environmental problems related to tourism.

Table 7
Demographic results of the sample.

Demographics	%	Demographics	%
Gender		Education	
Male	48.80	No formal education credentials	0.49
Female	50.50	High school diploma or equivalent	17.85
Prefer not to answer	0.70	Some college, no degree	7.82
Age		Post-secondary non-degree award	43.52
Before 1944	0.20	Associate's degree	17.11
Baby Boomers	6.60	Bachelor's degree	4.40
Gen X	18.80	Master's degree	0.73
Gen Y	64.60	Doctoral or professional degree	6.60
Gen Z	9.00	Prefer not to answer	1.47
Prefer not to answer	1.00		
Marital status		Employment	
Single	29.76	Employed, working 40 or more hours per week	71.64
In a relationship (not living together)	8.54	Employed, working 1–39 h per week	16.87
Living with partner	8.54	Not employed, NOT looking for work	1.96
Married without children	12.44	Student	1.96
Married with children	33.41	Not able to work	3.18
Divorced	4.63	Prefer not to answer	1.22
Widowed	1.22	Annual Income	
Prefer not to answer	1.46	Less than $25,000	9.6
Ethnicity		$25,000 - $34,999	14.0
White/Caucasian	71.15	$35,000 - $54,999	22.5
Native American	3.67	$55,000 - $74,999	22.5
Hispanic	7.58	$75,000 or more	27.7
Asian	7.09	Prefer not to answer	3.7
African American	9.05		
Prefer not to answer	1.47		

Table 8
Measurement items.

Please indicate your level of agreement with the following statements.	
Environmentally Friendly Tourism Behavior (EFTB)	
I try to purchase environmentally friendly tourism products and services if possible.	Song et al. (2012)
I think about how tourists' behaviors could impact natural environments.	
I try to minimize my tourism behaviors to influence natural environments.	
I prefer nature-based tourism or (eco)tourism.	
Environmental Concerns (EC)	
Tourists should be required to use recycled materials during their stay.	Song et al. (2012)
Non-recyclable tourism products should be taxed to reduce waste generated	
Based on your self-evaluation on how you have impacted the environment of XXX destination, indicate the following:	
(Eco)Guilt	
I want to hide my environmental impacts.	Marschall et al. (1994)
I feel worthless, powerless about my environmental impacts.	
I feel humiliated, disgraced about my environmental impacts.	
In general, would you agree that tourism has the following impacts on the environment of a destination?	
Tourism's Negative Environmental Impacts	
Tourism destroys the natural environment.	Poudel et al. (2016)
Tourism increases air, water, and noise pollution.	
Tourism increases environmental problems such as littering and wastewater discharge.	
Tourism produces long-term negative effects on the environment.	
Construction of hotels and other tourist facilities destroy the natural environment.	
Tourism development encourages deforestation.	
Based on your self-evaluation on how you have impacted the environment of XXX destination during your visit, how likely is that you would return to revisit it?	
Revisit Intentions	
I will tend to visit the destination again.	Zhang et al. (2018)
I would love to come to the destination again.	
I think I will come back to the destination in the near future.	

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