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The awe-habitual model: exploring tourists' pro-environmental behaviors in religious settings

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ABSTRACT

This study proposes a novel comprehensive model integrating contextual, habitual, and psychological processes to address the multi-determination feature of tourists' pro-environmental behavior (TPEB) intention. The model includes religious ambience as a contextual process, domestic pro-environmental behavior (DPEB) as a habitual process, and awe, along with Norm Activation Theory, as a psychological process. A questionnaire survey was administered at Guandi Temple, a popular religious site in Haizhou, China, collecting 363 valid datasets to test the model using the Structured Equation Modelling method. The results indicate that TPEB intention is directly associated with DPEB and religious ambience. This connection also reveals that when visitors immerse themselves in a strong religious ambience, the stimulated awe will induce a higher level of TPEB intention, with the Norm Activation Theory mediating this relationship. Furthermore, this theory also explains the indirect spillover effect from DPEB to TPEB intention. Conclusively, this study proposes the validated comprehensive Awe-Habitual Model for TPEB intention, particularly applicable in religious destinations, integrating psychological, contextual, and habitual processes. It also verifies the self-transcendence of awe and extends the application of Norm Activation Theory to measure pro-environmental behavior spillovers. Practical suggestions on encouraging TPEB and promoting sustainable tourism are offered.

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KEYWORDS


Religious ambience; awe; norm activation theory; pro-environmental behavior; domestic pro-environmental behavior

Introduction

Altruistic behavior is influenced by the intensity of moral (personal) obligation which an individual feels to take specific helping actions. Schwartz (1977, p. 227)

Tourism activities have detrimental effects on destinations (Han, 2021; Shaheen et al., 2019), but the existing literature also highlights that tourists' pro-environmental behavior (TPEB) helps mitigate these negative impacts (Dolnicar, 2020; Wu et al., 2020). TPEB has been primarily investigated from the perspectives of three processes: psychological, contextual, and habitual (Liu et al., 2020; Steg et al., 2014; Wu et al., 2021). From a psychological perspective, TPEB is influenced by gain goals, norms, or hedonic factors (Steg & Vlek, 2009). Other scholars who

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adopt the contextual perspective argue that the contextual subjective and objective constraints influence behavior (Klößner & Blöbaum, 2010). Meanwhile, some studies propose that individuals' habits automatically drive similar behavior in different contexts and times (MacInnes et al., 2022). Some studies have attempted to integrate different theories or variables within one of the three processes (Gao et al., 2023; Kiatkawsin & Han, 2017) or combine two different processes (Qiu et al., 2023; Xu et al., 2020) into one model to enhance the predictability and accuracy of TPEB (Klößner, 2013). However, these methods remain insufficient to demonstrate the multi-factor-determination characteristic of environmental behavior (Han et al., 2019).

This study proposes to integrate all these three processes into a comprehensive model for TPEB to enhance its predictability, considering the potential interrelatedness of these processes. The contextual and habitual factors not only directly and simultaneously influence TPEB but also influence the psychological processes, which, in turn, impact TPEB (Steg & Vlek, 2009). These processes are expected to be particularly significant at a destination with a strong contextual influence. When tourists or pilgrims visit a religious site—an under-researched context—the sacred atmosphere in the site can stimulate them to take a pro-social turn, thereby exhibiting strong TPEB (Jiang et al., 2023). Additionally, this sacred atmosphere elicits awe that triggers psychological processes that increase TPEB. This psychological process could be explained by Norm Activation Theory (NAT), a norm-based psychological process developed by Schwartz (1977). According to NAT, we posit that individuals' awareness of consequence (AC) and ascription of responsibility (AR) motivate their personal norms (PN), which then trigger pro-environmental behaviors. This pathway is similar to the one proposed by Perlin and Li (2020), showing that the processes of awe stimulate pro-social behaviors.

Additionally, human behavior is rooted in habits that shape both present and future behaviors (Ouellette & Wood, 1998). Truelove et al. (2014) regard this effect as a positive spillover effect of daily habits. In this study, domestic pro-environmental behavior (DPEB), referring to individuals' behaviors that benefit the environment in daily life (Xu et al., 2020), is considered a habitual factor and adopted in this model to explore its direct effect on TPEB, as in Liu et al. (2020). Moreover, psychological processes can also mediate this relationship between DPEB and TPEB. According to the Action-Based Learning theory (Ajzen, 1991; Thøgersen & Noblet, 2012), NAT mediates the indirect spillover from DPEB to TPEB.

Thus, this research ultimately constructs and tests a novel and comprehensive Awe-Habitual (A-H) model, proposing that religious ambience and DPEB exhibit positive relationships with TPEB. It is particularly worth noting that TEPB intention is used to measure TPEB because tourists' pro-environmental behaviors are difficult to measure. Therefore, behavioral intention is used as a proxy variable, offering the most accurate behavioral prediction (Wang et al., 2018). In summary, there are three objectives: (1) To develop a comprehensive model that explains TPEB intention in religious tourism settings by integrating contextual, habitus, and psychological processes; (2) To reinterpret the function of awe in the formation of TPEB intention, demonstrating the mediation effect of NAT on the relationship between awe and TPEB intention in religious tourism settings; (3) To extend NAT theory, verifying its mediating effect on the spillover from DPEB to TPEB intention.

Literature review

Tourists' pro-environmental behavior (TPEB)

TPEB, defined as the tourists' behavior that consciously reduces adverse environmental impact (Miao & Wei, 2013), has an indirect but positive effect on the environmental quality and the preservation of natural and historical sites (Ramkissoon et al., 2012). Various factors such as moral, social, attitude, affective, cognitive, situational, and other spillover factors have been examined to understand their effects on TPEB. These factors primarily operate under three

processes: gain, normative, hedonic goal factors in psychological processes, and contextual and habitual processes (Ajzen, 1991; Steg et al., 2014; Wu et al., 2021) (see Table 1).

The variables employed in the contextual process are mainly social and objective factors, which can also be adapted to non-tourism scenarios (Wu et al., 2021; Qin & Hsu, 2022; Qiu et al., 2023). However, few studies have focused on the impact of context-specific attributes within tourism spaces on TPEB, such as the spatial ambience constructed by natural or cultural resources in tourism destinations. Since TPEB is directly linked to the natural environment, scholars tend to select nature-based destinations as case studies (Lee & Jan, 2023). Nevertheless, it is generally overlooked that TPEB, a form of altruistic pro-social behavior, is also activated in destinations with cultural resources. This aspect deserves further investigation, particularly in religious settings.

For the habitual process, domestic pro-environmental behavior (DPEB) is considered a habitual variable and could be used to explore its direct spillover on TPEB (MacInnes et al., 2022). Some studies indicate that indirect spillover may play a more significant role in some cases, but this relationship between DPEB and TPEB has not received sufficient attention in the literature (Dharmesti et al., 2020). Regarding the indirect spillover of pro-environmental behavior, Nilsson et al. (2016) conclude several theories to elucidate the mediating mechanisms, including Goal Activation Theory, Behavioral Consistency Theory, Cognitive Dissonance Theory, Self-Perception Theory, and Moral License Theory. Additionally, Nilsson et al. (ibid) identify environmental identity and environmental concern as potential mediating variables that can be employed to investigate the indirect relationship between DPEB and TPEB.

Religious ambience, awe, and TPEB intention

This section demonstrates how religious ambience gives rise to awe, which then influences tourists' pro-environmental behavior. From the perspective of environmental psychology, Mehrabian and Russell (1974) find that environmental stimuli positively impact individuals' emotions. In tourism contexts, tourists would trigger specific emotions while evaluating their

Table 1. The five perspectives of TPEB.

Perspective	Relevant theory	Relevant variable
Gain goal	Theory of planned behavior Self-efficacy theory Expectancy theory Protection motivation theory	Attitude, Subjective norm, Perceived behavioral control, Valence, Expectancy, Self-efficacy Perceived vulnerability, Perceived severity (Horng et al., 2014; Kiatkawsin & Han, 2017; Wong et al., 2021)
Normative goal	Value-belief-norm model Value-identity-personal norm model Norm activation theory	Altruistic value, Egoistic value, Ecological value, New ecological paradigm, Awareness of consequence, Ascription of responsibility, Environmental identity, Environmental concern, Moral obligation, and disengagement (Confente & Scarpi, 2021; Lee et al., 2021; Wu et al., 2020)
Hedonic goal	Place attachment theory Environmental emotional theory (Assuming that tourists focus on seeking the positive feeling in tourism)	Place attachment, Place identity, Connectedness, Pride, Happy, Guilty, Awe, Positive emotion, Negative emotion, Well-being (Bahja, & Hancer, 2021; Chen & Huang, 2022; Su et al., 2018; Wang & Lyu, 2019; Zhang et al., 2014)
Contextual process	Attitude-behavior-context theory Stimulus-organism- response theory	Infrastructure convenience, Facility readiness, Policy effectiveness, Signage saliency, Travel partner influence, Residents' support, Social norm, Social capital, Supportive big environment, Cost efficiency, Social responsibility of the destination, and Atmosphere (Qin & Hsu, 2022; Qiu et al., 2023; Wu et al., 2021)
Habitual process	Spillover theory Habitual theory	Daily/Domestic pro-environmental behavior (Xu et al., 2020; Liu et al., 2020)

experiences based on their adaptability to the environment. In parallel, awe is a complex emotion encompassing shock, humility, admiration, and confusion, extending beyond individual cognition (Keltner & Haidt, 2003). It could also be evoked by objective, social, and cognitive factors (Schurtz et al., 2012). In religious sites, the religious ambience, such as solemn temples, sacred statues, rituals, and art, can intensify feelings of insignificance and generate a need for accommodation—this is a manifestation of awe. Therefore, as Tian et al. (2015) suggest, religious ambience inspires awe in religious tourism. Accordingly, we propose that:

Hypothesis H1: Religious ambience positively influences awe.

Individuals influenced by the external environment undergo an emotional change which will then be manifested in their attitude and behavior (Mehrabian & Russell, 1974). According to Weger and Wagemann (2018), awe is a self-transcendent experience that extends individuals' cognition and motivates them to make choices that benefit others, such as engaging in charitable activities and donations (Rudd et al., 2012). In tourism, Wang and Lyu (2019) demonstrate this positive relationship between awe and TPEB. Su et al. (2025) also indicate that awe influences TPEB intention. We, therefore, propose:

H2: Awe positively influences TPEB intention.

Clitheroe Jr et al. (1998) assert that natural and social environments shape human behavior and attitude. In hospitality and marketing studies, Alfakhri et al. (2018) demonstrate that the physical environment of a hotel directly influences tourists' consumption behavior, while González et al. (2021) find that product displays can influence individuals' purchase intention. According to Social Information Processing theory, people's actions are influenced by the external information they seek (Salancik & Pfeffer, 1978). In religious tourism, the presence of religious symbols, such as buildings, culture, sculptures, and art, might be sufficient in giving signals and information to tourists without the emergence of any complex emotion (i.e., awe), and consciously restrain tourists' behaviors, leading to an exhibition of pro-environmental attitude, intention, and actions. To this extent, we propose that:

H3: Religious ambience positively influences TPEB intention.

The relationship between DPEB and TPEB intention

Behavior spillover describes the influence of participation in one behavior on the likelihood of engaging in subsequent behaviors. This influence can be positive or negative depending on whether one behavior increases or decreases the other (Thøgersen & Crompton, 2009; Truelove et al., 2014). Previous studies have shown inconsistencies between one's DPEB and TPEB by indicating individuals' tendency to exercise lower pro-environmental behavior outside their domestic settings, i.e., tourism (Dolnicar & Grün, 2009; Holmes et al., 2021). However, recent research also suggests that one's pro-environmental behavior in one context encourages similar behavior in a different context, demonstrating a positive spillover effect between behavioral contexts (i.e., Nash et al., 2017; MacInnes et al., 2022). This spillover often occurs without management interventions, such as education and interpretation (Thøgersen, 1999; Van der Werff, 2014a, 2014b). Dolan and Galizzi (2015) identified three types of spillover: behavioral, temporal, and contextual spillovers (Table 2). However, there is limited research on temporal and contextual spillovers. Contextual spillovers between home and work or hospitality settings have received some attention from scholars, but those between home and tourism contexts remain understudied (Frezza et al., 2018; Littleford et al., 2014; Nash et al., 2017; Verfuërth et al., 2019; Whitmarsh et al., 2018). Additionally, exploring mixed spillovers would be valuable, as Xu et al. (2020) suggested, to provide a broader understanding of the spillover effects.

This study conceptualizes the spillover effect from DPEB to TPEB as a combination of behavioral and contextual overflow. Firstly, it is evident that these two types of pro-environmental behavior occur in different situations. Secondly, DPEB and TPEB exhibit certain differences in specific actions. For instance, DPEB emphasizes resource efficiency behaviors like water and electricity conservation. In contrast, TPEB promotes environmentally friendly products and encourages others to protect the environment. Although Xu et al. (2020) highlights the spillover between home and contextual settings, the measurement scale Xu et al. (2020) used for these pro-environmental behaviors indicates that they involve a distinct set of actions. Whitmarsh and O'Neill (2010) employ different measurements for TPEB and DPEB based on specific actions by considering a mixed combination of contextual and behavioral spillover effects, with results indicating that DPEB serves as an essential predictor for TPEB.

From the habitual perspective, Ouellette and Wood (1998) argue that human behavior is rooted in habit, which shapes present and future behaviors. This is considered by Truelove et al. (2014) to be a positive direct spillover effect in pro-environmental behaviors. DPEB is the most frequent type of pro-environmental behaviors and could be considered a habit (Liu et al., 2020). It has been verified to be positively affecting TPEB in many studies (i.e., Dharmesti et al., 2020; Liu et al., 2020; MacInnes et al., 2022). Thereby, this study contends that:

H4: DPEB positively influences TPEB intention.

Norm Activation Theory (NAT) and its relationship with TPEB intention

Schwartz (1977) investigates the presence of an individual's intrinsic altruistic motivation, regardless of social rewards and material networks. He found that personal norms, which are internalized moral obligations, drive pro-social behavior. As a result, Schwartz (ibid) proposed a four-step Norm Activation Theory (NAT) eliciting one's altruistic behavior—(1) The activation step: perceiving others' need and their responsibilities for this need; (2) The obligation stage: evoking a sense of personal obligation that either already pre-existed or constructing it; (3) The defensive phase: estimating potential responses; (4) The reaction stage: whether actioning to help (Schwartz, 1977).

Based on these steps, three variables are identified as activators of pro-environmental behavior: the awareness of consequence (AC), referring to an individual's recognition of the negative impact on others in the event of their failure to engage in pro-environmental behaviors (Harland et al., 2007); ascription of responsibility (AR), representing a sense of obligation toward facing any adverse consequences (Groot & Steg, 2009); and personal norms (PN), encompassing an individual's self-expectation to perform certain behaviors based on internalized social norms and moral responsibility (Schwartz & Howard, 1981). It is important to note that someone's pro-environmental behaviors are activated by PN (H7), which is stimulated by AC (H5) and AR (H6) (Schwartz, 1977). At present, NAT has been successfully applied in many studies predicting volunteer tourism traveler behavioral intention (Meng et al., 2020), protection behavioral intention in heritage destinations (Gao et al., 2017), and

Table 2. The types of spillover.

The types of spillover	Definitions
Behavioral spillover	Behavior A leads to Behavior B within the same context (Baca-Motes et al., 2013; Ha & Kwon, 2016).
Temporal spillover	Behavior A at time 1 affects Behavior A at time 2 (Thøgersen & Noblet, 2012).
Contextual spillover	Behavior A in context 1 affects Behavior A in context 2 (Nilsson et al., 2016).

green behavioral intention in hotels (Han, 2014). Accordingly, we propose the following hypotheses:

- H5: AC positively influences PN.
- H6: AR positively influences PN.
- H7: PN directly and positively influences TPEB intention.

The mediating effect of NAT between awe and TPEB intention and the spillover from DPEB to TPEB intention

In the first activation step of NAT, during which individuals perceive others' needs and their responsibilities for these needs, Schwartz (1977) proposes that arousal of emotion and other personal factors will stir up AC and AR, which in turn influence PN to encourage pro-social behavior. As the emotional arousing aspect, awe, a self-transcendent emotion, allows individuals to achieve interpersonal integrity and engage in pro-social behavior (Keltner & Haidt, 2003; Stellar et al., 2017). Awe expands one's self-concept beyond one's own group categories (Shiota et al., 2007), increasing the sense of interconnectedness between oneself and the external environment (Yaden et al., 2017). This connectedness facilitates thinking beyond individual interests toward "we-concern"—a spiritual focus on beliefs, values, goals, and other deep motivations related to ultimate concerns (Danvers & Shiota, 2017; Nelson-Coffey et al., 2019). As individuals deepen their understanding of their motivations, the self becomes stronger and more assured of their roles (Reischer et al., 2019). Hence, people's cognitive empathy and ascription of responsibilities are more likely to be exhibited (Sheldon & Kasser, 1995), leading to moral soundness (Westenberg & Block, 1993). Eventually, this influences the emergence of pro-social behavior (Perlin & Li, 2020), including pro-environmental behaviors. The process is summarized as a consequential chain of awe → cognitive empathy (AC) (such as easily realizing others' needs) (H8a) and focusing on self-responsibility (AR) (H8b) → moral soundness (PN) → TPEB intention, which accords with the causality of NAT mediating Awe and TPEB intention (H8) [Awe → (AC/AR → PN) NAT → TPEB intention]. Accordingly, we proposed the following hypotheses:

- H8a: Awe positively influences AC.
- H8b: Awe positively influences AR.
- H8: NAT mediates the relationship between awe and TPEB intention.

At the personal level, action-based learning theory suggests that a person's beliefs about outcomes of behaviors influence other subsequent behaviors (Ajzen, 1991). Past behavior increases the learning about the outcomes of a particular behavior, which can be extended to other behaviors (Thøgersen & Noblet, 2012). For example, purchasing energy-efficient light bulbs may influence perceptions of energy conservation, leading to positive spillover effects, such as turning off the standby mode of computers or supporting new energy policies (Thøgersen, 1999). Thøgersen and Noblet (2012) find that the green consumption habits formed from the previous green behavior influence the acceptance of wind power. Thus, AC and AR, regarded as environmental beliefs (Stern, 2000), can be considered as learning outcomes of DPEB (H9a; H9b) to stimulate the spillover from DPEB to TPEB intention (H9). Therefore, this study suggests the following hypotheses:

- H9a: DPEB positively influences AC.
- H9b: DPEB positively influences AR.
- H9: NAT mediates the relationship between DPEB and TPEB intention.

Based on the analysis of the relationships among the relevant constructs, Figure 1 depicts the proposed A-H Model. This model has seven constructs related to contextual, habitual, and psychological processes. It also shows the eleven hypotheses that indicate the relationships among the constructs. This study will test these hypotheses and another two hypotheses on mediation role.

Method

Research context

Religion is closely related to individual daily customs in China, reflecting the most basic Chinese cultural traditions. This research is focused on tourists visiting a popular religious site: Haizhou Guandi Temple in Yuncheng City, Shanxi province. Built during the Sui Dynasty (AC 581–618), it is China’s most prominent and best-preserved Guandi Temple. Guandi or Guangong is synonymous with Lord Guan, whose lay name is Guanyu (AC 160–220), a very popular general during the Three Kingdoms Period (AC 184–280). He was deified as a saint (Guangong) due to his image of being brave, righteous, and loyal. Later, it developed into Guangong Belief as a folk religion. The concepts of faithfulness, justice, kindheartedness, knowledge, integrity, etiquette, and courage embodied in Guangong belief have been considered universal values widely recognized by the Chinese, at home and abroad, and practiced in their life and work. In Haizhou, the hometown of Guangong, this belief is particularly popular.

Haizhou Guandi Temple is the embodiment of the Guangong belief: the statues of Guangong, the couplets and plaques, and the relevant sacrificial rites symbolize the externalization of Guangong belief. The temple is endowed with high historical and cultural status. In 2012, Haizhou Guandi Temple was listed on the World Cultural Heritage Tentative Protection List (*China Daily News*, 2022). The temple has developed into a well-known cultural heritage tourism site, hosting various cultural activities related to Guangong beliefs. These include the Guangong Cultural Festival, Guangong City Tour, the Birthday of Guangong, and the Guangong Sacrifice Ceremony. The Guandi Temple attracts thousands of tourists, both religious and non-religious. Visiting the temple gives visitors a deeper understanding of Guangong beliefs through immersion in cultural symbols, potentially influencing their behavior within the temple.

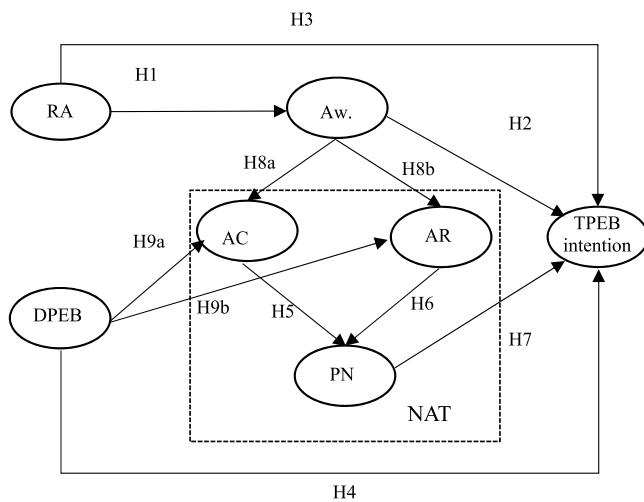


Figure 1. The research model. Note. RA: Religious Ambiance; DPEB: Domestic pro-environmental behavior; Aw.: Awareness of consequences; AR: Ascription of responsibility; PN: Personal norm; TPEB intention: Tourist pro-environmental behavioral intention

Data collection

The measurement instruments for this research were sourced from prior literature in psychology, sociology, and tourism (Coghlan et al., 2012; Han, 2015; Lu et al., 2017; Stern, 2000; Stern et al., 1999) (Appendix A provides the details of the sources of the measurement items). The items have been modified to ensure the applicability of variables in the context of tourism. Data collection procedures were designed to minimize the risk of error and enhance response rate. The questionnaire comprised two sections: the demographics of respondents and the measurement items. A seven-point Likert-type scale without reverse-coded questions was employed: 1 = “extremely disagree” to 7 = “extremely agree.” Convenience sampling was utilized in the survey, a method commonly adopted in studying tourists’ behavior due to the impracticality of sampling the entire population using an independent random sample (i.e., Xu et al., 2020). The coded questionnaire is available in the [Online Supplementary file](#).

Data was collected over ten days, from 24 August to 2 September 2020, at Haizhou Guandi Temple. However, we acknowledge the limitation and potential bias with this sampling method as it might not represent the population. To enhance consistency, the survey was carried out by three pre-trained enumerators. The survey location was at the last visit spot—the “Imperial Garden” of Haizhou Guandi Temple, which has a rest area for tourists exiting the temple. At this location, tourists were approached and asked to complete the questionnaires. Additionally, when accepting the survey, our enumerators asked each respondent whether they had visited the whole temple, excluding those who had not. We also provided further explanations to respondents when they were confused by any of the questions.

Regarding the sample size, we estimated the number of questionnaires needed for an SEM analysis based on the rule of thumb that one item needs ten questionnaires. With 38 items, we need 380 valid responses. Ultimately, 430 questionnaires were distributed, and 398 were returned. Of these, 363 had valid responses and were used in the analysis after excluding the outliers ($n=13$), partial missing data ($n=17$), and missing data ($n=5$).

We tabulated and analyzed the data using SPSS 24.0 and Amos 22.0. Additionally, Harman’s single-factor method was employed to test for common method bias, revealing that the unrotated first factor accounted for only 31.8% of the total variation (less than 40%), indicating an absence of significant bias issues in our dataset (Podsakoff et al., 2003). Furthermore, the linear regression analysis conducted in SPSS 24.0 confirmed no multicollinearity concerns, as all VIF values ranged from 1.33 to 1.94, below the recommended threshold of 3 (Meng et al., 2020). Hence, multicollinearity is not a concern within this study.

Among the responses, 56.7% were male and 43.3% female, with a diverse range of age groups, income, and education. Appendix B contains the complete demographic data of the respondents. A full set of the questionnaire, the full cleaned dataset, and the full summary of the AMOS model’s datasets are available in an online data repository: https://figshare.com/articles/dataset/TPEB_data/24224797.

Results

Validity and reliability testing

Anderson and Gerbing (1988) proposed that the maximum likelihood estimation is adopted in the Confirmatory Factor Analysis (CFA) of the research constructs. The resulting CFA data shows that factor loading of all items exceeds the suggested cut-off (0.60), except for two items in TPEB intention (I’ll encourage other visitors not to disturb archaeological artifacts at Guandi Temple; I’ll read a newsletter, magazine or other publication about protecting the human history and natural environment of Guandi Temple) and one item in DPEB (I avoid buying products from companies with poor environmental records in my daily life). After deleting these items, the results suggest that the research

model appropriately fits the data ($\chi^2=1093.417$, $df=539$, $\chi^2/df = 2.029 < 3$, $RMSEA = 0.053 < 0.08$, $p < 0.001$, $IFL = 0.913 > 0.90$, $TLI = 0.903 > 0.90$, $CFI = 0.912 > 0.90$).

For the indicator reliability, the factor loading of all items ranged from 0.60 to 0.88, as shown in Table 3, higher than the suggested cut-off of 0.60 (Nunnally & Bernstein, 1994). All items were loaded to their associated latent construct significance ($p < 0.001$). Testing the internal consistency, all items' composite reliability (CR) (ranging from 0.77 to 0.93) is greater than the recommended threshold (0.70), demonstrating a good fit in the multi-item scales (Bagozzi & Yi, 1988). For the convergence validity, the Average Variance Extracted (AVE) values exceed the suggested cut-off point of 0.50 (0.51–0.75), except for the value of DPEB (Hair et al., 2010). Fornell and Larcker (1981) proposed that AVE is acceptable only when higher than the 0.38 cut-off point. The data also indicates that all the AVE values exceed the value of squared correlation with other variables (see Table 4), thereby suggesting that discriminant validity is acceptable, as suggested by Fornell and Larcker (1981).

Path analysis and hypotheses testing

Table 5 reveals that the study model closely fits the data ($\chi^2 = 1109.619$, $df = 548$, $\chi^2/df = 2.025 < 3$, $RMSEA = 0.053 < 0.08$, $p < 0.001$, $IFL = 0.911 > 0.90$, $TLI = 0.903 > 0.90$, $CFI = 0.911 > 0.90$). The fit data of original NAT was $\chi^2 = 370.284$, $df = 101$, $\chi^2/df = 3.666$, $RMSEA = 0.086 > 0.08$, $p < 0.001$, $IFL = 0.89 < 0.90$, $TLI = 0.87 < 0.90$, $CFI = 0.89 < 0.90$). The data of the chi-square difference test demonstrates that the proposed model is superior to the original NAT ($\Delta\chi^2 = 739.335$, $p < 0.001$). Furthermore, the study model ($R^2 = 0.59$) indicates a higher exploratory rate than the original NAT ($R^2 = 0.39$). Table 5 displays the detailed information.

The data demonstrates a positive influence of religious ambience on awe ($\beta_{RA \rightarrow Aw.} = 0.51^{***}$, $p < 0.001$) and TPEB intention ($\beta_{RA \rightarrow TPEB \text{ intention}} = 0.15^{**}$, $p < 0.01$). Moreover, the effects of DPEB on TPEB intention and awe on TPEB intention are significant ($\beta_{DPEB \rightarrow TPEB \text{ intention}} = 0.34^{***}$, $p < 0.001$, $\beta_{Aw. \rightarrow TPEB \text{ intention}} = 0.30^{***}$, $p < 0.001$). Therefore, H1, H2, H3 and H4 are supported. The relationship among original NAT is also considered to be significant ($\beta_{AC \rightarrow PN} = 0.35^{***}$, $p < 0.001$; $\beta_{AR \rightarrow PN} = 0.42^{***}$, $p < 0.001$; $\beta_{PN \rightarrow TPEB \text{ intention}} = 0.30^{***}$, $p < 0.001$). Thus, H5, H6, and H7 are supported.

Lastly, the evidence shows that the effect of DPEB on AC and AR, and awe on AC and AR are significant ($\beta_{DPEB \rightarrow AC} = 0.22^{***}$, $p < 0.001$, $\beta_{DPEB \rightarrow AR} = 0.45^{***}$, $p < 0.001$, $\beta_{Aw. \rightarrow AC} = 0.74^{***}$, $p < 0.001$; $\beta_{Aw. \rightarrow AR} = 0.21^{***}$, $p < 0.001$). Consequently, H8a, H8b, H9a, H9b are supported. The total effects of factors on TPEB are also evaluated (Table 5).

The evidence also supports H8 and H9, which demonstrates the mediating effect of NAT between DPEB and TPEB intention, and awe and TPEB intention ($\beta_{Aw. \rightarrow AC/R \rightarrow PN \rightarrow TPEB \text{ intention}} = 0.12^*$, $\beta_{DPEB \rightarrow AC/AR \rightarrow PN \rightarrow TPEB \text{ intention}} = 0.07^{**}$). The strongest total effect is DPEB intention ($\beta_{DPEB \rightarrow TPEB \text{ intention}} = 0.42^{**}$, $p < 0.01$), followed by awe and religious ambience ($\beta_{Aw. \rightarrow TPEB \text{ intention}} = 0.39^{**}$, $p < 0.01$; $\beta_{RA \rightarrow TPEB \text{ intention}} = 0.35^*$, $p < 0.05$). The total effect of AC and AR is almost the same ($\beta_{AC \rightarrow TPEB \text{ intention}} = 0.11^*$, $p < 0.05$; $\beta_{AR \rightarrow TPEB \text{ intention}} = 0.13^*$, $p < 0.05$, $\beta_{PN \rightarrow TPEB \text{ intention}} = 0.30^{***}$, $p < 0.001$).

Conclusions and discussion

This research establishes a novel integrated model to investigate tourists' pro-environmental behavior (TPEB) intention in a religious tourism context by incorporating psychological, contextual, and habitual processes. In this Awe-Habitual (A-H) Model, the religious ambience represents the contextual process; awe and NAT are the psychological processes; and domestic pro-environmental behavior (DPEB) constitutes the habitual process. The results verify our assumption that contextual (religious ambience) and habitual processes (DPEB) are directly related to TPEB intention and indirectly influence it through psychological processes (i.e., awe and the Norm Activation Theory-NAT). Furthermore, as antecedents, the total effect of DPEB on

Table 3. Measurements, factor loading, CR, and AVE.

Measures	Loadings	C.R.	AVE
Religious ambience (RA)		0.86	0.67
The ceremony makes me feel solemnity and seriousness.	0.68		
I feel the powers of the god are unlimited.	0.73		
I think the Guangong culture is beautiful.	0.85		
I think the Guangong arts are beautiful and magical.	0.82		
The temples let me feel the long history of Guangong.	0.76		
Awe (Aw.)		0.93	0.75
Boring-excited	0.78		
Usual-unusual	0.88		
Unexpected-expected	0.83		
Arrogant-humbling	0.65		
Awareness of consequences (AC)		0.87	0.68
The tourism industry can cause pollution, climate change and exhaustion of natural resources because of infrastructure required to cater to a larger number of tourists.	0.82		
Tourism can generate huge environmental impacts on the environment.	0.78		
Tourists can cause environmental deterioration such as waste and excessive use of energy/water/fuel.	0.62		
Ascription of responsibility (AR)		0.80	0.60
I believe that every traveler is partly responsible for the environmental problem caused by the tourism industry.	0.71		
I feel that every traveler is jointly responsible for the environmental deteriorations caused by traveling activities.	0.82		
Every traveler must take responsibility for the environmental problems caused during their trips.	0.77		
Personal norm (PN)		0.77	0.51
I feel an obligation to act pro-environmentally by choosing eco-friendly activities.	0.68		
Regardless of what other people do, because of my own values, I feel that I should behave in an environmentally friendly way.	0.61		
I feel that it is important to be environmentally friendly, reducing the harm to the spot and its environment.	0.69		
Tourists' pro-environmental behavior (TPEB) intention		0.93	0.64
I will volunteer to protect environment at Guandi Temple.	0.84		
I will support /or accept policies that protect environment at Guandi Temple.	0.83		
When using the public facilities, I will maintain their cleanliness to beauty the environment at Guandi Temple	0.73		
I will use appropriate method to prevent the deterioration of the environment at Guandi Temple.	0.64		
I will support that the managers carried out more environmentally friendly measures at Guandi Temple.	0.72		
I will properly dispose of waste (i.e., apple cores) that may cause the environmental problem at Guandi Temple.	0.64		
I will support the destination to protect historical cultural and natural resources at Gaundi Temple.	0.68		
Domestic pro-environmental behavior (DPEB)		0.88	0.43
I learned more about the state of the environment and how to help solve environmental problems in the future in my daily life.	0.61		
I talked to others about environmental issues in my daily life.	0.64		
I invested in companies that utilize green technologies in my daily life.	0.72		
I talked to policy makers about environmental issues in my daily life.	0.69		
I contributed money to environmental organizations in my daily life.	0.72		
I participated in organized, peaceful environmental protests in my daily life.	0.65		
I bought fruits and vegetables grown without pesticides or chemicals (i.e., organic food) in my daily life.	0.61		
I joined in community clean-up efforts in my daily life.	0.60		
I paid extra for transportation if it is environmentally friendly (i.e., a fuel-efficient car) in my daily life.	0.68		
I reduced energy and water consumption in my daily life.	0.70		

Note 1. C.R.: composite reliability; AVE: average variance extracted.

Note 2. Goodness-of-fit statistics for the measurement model: $\chi^2 = 1093.417$, $df = 539$, $\chi^2/df = 2.029 < 3$, RMSEA = 0.053 < 0.08, $p < 0.001$, IFL = 0.913 > 0.90, TLI = 0.903 > 0.90, CFI = 0.912 > 0.90.

Note 3. All standardized factor loadings were significant ($p < 0.001$).

TPEB intention (0.42) is greater than religious ambience (0.35), highlighting the significance of the spillover effect of DPEB. This research contributes to the literature on TPEB intention by constructing the comprehensive A-H model, extending NAT, and exploring the role of awe in

Table 4. Measurement model correlations.

	RA	Aw.	AC	AR	PN	TPEB intention	DPEB
RA	0.66						
Aw.	0.49 ^a (0.24 ^b)	0.77					
AC	0.28 (0.08)	0.49 (0.23)	0.69				
AR	0.50 (0.25)	0.62 (0.38)	0.60 (0.36)	0.57			
PN	0.39 (0.15)	0.46 (0.21)	0.40 (0.16)	0.60 (0.36)	0.53		
TPEB intention	0.27 (0.07)	0.34 (0.12)	0.54 (0.30)	0.48 (0.23)	0.52 (0.27)	0.64	
DPEB	0.49 (0.24)	0.79 (0.62)	0.45 (0.20)	0.59 (0.35)	0.37 (0.13)	0.36 (0.13)	0.43

Note 1. Goodness-of-fit statistics for the measurement model: $\chi^2 = 1093.417$, $df = 539$, $\chi^2/df = 2.029 < 3$, RMSEA = 0.053 < 0.08, $p < 0.001$, IFI = 0.913 > 0.90, TLI = 0.903 > 0.90, CFI = 0.912 > 0.90.

Note 2. ^aCorrelations between variables are below the diagonal.

^bSquared correlations between variables are within parentheses.

The square root of AVE is indicated in bold on the diagonal of the table.

Table 5. Outcomes of hypotheses testing.

Hypotheses	Paths	Path coefficient	t-Value	Supported
H1	RA→Aw.	0.51	7.40***	Yes
H2	Aw.→TPEB intention	0.30	4.80***	Yes
H3	RA→TPEB intention	0.15	2.72**	Yes
H4	DPEB→TPEB intention	0.34	5.95***	Yes
H5	AC→PN	0.35	5.03***	Yes
H6	AR→PN	0.42	5.46***	Yes
H7	PN→TPEB intention	0.30	4.64***	Yes
H8a	Aw.→AC	0.74	8.85***	Yes
H8b	Aw.→AR	0.21	3.42***	Yes
H9a	DPEB→AC	0.22	4.19***	Yes
H9b	DPEB→AR	0.45	6.46***	Yes
Variance explained		Indirect effect on TPEB		Total effect on TPEB
R^2 (Aw.) = 0.26		H8: $\beta_{Aw. \rightarrow AC/AR \rightarrow PN \rightarrow TPEB \text{ intention}} = 0.12^*$		$\beta_{RA \rightarrow TPEB \text{ intention}} = 0.35^*$
R^2 (AC) = 0.66		H9: $\beta_{DPEB \rightarrow AC/AR \rightarrow PN \rightarrow TPEB \text{ intention}} = 0.07^{**}$		$\beta_{DPEB \rightarrow TPEB \text{ intention}} = 0.42^{**}$
R^2 (AR) = 0.28				$\beta_{Aw. \rightarrow TPEB \text{ intention}} = 0.39^{**}$
R^2 (PN) = .040				$\beta_{AC \rightarrow TPEB \text{ intention}} = 0.11^*$
R^2 (TPEB intention) = .059				$\beta_{AR \rightarrow TPEB \text{ intention}} = 0.13^*$
				$\beta_{PN \rightarrow TPEB \text{ intention}} = 0.30^{***}$

Note 1. Goodness-of-fit statistics for the measurement model: $\chi^2 = 1109.619$, $df = 548$, $p < 0.001$, $\chi^2/df = 2.025$, RMSEA = 0.053, IFI = 0.911, TLI = 0.903, CFI = 0.911.

Note 2. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

religious tourism. Moreover, these findings can be utilized by managers of religious destinations to support TPEB intention.

Theoretical implications

This study developed and verified the Awe-Habitual (A-H) Model of tourists' pro-environmental behavior (TPEB) intention. Firstly, this comprehensive A-H model integrates contextual, habitual, and psychological processes and explores their interlinkages with TPEB intention, in contrast to the predominant single or combined two processes models discussed in the existing literature. Tourism, as an activity that occurs in an "unusual" environment, directly and indirectly, affects TPEB intention through context-induced psychological factors. Additionally, tourism is not independent of daily life; habits formed in daily life also impact TPEB intention. Therefore, the context of tourism and daily life habits simultaneously influence TPEB intention in this A-H Model. This represents a step further from previous studies on TPEB intention, which treat tourism contexts and daily life as independent constructs, building their models focusing on either the framework of tourism context or the influence of DPEB from a daily life perspective. Therefore, this comprehensive A-H model of TPEB intention propounds that discussions about tourists' behavioral intentions should consider both the uniqueness of tourist destinations and the influence of the daily

life context within a single integrated framework. Another significance of this comprehensive A-H model is its integration of rationality and sensibility, aligning with human behavior motivation, wherein awe represents emotional factors, and DPEB and NAT represent rational factors.

Secondly, regarding the contextual-psychological aspect of the A-H Model, this study helps to demonstrate the self-transcendent function of awe through the path in which awe, elicited by the religious context, influences TPEB intention, with NAT mediating their relationship. Previous literature has often considered the concept of the small self as a mediator between awe and TPEB intention, assuming that the awe-induced small self shifts individuals' attention toward others' interests and weakens individuals' motivation for pro-environmental behavior. However, it is questionable whether redirecting attention toward others' interests truly motivates pro-environmental behavior intention. On the contrary, the characteristics of the small self, such as shifting attention away and weakening motivation of self-interest, fail to mirror the self-transcendence of awe (Perlin & Li, 2020). Awe is a self-transcendent emotion that leads to individual growth and development.

This study uses NAT as the mediating role of awe and TPEB intention in a religious context. We find that the causal chain of awe \rightarrow NAT \rightarrow TPEB intention aligns with the individual's quiet ego state, meaning that an individual enhances self-awareness, resilience, and confidence in their role (Wayment et al., 2015). This improvement in cognitive empathy and consciousness of responsibility leads to the development of self-actualized moral soundness (Perlin & Li, 2020), consequently stimulating pro-environmental behavior. Compared with the concept of the small self, the quiet ego better reflects the self-transcendence characteristics of awe in a religious context. It indicates that awe generated in religious tourism aims to achieve moral soundness and deepen individuals' motivation. Thus, the concept of quiet ego provides valuable insights into understanding how awe influences TPEB intention within religious tourism.

Finally, concerning the habitual-psychological aspect of the A-H Model, this research extends Norm Activation Theory (NAT) by demonstrating its mediating role in the spillover effect from DPEB to TPEB intention ($\beta_{\text{DPEB} \rightarrow \text{AC/AR} \rightarrow \text{PN} \rightarrow \text{TPEB intention}} = 0.07^{**}$). While previous studies have primarily focused on the spillover of pro-environmental behaviors between workspace and home, there remains a significant gap in understanding the spillover between home and visited destinations, particularly in religious settings. The discussion regarding the mediating mechanism of this spillover effect has been largely theoretical thus far, with Goal Activation Theory and relevant mediating variables mentioned in the past literature but not empirically tested. Among the limited number of empirical studies, few of them (i.e., Xu et al., 2020) explore potential mediating effects between DPEB and TPEB intention. Additionally, these studies only use a single variable, such as moral credit, moral license, or environmental identification. However, research suggests that deep altruistic motivation rooted in personal norms is likely one of the most influential factors driving spillover effects (Thøgersen & Noblet, 2012). Building upon this foundation, NAT serves as a well-established procedural model explaining how an individual's moral motivation is elicited to engage in altruistic actions; hence, this study verifies the role of NAT as a mediating mechanism. In future research endeavors, it would be valuable to empirically test these theories along with relevant mediating variables about the spillover between DPEB and TPEB intention.

Practical implications

The findings suggest that religious ambience is a significant factor in stimulating TPEB intention ($\beta_{\text{RA} \rightarrow \text{TPEB intention}} = 0.15^{**}$, $p < 0.01$). Tourists' perception of the religious atmosphere encompasses various dimensions, including visual, auditory, olfactory, and tactile. For the visual aspect, meticulous attention should be given to the scale and repetition of religious elements as well as the design of lighting (Wang & Lyu, 2019). Additionally, destinations can enhance the ambience by incorporating relevant theme music (auditory), utilizing "incense" in a reasonable manner (olfactory), and designing cultural and creative products (tactile) to enrich the sensory experience. Furthermore, it is crucial for destinations to maintain consistency in their religious atmospheres. In some Chinese religious destinations, a stark contrast exists between the solid religious

ambience inside the site and a dominant commercial atmosphere surrounding the site (Xiang, 2022), characterized by unregulated mobile vendors who often deceive tourists with their sub-standard products and services at site entrances. To address this issue effectively, managers can establish souvenir shops that align with the religious ambience, while regulating prices and ensuring quality standards, to balance commercialism and religiosity.

Moreover, managers should facilitate visitors' better understanding of the religious ambience. Demographic factors, such as education level, gender, and age, contribute to variations in tourists' perceptions of religious ambience (Goulding, 2023); therefore, interpretation services must be tailored accordingly (Wang & Lyu, 2019). For instance, providing explanations with stronger cultural connotations for tourists with high cultural literacy or offering easily understandable interpretations filled with anecdotes for those with a lower cultural literacy level would be beneficial. Additionally, managers should improve online and offline interpretation services and signage systems to ensure comprehensive comprehension of these sacred sites' rich tapestry of spiritual experiences.

Awe plays a significant role in shaping TPEB intention ($\beta_{Aw. \rightarrow TPEB \text{ intention}} = 0.35^{***}, p < 0.001$). Managers of religious destinations should consider or experiment with various ways to enhance awe creation. In some religious destinations, iconic religious architecture or other central elements often evoke awe, but most remain inaccessible to tourists. Virtual Reality (VR) can be employed as an effective means to present these religious elements and elicit awe, providing an immersive experience for tourists. Additionally, some special religious rites that evoke awe are only performed at specific times. Managers can utilize augmented Reality (AR) and VR technologies to create an immersive experience for tourists during these rituals. Before visiting tourist destinations, travelers often gather information from social platforms and official websites through photos, videos, and texts. Wang and Lyu (2019) have confirmed that the sense of awe experienced before touring influences pro-environmental behaviors among tourists. Some studies have demonstrated that videos, photos, and texts effectively stimulate feelings of awe and have been widely used in experimental studies on this emotion (Piff et al., 2015; Su et al., 2025). Therefore, tourist destinations should consider uploading relevant videos, photos, and texts on their official websites or apps while encouraging visitors to generate related content.

Our study confirms that the total effect of an individual's DPEB on TPEB intention is 0.42^{**} , highlighting the indispensability of DPEB. Policymakers should consider making efforts in environmental education and policy incentives. Environmental education can be community-based or workplace-based, formal and informal, incorporating consumption scenarios. Incentive policies can track individuals' efforts in energy efficiency, recycling, and other environmentally friendly behaviors in communities or workplaces, providing material rewards as motivational factors.

This study also reveals that deep altruistic motivations, such as individuals' sense of consequences, responsibility, and personal norms, facilitate the spillover from DPEB to TPEB intention. Managers should widely disseminate these altruistic environmental opinions, for example, through distributing (e-)brochures, signage, tickets, and narrations at religious destinations, using these materials as carriers for promoting environmentally oriented altruism.

Furthermore, religious tourism destinations may widely participate in pro-environmental initiatives organized by voluntary organizations or engage influential figures within religious spheres to stimulate TPEB and foster pro-environmental motivation. This could also further inspire DPEB upon returning to daily life. Ultimately, there is a bidirectional relationship between TPEB and DPEB.

Limitations

Although the study follows empirical research procedures, there are still some limitations in the research process. Firstly, the measurements of DPEB and TPEB intention rely on self-report questionnaires rather than assessing actual behavior. The self-reporting data may lead to biased responses due to social desirability bias. Additionally, inconsistencies between intention and

actual behavior can be influenced by personal factors, such as additional costs or time constraints, and individuals' desire for hedonic experiences during holidays (Gössling, 2018; Hibbert et al., 2013; Miller et al., 2015). Therefore, destinations should prioritize improving infrastructure convenience, such as providing more dustbins, to reduce these inconsistencies.

The second limitation is that DPEB and TPEB are measured at the same time. This method has also been employed by Xu et al. (2020), and Whitmarsh and O'Neill (2010) to examine spillover effects of pro-environmental behavior across different contexts. However, caution should be exercised when interpreting specific spillover effects since simultaneous measurement might contribute to direct spillover from DPEB to TPEB due to similarity biases. Behavioral spillover means that an individual must exhibit a change in an initial target action that contributes to a change in a second non-targeted action (Xu et al., 2020). Thus, it is crucial for future studies investigating spillover effects to adopt rigorous experimental or longitudinal methods.

The third limitation is that the questionnaires were distributed in August 2020. Due to the global crisis of the COVID-19 epidemic, tourists' sense of awe may have been significantly inflated, along with their pro-environmental behavioral motivation (Su et al., 2022). However, these effects are not considered in this study. Additionally, Guandi Temple attracts tourists from Malaysia and other Southeast Asian regions. During the pandemic, foreign visitors were restricted from entering, which resulted in a lack of relevant data collected from these groups of tourists. Cultural backgrounds may influence awe experiences, pro-environmental behavior, and environmental attitudes. Therefore, future studies should investigate this perspective for a better generalizable result.

The fourth limitation pertains to not measuring the religiosity of the respondents. Assessing an individual's religiosity in the Chinese context is difficult, as some Chinese individuals might refrain from publicly expressing their religious beliefs. Nonetheless, it is worth noting that religiosity may serve as a moderator for the influence of religious ambience on awe. In addition, for strong believers, environmental concerns and the connection to nature may be inherent in their religious beliefs, which will have a more profound impact on them (Wang et al., 2020). Therefore, religiosity may also play a moderating role in the relationship between awe and AC, as well as AR and TPEB. Future research could explore these possibilities in the context of religious tourism.

Another limitation is the convenience sampling method, which targets only tourists who have completed the entire journey and are available to answer the survey. When employing this sampling approach, the surveys tend to be predominantly distributed among individuals who possess a keen interest in the research theme and exhibit a high intention to participate, as Dörnyei (2007) argued. Consequently, these individuals may display greater awe or higher pro-environmental behavioral intentions than those unfamiliar with the research topic, potentially generating a positive bias sample.

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Appendix A. Sources of items in the measurement scale of TPEB

Dimensions and Items	References
Religious ambience (RA)	Lu et al. (2017)
<ul style="list-style-type: none"> The Buddhist ceremony makes me feel solemnity and seriousness. In Mount Emei, I feel the powers of the Buddha are unlimited. I think the Buddhist culture of Mount Emei is gorgeous. I think the Buddhist arts of Mount Emei are beautiful and magical. The temples in Mount Emei let me feel the long history of Buddhism. 	
Awe (Aw.)	(Coghlan et al., 2012; Lu et al., 2017)
<ul style="list-style-type: none"> boring-exciting usual-unusual arrogant-humbling expected-unexpected 	
Awareness of consequences (AC)	(Han, 2015; Stern, 2000; Stern et al., 1999)
<ul style="list-style-type: none"> The tourism industry can cause pollution, climate change, and exhaustion of natural resources because of infrastructure required to cater to a larger number of tourists. Tourism can generate huge environmental impacts on the environment. Tourists can cause environmental deterioration such as waste and excessive use of energy/water/fuel. 	
Ascription of responsibility (AR)	(Han, 2015; Stern, 2000; Stern et al., 1999)
<ul style="list-style-type: none"> I believe that every traveler is partly responsible for the environmental problem caused by the tourism industry. I feel that every traveler is jointly responsible for the environmental deterioration caused by traveling activities. Every traveler must take responsibility for the environmental problems caused during their trips. 	
Personal norm (PN)	(Han, 2015; Stern, 2000; Stern et al., 1999)
<ul style="list-style-type: none"> I feel an obligation to act pro-environmentally by choosing eco-friendly activities. Regardless of what other people do, because of my own values/ principles, I feel that I should behave in an environmentally friendly way. I feel that it is important to be environmentally friendly, reducing the harm to the spot and its environment. 	
Tourists' pro-environmental behavior (TPEB) intention	Halpenny (2010)
<ul style="list-style-type: none"> Volunteer to reduce my use of a favorite spot in the park if it needs to recover from environmental damage Volunteer to stop visiting a favorite spot in the park if it needs to recover from environmental damage Sign petitions in support of Point Pelee N.P. and similar protected areas Learn more about Point Pelee N.P.'s natural environment Pick up litter at Point Pelee N.P. or other parks left by other visitors Tell my friends not to feed the animals in Point Pelee N.P. or similar parks Pay increased park fees if they were introduced and used for park programs Participate in a public meeting about managing Point Pelee N.P. or similar parks Write letters in support of Point Pelee N.P. and similar protected areas Volunteer my time to projects that help Point Pelee N.P. or similar parks and nature areas Encourage others to reduce their waste and pick up their litter when they are at Point Pelee N.P. or similar parks Contribute donations to ensure protection of parks like Point Pelee N.P. 	
Domestic pro-environmental behavior (DPEB) intention	Halpenny (2010)
<ul style="list-style-type: none"> Learn more about the state of the environment and how to help solve environmental problems in the future. Avoid buying products from companies with poor environmental records. Talk to others about environmental issues. Invest in companies that utilize green technologies. Talk to policy makers about environmental issues. Contribute money to environmental organizations. Participate in organized, peaceful environmental protests. Buy fruits and vegetables grown without pesticides or chemicals. (i.e., organic food) Join in community clean-up efforts. Pay extra for transportation if it is environmentally friendly. (i.e., a fuel-efficient car) Reduce energy and water consumption. 	

Appendix 2. Demographic profile of the respondents.

	N = 363	%
Gender		
Male	206	56.7
Female	157	43.3
Marital status		
Married	203	55.9
Single	152	41.9
Others	8	2.2
Age group		
0–18	3	0.8
19–30	162	44.6
31–40	131	36.1
41–50	42	11.6
Over 51	25	6.9
Moith household income		
Less than \$ 421	95	26.2
\$ 421–\$ 842	130	35.8
\$842–\$1263	77	21.2
More than \$1263	61	16.8
Education background		
High school or below	68	18.7
Associate degree	123	33.9
Bachelor's degree	147	40.5
Master's degree or above	25	6.9