

Article

Promoting Sustainable Island Tourism Through Tourists' Environmentally Responsible Behavior: Integrating VIP, VAB, and TPB

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Abstract: With the increasing amount of attention paid to sustainable tourism, balancing tourism growth with ecosystem conservation has become critical. As one of the most concentrated forms of tourism, island tourism is subject to distinct ecological pressures, making the study of tourists' environmentally responsible behavior (TERB) both urgent and necessary. However, research on TERB in island tourism remains limited. In this study, we investigated Jeju Island as a case study and, based on 575 valid responses, integrated the value–identity–personal norm (VIP), value–attitude–behavior (VAB), theory of planned behavior (TPB), and complexity theory models to explore the formation pathways of TERB systematically. Structural equation modeling (SEM) confirmed that the core components of the VIP, VAB, and TPB models positively influence the development of TERB, while nationality emerged as a significant moderator. Fuzzy-set qualitative comparative analysis (fsQCA) further revealed six causal configurations, highlighting the diverse and non-linear TERB pathways. These findings will serve as significant theoretical insights into TERB and provide practical strategies for utilizing ecotourism as a tool for sustainable island tourism development.

Keywords: island tourism; tourists' environmentally responsible behavior; value–identity–personal norm model; value–attitude–behavior model; theory of planned behavior; complexity theory; fsQCA; Jeju island



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1. Introduction

Island tourism comprises various tourism activities that rely on islands and their surrounding waters [1]. According to a report by the United Nations World Tourism Organization (UNWTO), islands are among the most visited tourist destinations world-wide [2]. Currently, more than 70 countries consider island tourism a core industry, with over 40% of island destinations generating more than 20% of their gross domestic product (GDP) from tourism revenue [3]. In particular, island tourism has become a pillar industry for small-island developing states (SIDSs). In 2019, SIDSs welcomed around 44 million international tourists, generating USD 55 billion in tourism export revenue. By 2023, tourism accounted for an average of 38% of total exports, reaching up to 85% in some SIDS member states [4]. However, because of their unique and fragile ecosystems, islands are especially vulnerable to tourism-related impacts. Inappropriate tourist behavior has contributed to environmental degradation, including habitat loss and increased waste, threatening the long-term sustainability of these destinations [5]. Recently, many managers of island tourism destinations have recognized that implementing tourist-centered environmental

protection practices is crucial for achieving sustainable development goals and fostering local community prosperity [1,6]. Concurrently, tourists have gradually become aware of the impact of the environment on destinations, demonstrating increased consciousness of and willingness to engage in pro-environmental activities [7,8]. Additionally, scholars have reached a consensus on the pivotal role of tourists' environmentally responsible behavior (TERB) in sustainable tourism development, highlighting its significance in securing the long-term viability of tourism destinations [2,6,9]. Therefore, investigating the underlying mechanisms of TERB in island tourism is crucial for reconciling tourism development with ecological preservation.

Despite the growing urgency of research on TERB in island tourism, several critical areas remain underexplored and require further in-depth investigation and expansion. First, although TERB has been increasingly emphasized in the tourism literature [9,10], relatively few studies have demonstrated its significance for island tourism development [1,11]. The existing literature primarily focuses on assessing the socio-ecological conditions of islands, exploring development models, and comparing island differences [1,2,5]. Second, recent studies have begun introducing the value–identity–personal norm (VIP) model into the field of environmental psychology, recognizing its strong explanatory power and applicability in predicting pro-environmental behaviors [12]. The existing research has confirmed that this model serves as a guiding framework for pro-environmental behavior in various contexts, such as wetland conservation in South Korea and environmental behavior education in Turkey [12,13]. Previous research on environmentally responsible behavior also suggests that the value–attitude–behavior (VAB) model is highly effective in terms of explaining an individual's green behaviors, such as organic food consumption and purchasing green products [14,15]. Moreover, the TPB has been widely employed to examine individual decision-making regarding green behavior, including tourists' eco-friendly travel choices, sustainable product consumption, and stays at green hotels [10,16]. However, current studies on pro-environmental behavior predominantly adopt a single theoretical perspective and model [6,9,17], ignoring the potential synergistic effects of integrating multiple theories to enhance understanding of TERB. Third, scholars widely recognize that nationality plays a crucial role in shaping tourists' emotions and behaviors [18,19], yet its influence on TERB has not been sufficiently explored. Tourists from different national backgrounds are influenced by various cultures, beliefs, and values, leading to different perceptions of destinations [19]. Therefore, examining the operational mechanism of TERB from the perspective of nationality is important.

Meanwhile, according to complexity theory, TERB forms as a result of the intricate interplay of multiple factors [9]. However, most existing studies on TERB have primarily relied on structural equation modeling (SEM) to assess the net effects of multiple antecedents [9–11,13], failing to accurately capture the asymmetrical relationships between the interdependent antecedents [9]. Fuzzy-set qualitative comparative analysis (fsQCA), an asymmetrical approach based on complexity theory principles, reveals the intricate relationships between variables and identifies multiple causal configurations that determine outcomes [20]. To complement the explanatory power of SEM, it is necessary to apply fsQCA to explore the asymmetrical effects of the complex antecedents shaping TERB in island tourism. To address these research gaps, we aimed to answer the following questions:

RQ1. *How can the VIP, VAB, and TPB models be integrated to systematically predict the formation of TERB, and what moderating role does tourist nationality play within this integrated model?*

RQ2. *From the complexity theory perspective, which combinations constructed via key variables from the VIP, VAB, and TPB models contribute to the realization of TERB?*

To systematically address the aforementioned research questions, we established three primary objectives: (1) develop an integrated theoretical framework that synthesizes the VIP, VAB, and TPB models, and empirically examine the net effects on and path coefficients of multidimensional antecedents with respect to TERB; (2) explore, from a cross-cultural comparative perspective, the moderating role of nationality in the formation of TERB, thereby uncovering the heterogeneous characteristics of tourists from different cultural backgrounds in terms of value perception, internal and external norms, and behavioral intentions; and (3) apply fsQCA to overcome the limitations of traditional linear regression and, through configurational thinking, identify synergistic combinations of key antecedent conditions that lead to TERB.

Using Jeju Island in South Korea as a case study, we propose a comprehensive framework grounded in the VIP, VAB, and TPB models and complexity theory to investigate the formation mechanisms of TERB. By integrating both linear and nonlinear perspectives, this study advances the theoretical understanding of tourists' proactive engagement in sustainable development on islands. Furthermore, the findings provide Jeju and similar island destinations with valuable insights into crafting tailored strategies to promote sustainable tourism growth.

The remainder of this paper is structured as follows: Section 2 reviews the relevant literature, introduces the theoretical framework, and presents the research hypotheses; Section 3 describes the case study, questionnaire measures, data collection procedures, and analytical methods; Section 4 reports the results of the structural equation modeling, moderation analysis, and fsQCA; Section 5 discusses the theoretical contributions and practical implications of this study; and Section 6 outlines this study's limitations and offers directions for future research.

2. Literature Review

2.1. Tourists' Environmentally Responsible Behavior

TERB refers to the activities and actions tourists engage in during their travels to help protect the natural environment of tourism destinations [10,12,13]. These behaviors are instrumental in alleviating environmental challenges, minimizing ecological burdens, and fostering the sustainable development of tourism [21,22]. Given the pivotal role of TERB in sustainable tourism development, extensive scholarly investigations have been conducted across diverse domains, including geopark management, autonomous vehicle tourism, green consumer behavior, and eco-friendly hospitality establishments [9,10,16,23].

Island tourism, one of the most popular forms of global tourism, is increasingly hampered by severe ecological challenges due to managerial neglect and unsustainable development practices [2]. Unregulated tourist activities have resulted in significant damage to island ecosystems, including accelerated coral reef degradation caused by diving activities, increased marine ecological imbalance due to plastic waste pollution, and severe depletion of fish resources from recreational fishing [7,24]. Collectively, these issues threaten the stability of island ecosystems [25]. In response, scholars such as Fakfare et al. [6] and Kim et al. [11,26] have emphasized the urgency of promoting environmentally responsible behavior within the island tourism context, highlighting that tourists' values and moral norms are decisive factors in shaping TERB. However, existing research on TERB remains limited [1,5], particularly with respect to empirical studies that integrate multiple theoretical perspectives within the specific context of island tourism.

2.2. The Combination of the VIP, VAB, and TPB Models

Although the extensive research conducted using the VIP, VAB, and TPB models has offered valuable insights into tourists' green behavior, the exploration of TERB remains

insufficient because of the limitations of relying on a single model or theoretical lens. Table 1 systematically summarizes the application contexts, key findings, and major limitations of the VIP, VAB, and TPB models in pro-environment research. Comparative analysis of the extant literature reveals that each model suffers from a limited explanatory scope and incomplete coverage of the underlying behavioral mechanisms.

Table 1. A comparative table of the VIP, VAB, and TPB models.

Study/Contexts	Theory	Variables	Results	Limitation
Lee et al. [12]/ Wetland tourism	VIP	Biospheric value; environmental self-identity; personal norms	There is a significant progressive relationship between tourists’ biospheric value, environmental self-identity, and personal norms.	This model does not enable a thorough exploration of the interaction between egoistic and altruistic values, weakening its explanatory power regarding value-driven environmental decision-making. Additionally, its neglect of social norms limits the ability to capture group behavioral dynamics, hindering a comprehensive understanding of the synergy between individual rationality and collective constraint.
Yacout [27]/ Sustainable transportation	VIP	Altruistic value; egoistic value; biospheric value, pro-environmental identity; personal norms; attitudes	Biospheric value enhances environmental self-identity, while altruistic and egoistic values exhibit no significant effects. In turn, self-identity strengthens personal norms, which promote pro-environmental attitudes.	Despite its emphasis on environmental attitudes, this study fails to extend its analysis to consumers’ actual purchase intentions or behavioral outcomes, thereby falling short in explaining the gap between attitudes and behaviors. This limitation reduces the model’s predictive validity regarding real-world actions and constrains its practical applicability for policy recommendations and behavioral interventions.
Liu [28]/ Beach tourism	VAB	Biosphere value; attitude towards taking environmentally responsible behaviors; environmentally responsible behavioral intention	Biospheric value did not directly stimulate tourists’ positive attitudes toward pro-environmental behavior, indicating a limited influence at the attitude-formation stage; however, attitude plays a crucial role in shaping pro-environmental intentions.	An overemphasis on biosphere value in explaining attitude formation can obscure the roles played by individual personality traits and social axioms. Such a value-centric approach risks offering a limited perspective on attitude development, thereby weakening the model’s applicability and explanatory scope across different social settings.
Sadiq [29]/ Eco-friendly hotel stay	VAB	Altruistic value; egoistic value; environmental attitude; eco-friendly behavior	Tourists’ altruistic and egoistic values are positively associated with their environmental attitudes, which in turn positively influence their pro-environmental behaviors.	Prioritizing individual psychological factors tends to downplay the significant influence of social pressure and group dynamics on behavioral intentions. This individual-centric perspective may result in a fragmented understanding of what drives pro-environmental behavior, neglecting the impact of external forces like group norms embedded in social contexts.

Table 1. Cont.

Study/Contexts	Theory	Variables	Results	Limitation
Qin [30]/ Urban tourism	TPB	Attitude; subjective norms; perceived behavioral control; pro-environmental behavior	Attitude and perceived behavioral control significantly influence tourists’ pro-environmental behavior, whereas the association between subjective norms and tourists’ pro-environmental behavior is not significant.	Approaches emphasizing rational and self-interested psychological mechanisms tend to overlook the influence of personal moral norms as intrinsic motivators. This focus may hinder a full understanding of the moral foundations underlying tourists’ pro-environmental behavior, limiting the model’s ability to account for non-rational drivers such as a sense of responsibility and obligation.
Esfandiar [31]/ National Parks	TPB	Attitude towards bin use; social norms towards bin use; perceived behavioral control towards bin use; binning behavior	In addition to attitude, both social norms and perceived behavioral control have significant effects on national park visitors’ pro-environmental sorting behavior.	While cultural values were assessed, the absence of self-identity led to a failure to capture its potential influence on environmental attitudes. As an emotional connection to a cultural group, self-identity can play a crucial role in shaping tourists’ attitudes. Its omission may partly explain the weak attitude-related findings and limit a comprehensive understanding of the mechanisms driving pro-environmental behavior.
Clark [32]/ Whale watching	TPB	Attitude; subjective norms; perceived behavioral control; reducing plastic consumption behaviors	Subjective norms have a significant influence on pro-environmental behavior, whereas attitude and perceived behavioral control exhibit no significant effects.	The explanation of tourists’ intrinsic motivations and value orientations related to pro-environmental behavior remains limited. Key psychological mechanisms such as environmental values, moral responsibility, and identity are insufficiently addressed, restricting a comprehensive understanding of the complexity behind tourists’ psychological and behavioral decision-making processes.

Prior research supports the value of theoretical integration. A study on Iranian students’ organic food-purchasing behavior showed that adding personal norms and self-identity increased the TPB model’s explained variance by 8% [33]. In their study on Chinese consumers’ intentions to purchase new-energy vehicles, Wang et al. [34] addressed the TPB’s rational bias by incorporating three types of values—altruistic, bio-spheric, and collectivist—thus filling a gap in personal decision-making standards. Similarly, another study on sustainable dining behavior found that personal and social norms significantly mediated the relationship between sustainability values and reduced food wasting, allowing an extended VAB model to more effectively explain pro-environmental food choices [35]. In the context of island tourism, the VIP model can identify how a sense of moral obligation is fostered through the internalization of environmental values and the shaping of a “responsible tourist” identity [36,37]. The VAB model translates these values into concrete attitudinal preferences toward ecological conservation [28,38], while the TPB framework transforms these attitudes and norms into actionable behavioral intentions generated by subjective norms and perceived behavioral control [29,36,39]. The integration of these three models reveals that there is a comprehensive chain spanning from internal value-driven motivations to external situational constraints involved in shaping TERB. It also highlights the dynamic balance between moral self-awareness and practical feasibility in island ecological protection, thereby enhancing both the theoretical saturation and predictive validity of TERB research.

2.3. The Value–Identity–Personal Norm Model

The VIP model, developed by Van der Werff and Steg [36], was designed to understand the general determinants of prosocial behavior and has proven effective in explaining TERB [12,13]. The model consists of three key components: values, self-identity (SI), and personal norms (PN), which predict pro-environmental behavior through internal causal mechanisms [12,13,36]. Values are composed of three dimensions: egoistic value (EV), altruistic value (AV), and biospheric value (BV) [10,37]. EV refers to an individual's value orientation that prioritizes self-interest and seeks to achieve personal goals through pro-environmental behavior. AV reflects an individual's desire to contribute to the social well-being of tourism destinations through eco-friendly actions. BV represents the belief that nature should be protected for its intrinsic value. SI is a personalized label that individuals assign to themselves for being environmentally responsible. PN represents the moral obligation of individuals to engage in pro-environmental behavior based on their beliefs.

Because of the structure of the VIP model, scholars have increasingly used it to predict prosocial behavior and contribute to environmental protection [13]. In a study on green consumption behavior among Indian consumers, Lavuri et al. [40] confirmed that egoists, in pursuit of a healthier personal lifestyle, reinforce their identification by supporting green consumption. In a study on Egyptian electric vehicle consumers, Yacout et al. [27] showed that altruists, while aiming to improve the environment, also reinforce their environmentalist SI. Tourists with strong BV develop strong environmental SI, as highlighted by Lee [12], and PN represents the moral obligation associated with personal beliefs, such that individuals with a higher level of environmental SI are more likely to associate PN with environmental responsibility, thereby promoting pro-environmental behavior [36]. The above discussion highlights the importance of the VIP model in explaining individual green behavior; however, its application to TERB remains largely unexplored. Therefore, the following hypotheses are proposed:

Hypothesis 1 (H1). *Egoistic value significantly influences self-identity.*

Hypothesis 2 (H2). *Altruistic value significantly influences self-identity.*

Hypothesis 3 (H3). *Biospheric value significantly influences self-identity.*

Hypothesis 4 (H4). *Self-identity significantly influences personal norms.*

Hypothesis 5 (H5). *Personal norms significantly influence tourists' environmentally responsible behavior in island tourism.*

2.4. Value–Attitude–Behavior Model

The VAB model, proposed and validated by Homer and Kahle [41], describes how values influence specific individual behaviors through the mediating role of attitude (AT). According to the VAB model, an individual's cognitive process gradually shifts from the abstract level to the intermediate level of AT, ultimately manifesting in specific behaviors [38,41]. As the VAB model is important in explaining sustainable behavior, scholars of tourism and hospitality have widely adopted it to explore tourists' pro-environmental behavior, offering valuable insights [28,38]. Research suggests that tourists' pro-environmental values represent their cognitive orientation toward the relationship between humans and the natural environment, primarily classified into EV, AV, and BV [42,43]. These three dimensions align with the value classification proposed in the VIP model, further validating the integration of the VIP and VAB models. Additionally, AT is described as the psychological tendency that reflects

individuals' evaluations of environmental issues and influences their behavioral choices based on varying degrees of preference.

The VAB model's internal logic follows a hierarchical sequence: "values→attitude→behavior" [41], which has been empirically confirmed in tourism-related studies [42]. Shi et al. [43] found that BV and AV positively impact ecotourism AT, which, in turn, is significantly associated with tourists' ecotourism intentions. Sadiq et al. [29] revealed that tourists with strong AV are more concerned about health issues, fostering positive environmental AT and reinforcing pro-environmental behavior. Although previous studies have emphasized the critical role of the VAB model in explaining TERB, research on island tourists remains limited. In particular, empirical studies that systematically examine the relationships between island tourists' values, AT, and pro-environmental behavioral intentions within the VAB model framework are lacking. Therefore, based on the theoretical foundations described above, the following hypotheses are proposed:

Hypothesis 6 (H6). *Egoistic value significantly influences attitude.*

Hypothesis 7 (H7). *Altruistic value significantly influences attitude.*

Hypothesis 8 (H8). *Biospheric value significantly influences attitude.*

Hypothesis 9 (H9). *Attitude significantly influences tourists' environmentally responsible behavior in island tourism.*

2.5. Theory of Planned Behavior

TPB, developed by Ajzen [39], posits that behavior is guided by three key components: AT, subjective norms (SN), and perceived behavioral control (PBC) [16,39,44]. Specifically, an individual's positive or negative evaluation of a behavior, social pressure from significant others, and PBC over the ability and resources to perform the behavior collectively determine their intention to engage in the behavior, which in turn influences their actual behavior [30,39]. With the increasing adoption of this theory, TPB has been widely applied to predict pro-environmental behavior across various contexts, and an increasing number of tourism scholars have utilized it to study tourists' green travel choices, museum visitors' pro-environmental behavior, and environmentally responsible behavior in urban destinations [10,30,45].

In assessing TERB, the tourism literature aligns the definition of AT with that provided in the VAB model, describing it as a psychological tendency toward environmental protection [30]. Additionally, SN reflects the extent to which tourists comply with the recommendations of others regarding pro-environmental actions, whereas PBC represents individuals' perceptions of their ability and available resources to engage in pro-environmental behavior [45]. Studies have shown that these three factors are closely linked to PN in environmental support and collectively play a positive role in fostering environmental action [10]. Tuhin et al. [46] found that AT is shaped by factors such as obligation, knowledge, lifestyle, and beliefs, highlighting PN as a central influence on attitude formation. Khan et al. [10] demonstrated that PN not only directly influences AT but also enhances SN and PBC in green travel contexts. When tourists internalize environmental responsibility, they are more likely to perceive social support and feel greater control over eco-friendly choices, thereby strengthening their behavioral intentions. Moreover, numerous TPB-related studies have confirmed that tourists' positive environmental AT, SN shaped by social influence, and high levels of PBC over eco-friendly behaviors positively impact TERB [10,16,30,45]. While the above discussion highlights the value of TPB in pro-environmental research, few studies have explored the relationship among PN, TPB, and tourists' intentions to engage

in pro-environmental behavior in island tourism. Therefore, the following hypotheses are proposed:

Hypothesis 10 (H10). *Personal norms significantly influence attitude.*

Hypothesis 11 (H11). *Personal norms significantly influence subjective norms.*

Hypothesis 12 (H12). *Personal norms significantly influence perceived behavioral control.*

Hypothesis 13 (H13). *Subjective norms significantly influence tourists' environmentally responsible behavior in island tourism.*

Hypothesis 14 (H14). *Perceived behavioral control significantly influences tourists' environmentally responsible behavior in island tourism.*

2.6. Moderating Effect: Nationality

Nationality refers to an individual's membership in a specific country [47]. Scholars widely acknowledge that analyzing tourists' behaviors, beliefs, motivations, and perceptions through the lens of nationality is fundamental to a destination's success, as tourists from different nationalities often have distinct tourism expectations shaped by their sub-cultural backgrounds [19]. Existing research has demonstrated that nationality exerts differential effects on tourism destinations, playing a strong moderating role in tourist behavior [19,48]. Azali et al. [19] highlighted that nationality moderates the interrelationship among social norms, travel motivations, and behavioral intentions among tourists planning to visit Japan. In nature-based tourism, the moderating effect of cultural differences between American and Korean tourists is partially supported [49]. Additionally, Hammad et al. [18] noted that domestic tourists have a greater influence than international tourists on the relationship between positive cultural impact and tourism development support. Although the existing literature suggests that domestic and international tourists hold different perspectives on the impact of tourism, the moderating role of nationality in island ecotourism remains unexplored, particularly regarding the formation of TERB. This study aimed to fill this gap by testing the following hypotheses:

Hypothesis 15a~n (H15a~n). (a) *Nationality moderates the relationship between egoistic value and self-identity.* (b) *Nationality moderates the relationship between biospheric value and self-identity.* (c) *Nationality moderates the relationship between altruistic value and self-identity.* (d) *Nationality moderates the relationship between egoistic value and attitude.* (e) *Nationality moderates the relationship between biospheric value and attitude.* (f) *Nationality moderates the relationship between altruistic value and attitude.* (g) *Nationality moderates the relationship between self-identity and personal norms.* (h) *Nationality moderates the relationship between personal norms and attitude.* (i) *Nationality moderates the relationship between personal norms and subjective norms.* (j) *Nationality moderates the relationship between personal norms and tourists' environmentally responsible behavior in island tourism.* (k) *Nationality moderates the relationship between personal norms and perceived behavioral control.* (l) *Nationality moderates the relationship between attitude and tourists' environmentally responsible behavior in island tourism.* (m) *Nationality moderates the relationship between subjective norms and tourists' environmentally responsible behavior in island tourism.* (n) *Nationality moderates the relationship between perceived behavioral control and tourists' environmentally responsible behavior in island tourism.*

2.7. Configurations Leading to TERB

Previous studies have assessed the linear effects of the VIP, VAB, and TPB models in shaping TERB across various contexts, including geotourism, green travel, and beach and cruise tourism [9,10,28,38]. However, research by Gao [20], Manosuthi et al. [50], and Zheng et al. [9] has highlighted that the formation of TERB is a complex causal process involving asymmetrical configurations of multiple conditions, rather than the linear influence of a single factor. Therefore, acquiring a comprehensive understanding of the mechanisms of TERB formation necessitates exploring its nonlinear configurational combination.

Complexity theory, derived from chaos theory, explains the complex dynamics involving nonlinearity, heterogeneity, uncertainty, and dynamic processes [20,51]. It predicts multiple causal pathways leading to the same outcome due to individual differences, providing a theoretical foundation for examining the complexity of tourism-related social phenomena [9]; fsQCA is a hybrid analytical method that follows complexity theory principles to identify combinations of antecedents that serve as necessary or sufficient conditions for producing a given outcome [50,52]. Given that nonlinear research on TERB has not been sufficiently explored in multiple tourism fields, such as ecotourism, geotourism, and island tourism, this study employs fsQCA and introduces Proposition 1 to examine how the complex interplay of the VIP, VAB, and TPB model variables contributes to predicting TERB.

Proposition 1. *The VIP and VAB models, along with TPB variables, have an optimal combined impact on the intention to engage in tourists' environmentally responsible behavior in island tourism (Figure 1).*

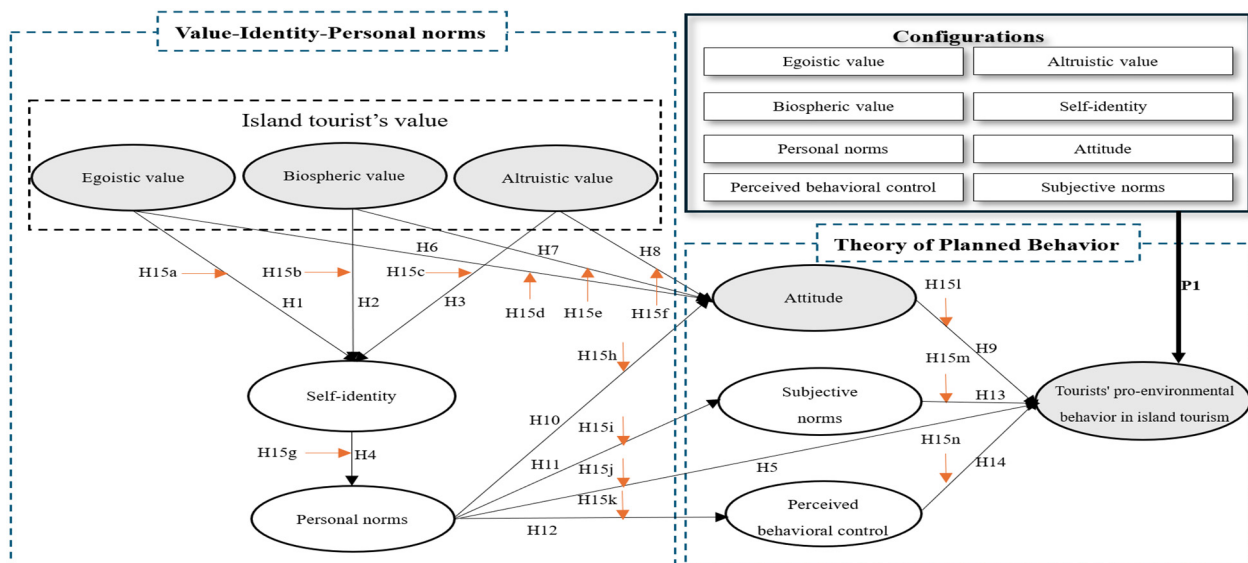


Figure 1. Proposed hypotheses and propositions. Note: the shaded constructs are the original variables of the value–attitude–behavior (VAB) model; the control variables of the pro-environmental behavioral intention in island tourism are gender, age, and education; the orange arrow indicates the moderating effect of nationality (H15a–H15n); P1 indicates the causal configurations of the variable conditions influencing tourists' environmentally responsible behavior in island tourism.

3. Case Study and Methodology

3.1. Research Case: Jeju Island

Jeju Island, the largest volcanic island in South Korea, is located in the Korea Strait and spans approximately 1850 square kilometers (see Figure 2) [53]. Renowned for its volcanic landscapes, beaches, and forests, Jeju has been recognized by UNESCO as a Biosphere Reserve, World Natural Heritage site, and Global Geopark [54]. Tourism is the island's core economic sector, employing over 90,000 people and contributing about 20% of its total output, with annual revenues reaching KRW 7.4 trillion [55]. Before the COVID-19 pandemic, tourist arrivals exceeded 15 million in 2019 (Figure 3). Although the pandemic disrupted growth, Jeju's tourism industry has shown strong resilience and recovery [11]. However, the surge in tourism has led to growing environmental challenges, including plastic waste and encroachment on protected areas [53,55]. These issues highlight the urgent need to investigate the mechanisms underlying TERB. Therefore, this study adopted Jeju Island as a case study to examine the formation of TERB and provide insights for sustainable island tourism development.



Figure 2. Location of Jeju Island. Note: the red box on the map is Jeju Island. Source: Google Maps.

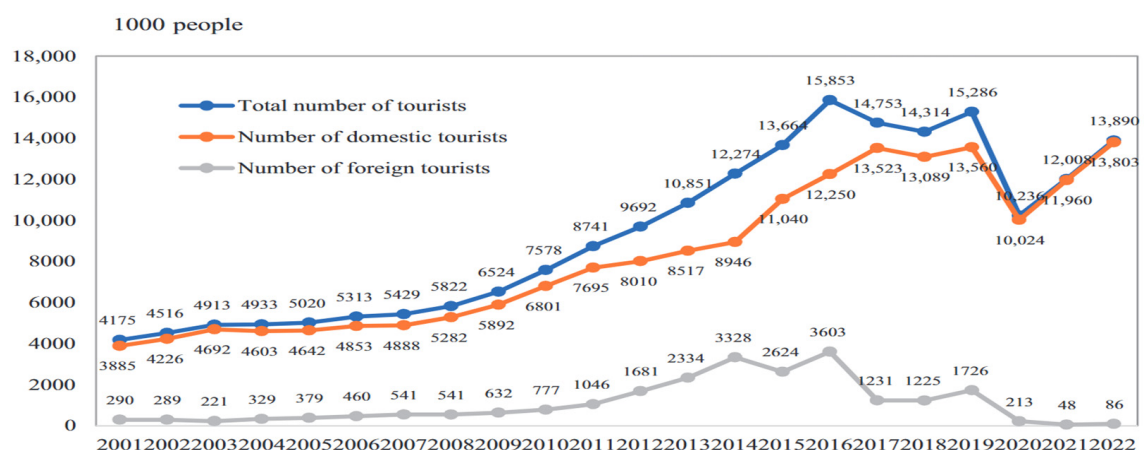


Figure 3. Number of inbound tourists on Jeju Island (2001–2022). Source: Jeju Tourism Organization (2023).

3.2. Questionnaire Design

The questionnaire was developed based on previous studies on pro-environmental tourism behavior that were subsequently adapted to the specific context of island tourism. It was originally written in English and translated into Korean using a double-translation and reconciliation process carried out by two bilingual experts. The questionnaire was

organized into three main sections. The first section introduced the study's aim, i.e., to explore tourists' environmentally responsible behaviors, while assuring confidentiality and confirming that the respondents were adults (18 years or older) visiting Jeju for leisure or tourism. The second section contained the main constructs of interest, including values, SI, PN, AT, SN, PBC, and TERB specific to an island context. The third section collected demographic data, such as each respondent's gender, age, education level, occupation, and nationality. Prior to the main data collection process, the survey underwent content validation by two tourism professionals, followed by a pilot test with twenty-five graduate students familiar with tourism research. Minor linguistic clarifications were made as a result of these steps, particularly to ensure item clarity in both the English and Korean versions.

3.3. Measures

The measurement scales were adapted from previous studies and appropriately modified to fit the context of island tourism. Specifically, EV, AV, and BV were measured using three items derived from Khan et al. [10] and Floress et al. [37]. SI and PN were assessed using four items adapted from Ferreira et al. [23] and Lee et al. [12]. Additionally, AT, SN, PBC, and TERB were evaluated using four items for each, sourced from Ateş et al. [13], Govaerts et al. [15], Liu et al. [28], and Wang et al. [16]. Tourism experts and industry practitioners pretested the English survey questionnaire to ensure content validity. All items were rated on a seven-point Likert scale ranging from 1 ("strongly disagree") to 7 ("strongly agree").

3.4. Data Collection

Data were collected on site over a three-week period in July 2024, encompassing different time slots to accommodate variations in visitor arrivals. Four trained tourism researchers approached potential participants in public waiting areas and lounges at the airport, as well as main walkways within the Jungmun Tourist Complex. Each researcher briefly introduced the study's purpose and informed prospective respondents that participation was voluntary and fully anonymous. Tourists who met the eligibility criteria (i.e., aged ≥ 18 and traveling to Jeju for leisure) were invited to self-administer the questionnaire, which typically required ten to fifteen minutes to complete. We recruited a balanced sample of local Korean and foreign visitors. In total, 622 questionnaires were gathered, of which 575 were determined to be valid for analysis after excluding incomplete or contradictory responses. The final sample, consequently, included diverse genders, ages, and educational and cultural backgrounds, ensuring a relatively broad representation of Jeju's tourist profile.

3.5. Data Analysis

In this study, data analysis proceeded in four stages. First, SPSS 26.0 was used to provide an overview of the sample and test for common method bias via Harman's single-factor approach. Second, measurement validation and hypothesis testing were performed using AMOS 24.0 through confirmatory factor analysis (CFA) and SEM, thereby confirming the reliability, validity, and significance of the proposed paths. Third, the moderating influence of nationality was examined with PROCESS Macro v3.5 in SPSS, using interaction terms to determine whether Korean and international tourists differed in terms of the hypothesized relationships. Finally, fsQCA 4.1 was used to conduct a necessary condition analysis on the model variables to identify whether there were any indispensable factors influencing the achievement of TERB. A truth table was then constructed to reveal multiple causal configurations that jointly lead to high levels of TERB. In addition, predictive validity

and robustness tests were conducted using fsQCA to ensure the reliability and explanatory power of the configurational combinations.

Thus, we innovatively employed a mixed-methods approach integrating linear analysis (SEM) and nonlinear analysis (fsQCA) to comprehensively explore the formation mechanism of TERB in the context of island tourism. Specifically, SEM was used to examine causal relationships between observed and latent variables while controlling for measurement error during model estimation. Therefore, this study first applied SEM to validate the linear net effects among variables and evaluate the overall strength of the proposed model paths [50,56]. However, the formation of TERB is highly complex, and relying solely on linear causal paths will not reveal the interactive effects among multidimensional combinations of variables [9]. This study further incorporated fsQCA to systematically identify multiple causal configurations among the independent variables under asymmetry, equifinality, and interaction conditions, thereby addressing the linear limitations of SEM [9,51]. The fsQCA results not only reveal several distinct causal paths that can effectively lead to high levels of TERB but also clarify how key condition combinations operate through interactive mechanisms between psychological and contextual variables. The integration of SEM and fsQCA enhanced the model's explanatory power and predictive validity by providing a more robust and multidimensional analytical framework, thereby deepening a comprehensive understanding of pro-environmental behavior in island tourism settings.

4. Results

4.1. Sample Overview

As shown in Table 2, the study sample (N = 575) comprised predominantly male respondents (57.6%) with a diverse age distribution concentrated in the 20–29 age bracket (36.5%). Most participants (75.2%) held at least a bachelor's degree. White-collar workers (37.6%) and officials (19.3%) dominated the occupational distribution, whereas the nationality composition was nearly balanced between Koreans (47.3%) and foreigners (52.7%). This demographic composition provides a robust foundation for examining our research questions in a cross-cultural context.

Table 2. Sample overview.

Category	Characteristics	N (575)	%
Gender	Male	331	57.6
	Female	244	42.4
Age	Younger than 20 years old	23	4.0
	20–29 years old	210	36.5
	30–39 years old	123	21.4
	40–49 years old	102	17.7
	50 years old or more	117	20.3
Education	High school diploma or less	34	5.9
	Associate degree	109	19.0
	Bachelor's degree	304	52.9
	Master's degree or higher	128	22.3

Table 2. *Cont.*

Category	Characteristics	N (575)	%
Occupation	Student	68	11.8
	White collar	216	37.6
	Official	111	19.3
	Self-employed	77	13.4
	Professional	92	16.0
	Others	11	1.9
Nationality	Korean	272	47.3
	Foreigner	303	52.7

4.2. Tests of Normality and Common Method Bias and Normality Test

Concerns regarding common method bias (CMB) may arise when data are collected from the same respondents at a single point in time and include both independent and dependent variables. To mitigate this issue, trap questions were embedded in the design of the questionnaire to identify and exclude inattentive or incomplete responses. In addition, Harman's single-factor test was conducted. When the variance explained by a single factor is less than 50%, one can further infer that CMB does not significantly affect the results [52]. The results of the exploratory factor analysis revealed that the largest variance explained by a single factor was 34.86%, which is well below the critical threshold of 50%, indicating that CMB is not a serious concern in this study [57].

Moreover, to satisfy the assumption of normality required for SEM, skewness and kurtosis values were examined for all the measurement items. As shown in Table 3, the skewness values ranged from -0.805 to -0.351 , and the kurtosis values ranged from -0.455 to 0.977 . These values fall within the recommended thresholds (i.e., skewness between -3 and $+3$ and kurtosis between -10 and $+10$), indicating that the data approximated a normal distribution [56], thereby fulfilling the basic statistical assumptions of SEM.

Table 3. Confirmatory factor analysis results for the measurement model.

Constructs and Items	λ	M	Skew	Kurt	AVE	CR
Egoistic value (EV)					0.564	0.795
EV1. Engaging in pro-environmental behavior makes me feel prouder about myself.	0.762	4.821	-0.352	-0.155		
EV2. Engaging in pro-environmental behavior makes me have more respect for myself.	0.755	4.812	-0.351	0.450		
EV3. Engaging in pro-environmental behavior enhances my self-esteem.	0.735	4.850	-0.399	0.008		
Altruistic value (AV)					0.528	0.770
AV1. Engaging in pro-environmental behavior contributes to the ecological protection of Jeju Island.	0.726	4.788	-0.446	-0.278		
AV2. Engaging in pro-environmental behavior enhances the well-being of Jeju Island residents.	0.694	4.866	-0.462	-0.374		
AV3. Engaging in pro-environmental behavior improves the environmental quality of Jeju Island.	0.759	4.847	-0.491	-0.036		

Table 3. Cont.

Constructs and Items	λ	M	Skew	Kurt	AVE	CR
Biospheric value (BV)					0.609	0.824
BV1. We need to respect the Earth.	0.789	5.023	−0.629	0.071		
BV2. We need to coexist harmoniously with other species.	0.752	4.958	−0.584	0.212		
BV3. We need to prevent pollution and protect natural resources.	0.800	5.028	−0.697	0.365		
Self-identity (SI)					0.765	0.929
SI1. Protecting the environment is an important part of my life.	0.850	5.266	−0.731	0.784		
SI2. I engage in pro-environmental behavior while participating in tourism.	0.824	5.311	−0.726	0.617		
SI3. I consider myself a pro-environmental-conscious person.	0.880	5.374	−0.648	0.465		
SI4. I consider myself a person who is willing to protect the environment.	0.941	5.336	−0.805	0.977		
Personal norms (PN)					0.668	0.889
PEPN1. I feel morally responsible for reducing my impact on Jeju Island's environment.	0.860	5.104	−0.785	0.497		
PEPN2. I feel a moral obligation to reduce my impact on Jeju Island's environment.	0.814	5.113	−0.781	0.437		
PEPN3. I would feel guilty if I caused harm to Jeju Island's environment.	0.763	5.129	−0.774	0.447		
PEPN4. Minimizing the impact on Jeju Island's environment is the right thing to do.	0.829	5.141	−0.740	0.431		
Attitude (AT)					0.634	0.838
AT1. For me, engaging in pro-environmental behavior in Jeju Island is good.	0.820	4.873	−0.658	0.304		
AT2. For me, engaging in pro-environmental behavior in Jeju Island is a wise choice.	0.808	4.901	−0.509	0.070		
AT3. For me, engaging in pro-environmental behavior in Jeju Island is enjoyable.	0.759	4.892	−0.506	−0.030		
Subjective norms (SN)					0.648	0.847
SN1. Most people who are important to me believe that I should engage in pro-environmental behavior.	0.795	5.024	−0.622	0.007		
SN2. Most people who are important to me hope that I will engage in pro-environmental behavior.	0.824	4.998	−0.679	0.146		
SN3. The people whose opinions I value are more likely to want me to engage in pro-environmental behavior.	0.797	4.934	−0.627	0.154		
Perceived behavioral control (PBC)					0.558	0.791
PBC1. Whether I engage in pro-environmental behavior is entirely up to me.	0.750	5.082	−0.539	−0.366		
PBC2. I believe that if I want to, I can engage in pro-environmental behavior.	0.783	4.925	−0.491	−0.455		
PBC3. I have the resources, time, and opportunities to engage in pro-environmental behavior.	0.707	5.035	−0.632	−0.263		
Tourists' environmentally responsible behavior					0.750	0.900
TERB1. I am willing to engage in pro-environmental behavior in Jeju Island.	0.859	5.030	−0.705	0.234		
TERB2. I would recommend other tourists to engage in pro-environmental behavior in Jeju Island.	0.854	5.064	−0.781	0.417		
TERB3. I would encourage other tourists to engage in pro-environmental behavior in Jeju Island.	0.885	5.038	−0.654	0.076		

Note: λ : factor loading; M: mean; CR: composite reliability; AVE: average variance extracted; Skew: skewness; Kurt: kurtosis.

4.3. Measurement Model Evaluation

The overall quality of the measurement model was evaluated using CFA, and the results are presented in Table 3. Specifically, the model fit indices indicate a good fit between the model and the data: $\chi^2/\text{df} = 1.680$ (<3), NFI = 0.942 (>0.9), TLI = 0.971 (>0.9), CFI = 0.976 (>0.9), and RMSEA = 0.034 (<0.08), all of which fall within acceptable threshold ranges [58]. All the standardized factor loadings exceeded the recommended threshold of 0.50, confirming the model's convergent validity. The composite reliability (CR) and average variance extracted (AVE) values for all constructs were above the recommended cut-off points of 0.70 and 0.50, respectively, indicating strong internal consistency and convergent validity [54,56]. Furthermore, we used the discriminant validity criterion proposed by Fornell and Larcker [59], which has been widely adopted in related studies. According to this standard, the square root of the AVE for each construct should be greater than its correlations with other constructs. As shown in Table 4, all the constructs in this study meet this requirement, indicating that the discriminant validity of the measurement model is acceptable [52].

Table 4. The results of discriminant validity.

Constructs	EV	AV	BV	SI	PN	AT	SN	PBC	TERB
EV	0.751								
AV	0.669	0.727							
BV	0.677	0.651	0.781						
SI	0.471	0.446	0.477	0.875					
PN	0.430	0.427	0.577	0.485	0.818				
AT	0.622	0.570	0.618	0.393	0.518	0.796			
SN	0.421	0.276	0.351	0.344	0.404	0.429	0.805		
PBC	0.374	0.299	0.402	0.398	0.433	0.263	0.385	0.747	
TERB	0.411	0.358	0.509	0.361	0.546	0.455	0.510	0.415	0.866

Note: the italic diagonal values are the square root of AVE; values under the diagonal values are correlation coefficients; EV: egoistic value; AV: altruistic value; BV: biospheric value; SI: self-identity; PN: personal norms; AT: attitude; SN: subjective norms; PBC: perceived behavioral control; TERB: tourists' environmentally responsible behavior in island tourism.

4.4. Structural Model and Hypothesis Testing

Subsequently, the structural model was evaluated, and based on the previously mentioned model fit criteria, the results confirmed that the structural model demonstrated a good fit with the actual data collected ($\chi^2/\text{df} = 2.086$, NFI = 0.908, TLI = 0.944, CFI = 0.950, and RMSEA = 0.043). The results of the hypothesis testing are presented in Table 5. EV ($\beta_{\text{EV} \rightarrow \text{SI}} = 0.226$, $p < 0.01$), BV ($\beta_{\text{BV} \rightarrow \text{SI}} = 0.260$, $p < 0.001$), and AV ($\beta_{\text{AV} \rightarrow \text{SI}} = 0.171$, $p < 0.05$) significantly influenced SI. Hence, H1, H2, and H3 are supported. SI positively influenced PN ($\beta_{\text{SI} \rightarrow \text{PN}} = 0.565$, $p < 0.001$), supporting H4, whereas PN positively influenced TERB ($\beta_{\text{PN} \rightarrow \text{TERB}} = 0.282$, $p < 0.001$), supporting H5. Meanwhile, EV ($\beta_{\text{EV} \rightarrow \text{AT}} = 0.304$, $p < 0.001$), BV ($\beta_{\text{BV} \rightarrow \text{AT}} = 0.209$, $p < 0.01$), and AV ($\beta_{\text{AV} \rightarrow \text{AT}} = 0.171$, $p < 0.05$) significantly influenced AT. Hence, H6, H7, and H8 are supported. AT is found to have a positive effect on TERB ($\beta_{\text{AT} \rightarrow \text{TERB}} = 0.206$, $p < 0.001$), supporting H9. PN had a positive effect on AT ($\beta_{\text{PN} \rightarrow \text{AT}} = 0.208$, $p < 0.001$), SN ($\beta_{\text{PN} \rightarrow \text{SN}} = 0.434$, $p < 0.001$), and PBC ($\beta_{\text{PN} \rightarrow \text{PBC}} = 0.413$, $p < 0.001$), hence supporting H10, H11, and H12. SN ($\beta_{\text{SN} \rightarrow \text{TERB}} = 0.270$, $p < 0.001$) and PBC ($\beta_{\text{PBC} \rightarrow \text{TERB}} = 0.164$, $p < 0.01$) both had a significant positive impact on TERB. Therefore, H13 and H14 are supported.

Table 5. Standard parameter estimates of the structural model.

Hypotheses	Paths	Coefficient	t-Value	Status
H1	EV→SI	0.226 **	2.786	Supported
H2	BV→SI	0.260 ***	3.544	Supported
H3	AV→SI	0.171 *	2.105	Supported
H4	SI→PN	0.55 ***	11.819	Supported
H5	PN→TERB	0.282 ***	5.258	Supported
H6	EV→AT	0.304 ***	3.933	Supported
H7	BV→AT	0.209 **	3.038	Supported
H8	AV→AT	0.171 *	2.241	Supported
H9	AT→TERB	0.206 ***	4.116	Supported
H10	PN→AT	0.208 ***	5.736	Supported
H11	PN→SN	0.434 ***	9.037	Supported
H12	PN→PBC	0.413 ***	8.973	Supported
H13	SN→TERB	0.270 ***	5.982	Supported
H14	PBC→TERB	0.164 **	3.178	Supported
Control variable	Gender→TERB	−0.154	−1.835	Not Supported
	Age→TERB	0.006	0.165	Not Supported
	Education→TERB	0.101 *	1.957	Supported

Note: EV: egoistic value; AV: altruistic value; BV: biospheric value; SI: self-identity; PN: personal norms; AT: attitude; SN: subjective norms; PBC: perceived behavioral control; TERB: tourists' environmentally responsible behavior in island tourism; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Regarding control variables, education ($\beta_{\text{EDU} \rightarrow \text{TERB}} = 0.101, p < 0.05$) had a significant positive effect on TERB, whereas gender and age did not exhibit any significant effects. This finding indicates that the higher the tourists' education level, the greater their willingness to engage in environmentally responsible behavior. In contrast, gender and age did not exhibit significant effects on TERB in this study, suggesting that these individual characteristics play a relatively limited role in the behavioral decision-making process.

4.5. Moderating Effect Analysis

This study recoded nationality as a dummy variable (national tourists: 0; international tourists: 1) and tested its moderating effect using Model 1 in the SPSS Process Macro. As shown in Table 6, the results indicate that nationality has a significant and negative interaction effect on the relationships among BV, AV, PN, and AT. Thus, H15e, H15f, and H15h are supported. The results also show that the negative interactions between nationality and SI as well as between nationality and AT affect PN and TERB, respectively. Thus, H15g and H15l are supported. These findings suggest that, compared to international tourists, domestic tourists exhibit stronger psychological responses and behavioral tendencies in the formation of behavioral attitudes, personal norms, and pro-environmental behavioral intentions.

Table 6. The results of the moderating effect test.

Hypothesis	Paths	Coefficient	LLCI (95%)	ULCI (95%)	Status
H15a	EV × NA→SI	−0.15	−0.310	0.010	Not Supported
H15b	BV × NA→SI	0.12	−0.272	0.030	Not Supported
H15c	AV × NA→SI	−0.01	−0.169	0.143	Not Supported
H15d	EV × NA→AT	−0.09	−0.249	0.067	Not Supported
H15e	BV × NA→AT	−0.16 *	−0.305	−0.007	Supported
H15f	AV × NA→AT	−0.20 *	−0.356	−0.044	Supported
H15g	SI × NA→PN	−0.20 **	−0.350	−0.051	Supported

Table 6. Cont.

Hypothesis	Paths	Coefficient	LLCI (95%)	ULCI (95%)	Status
H15h	PN $\times$ NA $\rightarrow$ AT	−0.19 *	−0.338	−0.044	Supported
H15i	PN $\times$ NA $\rightarrow$ SN	0.03	−0.145	0.200	Not Supported
H15j	PN $\times$ NA $\rightarrow$ TERB	0.08	−0.084	0.370	Not Supported
H15k	PN $\times$ NA $\rightarrow$ PBC	0.08	−0.087	0.238	Not Supported
H15l	AT $\times$ NA $\rightarrow$ TERB	−0.18 *	−0.342	−0.017	Supported
H15m	SN $\times$ NA $\rightarrow$ TERB	0.02	−0.129	0.160	Not Supported
H15n	PBC $\times$ NA $\rightarrow$ TERB	−0.04	−0.195	0.117	Not Supported

Note: EV: egoistic value; AV: altruistic value; BV: biospheric value; SI: self-identity; PN: personal norms; AT: attitude; SN: subjective norms; PBC: perceived behavioral control; TERB: tourists' environmentally responsible behavior in island tourism; * $p < 0.05$; ** $p < 0.01$.

4.6. Necessary Condition Analysis

A necessary condition analysis (NCA) was conducted first, as necessary conditions must be incorporated into the subsequent sufficiency analysis if identified [60]. The recommended consistency threshold for necessity analysis is 0.9, which indicates that a specific condition is indispensable for the observed outcome [61]. In Table 7, consistency and coverage values did not exceed the recommended threshold of 0.90 for any of the conditions [60,61], indicating the absence of necessary conditions for the outcome. Therefore, a sufficiency analysis was conducted to identify the configurations that can lead to high TERB levels.

Table 7. Results of necessary condition analysis.

Conditions	Outcome (TERB)	
	Consistency	Coverage
EV	0.710	0.814
~EV	0.621	0.648
AV	0.694	0.788
~AV	0.609	0.641
BV	0.779	0.801
~BV	0.541	0.630
SI	0.757	0.775
~SI	0.549	0.643
PN	0.753	0.829
~PN	0.568	0.615
AT	0.766	0.815
~AT	0.570	0.640
SN	0.790	0.829
~SN	0.552	0.629
PBC	0.759	0.806
~PBC	0.564	0.635

Note: ~ indicates the negation condition; EV: egoistic value; AV: altruistic value; BV: biospheric value; SI: self-identity; PN: personal norms; AT: attitude; SN: subjective norms; PBC: perceived behavioral control; TERB: tourists' environmentally responsible behavior in island tourism.

4.7. Sufficient Configurations

The second step involved sufficiency analysis. As shown in Table 8, six distinct configurations that lead to a high level of TERB were identified. The solution consistency was 0.954 and the solution coverage was 0.529, both of which exceed the recommended thresholds of 0.8 and 0.5, respectively. This result indicates that the configurations identified in this study offer strong explanatory power [61,62]. These configurations can be categorized

into four meaningful groups based on their structural similarities and differences in the core and peripheral conditions.

Table 8. Causal recipes leading to pro-environmental behavioral intention in island tourism.

Configurations	Raw Coverage	Unique Coverage	Consistency
C1: EV × BV × PN × AT × SN × PBC	0.432	0.008	0.966
C2: BV × SI × PN × AT × SN × PBC	0.444	0.012	0.963
C3: EV × AV × BV × SI × PN × SN × PBC	0.387	0.017	0.969
C4: EV × AV × SI × PN × AT × SN × PBC	0.382	0.012	0.969
C5: AV × BV × PN × AT × SN × PBC	0.419	0.003	0.967
C6: EV × AV × BV × ~SI × PN × AT × SN	0.283	0.025	0.982
Solution coverage: 0.529			
Solution consistency: 0.954			

Note: orange-colored font indicates the core conditions; ~ indicates the absence of causal condition absent; EV: egoistic value; AV: altruistic value; BV: biospheric value; SI: self-identity; PN: personal norms; AT: attitude; SN: subjective norms; PBC: perceived behavioral control.

C1 combines EV as a peripheral condition with BV, PN, and TPB components as core conditions. Similarly, C2 retains the same core conditions but replaces EV with SI as a peripheral condition. This difference suggests that given the same set of core conditions, TERB can be effectively promoted either through EV or through a strong sense of SI.

C3 consists of AV, PN, SN, and PBC as core conditions, with EV, BV, and SI serving as peripheral conditions. C4 also highlights AV, PN, SN, and PBC as core conditions but treats EV, SI, and AT as peripheral. These configurations underscore the fact that when AV, PN, SN, and PBC are firmly in place, peripheral factors such as EV, BV, SI (in C3), or AT (in C4) can further shape TERB.

C5 includes AV, BV, PN, AT, SN, and PBC as core conditions. Unlike other configurations, it does not include EV or SI, indicating that a comprehensive emphasis on AV, BV, PN, AT, SN, and PBC can be sufficient to elicit a high TERB, even without pronounced egoistic considerations or a strong environmental SI. This “all-core” configuration suggests a particularly robust pathway, whereby reinforcing pro-environmental norms and AT in tandem with altruism and BV can substantially motivate eco-friendly behaviors in the context of island tourism.

C6 features EV, SI, PN, and SN as core conditions, whereas AV, BV, and AT are peripheral. This configuration is notable for the absence of ~SI as a core element, indicating that a weaker environmental self-concept, when combined with EV, PN, and SN, can still lead to a high TERB.

The fsQCA results show that the raw coverage of each configuration ranges from 0.283 to 0.444, indicating that these configurations account for a substantial proportion of cases related to TERB and demonstrate strong overall explanatory power. All configurations have consistency values above 0.9, indicating strong empirical support, logical consistency, and explanatory robustness [50,51,60]. The relatively low unique coverage values across the configurations indicate considerable overlap among the solutions, suggesting that these cases often exhibit multiple pathways simultaneously. This finding aligns with the complex nature of pro-environmental behavior formation, with multiple motivational and cognitive factors often working in concert to influence behavioral intentions. Thus, P1 is confirmed.

4.8. Tests of Predictive Validity and Robustness

To assess the robustness and predictive capability of the fsQCA results, we conducted predictive validity testing following established procedures [61]. First, the 575 samples were randomly divided into two subsamples: subsample 1 served as the modeling sample, and subsample 2 served as the holdout sample. Specifically, the configurations derived from subsample 1 were tested using data from subsample 2, and the consistency and coverage metrics of identical configurations were compared across both subsamples. As illustrated in Figure 4, the same configurations demonstrated comparable consistency and coverage values across different samples, indicating the strong predictive validity of the fsQCA results.

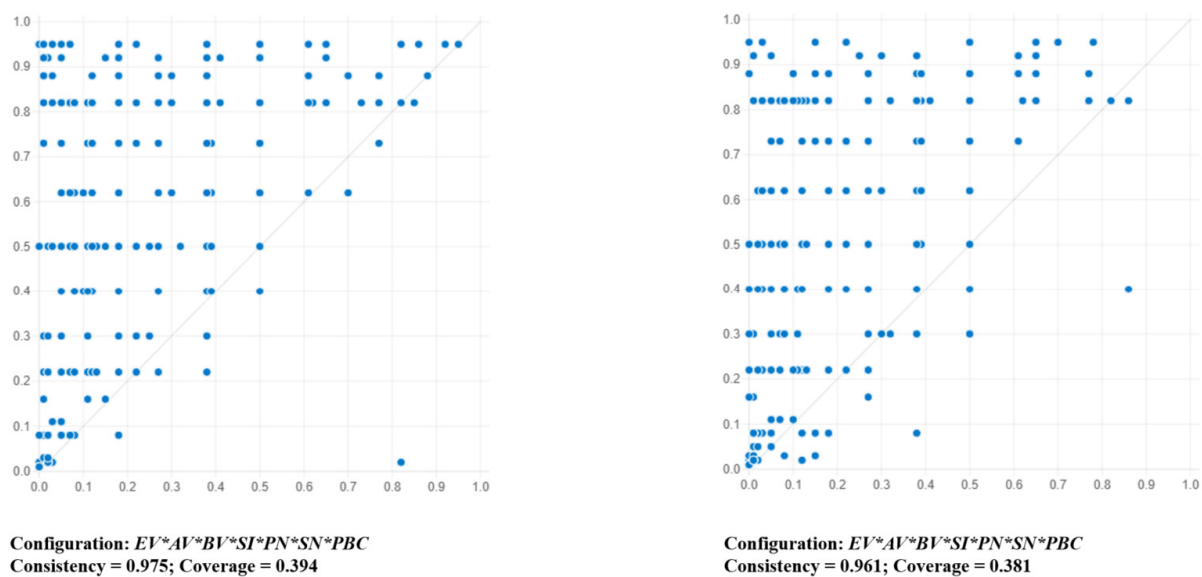


Figure 4. Predictive validity results. Note: left: modeling sample (subsample 1); right: holdout sample (subsample 2).

To further evaluate the stability of our findings, we performed a robustness test using alternative anchor systems and thresholds [56,60]. For instance, we modified the anchor system to 90%, 50%, and 10%, and adjusted the frequency threshold to four. These adjustments produced minor changes, with the core interpretations remaining unchanged, confirming the robustness of results.

5. Conclusions and Implications

5.1. Conclusions

This study underscores the increasingly vital role of TERB as a strategic driver for achieving sustainable development in island tourism. Specifically, it integrates the VIP, VAB, and TPB models analyzed from the perspectives of island tourists to explain how TERB is formed systematically. The findings confirm that the core constructs of these models (i.e., EV, AV, BV, SI, PN, AT, SN, and PBC) all serve as key predictors of pro-environmental behavioral intentions. This result is consistent with the results of prior research on tourists' pro-environmental and ethically responsible behaviors in the context of tourism [12,28–31]. In island tourism, tourists' environmental values (EV, AV, and BV) enhance their environmental identities and attitudes, raising their internal expectations regarding environmental responsibility and shaping their pro-environmental actions. This finding supports earlier studies on green consumption and ecotourism in which VIP and VAB frameworks were applied to explore environmentally oriented psychological–

behavioral mechanisms [27,40,43]. Furthermore, PN was found to significantly influence AT, SN, and PBC, which, in turn, contribute to the formation of TERB, thereby expanding on previous findings in green mobility research by illustrating how tourists' pro-environmental agency activates the types of behaviors propounded in TPB [10]. Additionally, nationality was found to significantly moderate the relationships among BV, AV, PN, and AT; between SI and PN; and between AT and TERB. These findings confirm that deep-seated perceptions shaped by different cultural perspectives can influence the formation of normative beliefs and behavioral intentions [19,49].

Moreover, the results of the NCA suggest that no single factor is sufficient to achieve the desired TERB outcome among island tourists. Therefore, we further employed sufficient condition analysis to identify six distinct configurational pathways leading to high TERB. The results indicate that all the variables in this study can serve as core conditions across different configurational pathways, suggesting that the formation of TERB is the outcome of complex interactive effects, thereby reinforcing the findings of prior research [50,51].

5.2. Theoretical Implications

This study explored the TERB formation mechanisms by using Jeju Island, one of the world's most popular island tourism destinations, as a case study to theoretically contribute to a harmonious coexistence of steady island tourism development and ecological conservation. First, although numerous scholars have conducted in-depth investigations of TERB and attained substantial findings, most studies primarily rely on single theoretical frameworks or models for validation [11,22,28,40]. To address this limitation, we integrated the VIP, VAB, and TPB models to comprehensively examine the mechanisms that influence TERB. Specifically, we incorporated the VIP model's holistic consideration of personal values and moral norms [12,13], the VAB model's strength in verifying the consistency between individual AT and behaviors [28,42], and the TPB model's perspective, which conceptualizes TERB as a rational, egoistic decision based on cost-benefit analysis [10], thereby allowing us to construct a novel, robust conceptual framework. By developing and empirically validating this integrated research framework, the study enhances the explanatory validity and theoretical applicability of TERB research, providing a scientific foundation for the theoretical enrichment and model expansion of island tourism studies.

Second, this study provides new insights into the intrinsic driving factors of tourists' pro-environmental behavior and behavioral pathways, thereby enriching the theoretical framework of sustainable island tourism. The linear analysis results confirm that EV, BV, and AV are reliable indicators for measuring AT, aligning with the findings of previous studies on pro-environmental consumption behavior [37]. These three value dimensions not only directly influence AT but also indirectly impact TERB through the mediating role of AT, thereby extending the application of the VAB model to island tourism research. SI plays a crucial role in environmental behavior decision-making as it is influenced by the tourists' values, effectively activating their moral responsibility and further shaping pro-environmental behavior. This finding supports the effectiveness of the VIP model in activating the TERB mechanism within the context of island tourism [13,30]. Furthermore, PN positively influences AT, SN, and PBC, further promoting TERB. This confirms the high compatibility of the integrated VIP and TPB models, highlighting the critical role of intrinsic evaluative cognition, external social influences, and behavioral confidence in explaining the formation of TERB in island tourism settings.

Third, nationality plays a crucial moderating role in shaping TERB. Specifically, there is an enhanced effect on the transformation of BV and AV into AT for domestic Korean tourists, and the paths from SI and PN to behavior are significantly stronger for this group. These findings highlight the profound impact of cultural cognitive differences embedded

in nationality on the underlying mechanisms of TERB. According to Hofstede's cultural dimensions theory, Korean tourists, deeply influenced by Confucianism, demonstrate a stronger collectivist orientation. Consequently, they are more inclined to perceive environmental protection as a collective responsibility and moral obligation, thus amplifying the transformation of perceived values into environmental attitudes [63]. Meanwhile, in collectivist cultures, environmental norms are more readily internalized into stable identity constructs through socialization processes, whereas international tourists from individualist cultures tend to base their behavioral decisions on individual cost–benefit analyses, being less driven by internalized norms. This difference leads to weaker impacts along the pathways from attitudes to behaviors. Secondly, based on the theory of basic human values, domestic tourists exhibit stronger long-term orientations, and their environmental values often encompass considerations of intergenerational responsibility and ecological sustainability. In contrast, international tourists, constrained by the short-term nature of tourism, are more susceptible to temporal discounting tendencies in their environmental decision-making [64]. As an initial exploration of nationality's moderating role in island tourism contexts, these findings validate the underlying cultural foundations behind nationality as mechanisms moderating pro-environmental behavioral pathways. They also extend the theoretical applicability of the VIP, VAB, and TPB frameworks within cross-cultural tourism contexts, thereby advancing the theoretical discussions proposed by Hammad et al. [18] and Azali et al. [19] regarding the influence of nationality on tourism development.

Drawing on complexity theory, the fsQCA revealed the nonlinear effects of antecedent variables in the formation of TERB, thus complementing the symmetrical relationships examined using SEM [9,20,50–52]. Specifically, the NCA results indicate that no single factor is sufficient to produce high levels of TERB. Thus, six distinct causal pathways were identified through sufficiency analysis [9]. Configurations 1, 2, and 5 reflect the integrated logic of the VAB and TPB models, showing that pro-environmental intentions arise from the dynamic interplay between value orientation and contextualized behavioral control, embedding moral motivation within a socio-cognitive framework. Configurations 3 and 4 highlight the integration of the VIP and TPB models by demonstrating how strong value–norm linkages, along with core roles of subjective norms and perceived behavioral control, jointly shape pro-environmental behavior. This synergy between internalized moral commitment and external behavioral regulation suggests that TERB results from both intrinsic ethical values and adaptive responses to social expectations. Contrastingly, configuration C6, characterized by the absence of self-identity as a core condition, presents a non-typical pathway. It illustrates how a dual sense of personal and social–moral obligation can drive behavior even without identity alignment. This finding aligns with the “positive spillover” effect described in spillover theory [65], indicating that both intrinsic self-motivation and external social influence are foundational in promoting pro-environmental actions. Together, these configurations showcase a cross-theoretical dynamic coupling mechanism among rational evaluation (VAB), normative regulation (TPB), and value-driven processes (VIP), offering empirical support for multi-theory integration. Furthermore, this study extends the applicability of complexity theory to a new research context, offering a more nuanced perspective on pro-environmental behavior in island tourism.

5.3. Managerial Implications

This study provides practical insights into the sustainable development of island tourism. First, the VIP and VAB models emphasize that the tourists' values drive TERB. Although values tend to be stable, they can also be influenced by environmental education and engagement [28]. Island tourism managers should develop immersive environmental education systems that deliver consistent sustainability messages at the pre-visit, on-site,

and post-visit stages through airports, transport hubs, and online platforms. Additionally, implementing incentive mechanisms (e.g., vouchers for eco-friendly cafés and green hotels) for tourists who participate in coral reef restoration and marine cleanup alongside staff and residents can transform them from passive service recipients into active contributors, promoting value co-creation and enhancing environmental awareness [66]. Based on the VAB and TPB models, which identify AT as a key driver of TERB and PN as a bridge between the VIP and TPB models, managers should implement systematic ecological protection plans to strengthen AT and PN, to ensure the adoption of TERB [13]. Collaboration among stakeholders is essential, and environmental, social, and governance approaches can be effective. Environmentally, this includes the provision of waste sorting stations and recyclable materials. Socially, partnerships with key environmental opinion leaders and travel influencers can encourage tourists to share sustainable travel experiences. In terms of governance, smart monitoring systems can track tourists' eco-friendly behaviors while promoting coordinated sustainability policies among governments, businesses, and local communities.

Moreover, in sustainable island tourism, strengthening tourist SI enhances responsibility and long-term pro-environmental commitment. According to social identity theory, individuals are more likely to adopt behaviors recognized by their peer groups [33]. Managers can create online eco-tourism communities on social media, encouraging tourists to share their eco-friendly experiences and engage in interactive challenges such as “low-carbon travel” or “plastic-free tourism”, making sustainability a shared norm. Meanwhile, SN and PBC directly influence TERB. Tourism enterprises should integrate corporate social responsibility by optimizing sustainable products and policies to establish social norms and reduce barriers to pro-environmental actions. Collaboration between tourism businesses and governments can promote initiatives such as “green hotel certification” and “plastic-free island” programs, providing a structured framework for sustainable travel [9].

This study also highlights the necessity of developing nationality-specific sustainability strategies, as nationality moderates the key relationships influencing TERB [26], with Korean tourists demonstrating higher levels of pro-environmental engagement. For domestic tourists, managers can integrate local cultural values, such as Confucian ecological philosophy, into ecotourism initiatives to cultivate cultural pride in sustainability. By leveraging South Korean popular culture, including K-pop and K-drama, celebrity endorsements by renowned artists or idol groups can promote eco-friendly travel concepts, influencing tourists' consumption patterns and behavioral choices. For international tourists who exhibit weaker pro-environmental motivation, reducing cultural barriers is essential. Providing multilingual ecoguides at airports, hotels, and attractions, along with interactive VR videos, can enhance environmental awareness. Additionally, promoting plastic-free tourism and carbon-neutral products can help international tourists associate sustainability with global environmental trends, increasing their willingness to engage in pro-environmental behavior.

The high degree of overlap and path equivalence reflected by the low unique coverage of each configuration in the fsQCA results suggests that island tourism managers should adopt multi-level interventions that address both general driving factors and context-specific conditions [60]. First, universal drivers such as BV, PN, and PBC should be prioritized. These can be broadly strengthened through infrastructure improvements (e.g., user-friendly waste-sorting systems) and environmental education programs that enhance intrinsic motivation and behavioral feasibility. At the same time, context-dependent strategies must account for tourist heterogeneity. Identity-driven segments (e.g., C2, C3, and C4) benefit from self-concept-oriented approaches, such as eco-labeling, whereas externally motivated tourists (e.g., C6) require social norm interventions (e.g., promoting peer behavior)

or instrumental incentives (e.g., carbon credit rewards) to compensate for weaker intrinsic motivation. Crucially, the nonlinear interactions among values, norms, and perceived behavioral control call for real-time feedback mechanisms. This can be achieved by implementing tourist flow-monitoring systems and developing online community platforms to identify dominant pathways in specific scenarios (e.g., peak versus off-peak tourism seasons) and, accordingly, adapting management strategies.

6. Limitations and Future Research

This research has certain limitations, as all studies do. First, reliance on a cross-sectional research design limited the ability to make causal inferences regarding the formation of TERB. In the future, researchers should consider employing a longitudinal design to observe potential shifts in environmental values, attitudes, and behaviors over time, which could provide a clearer picture of causal mechanisms. Second, the data were gathered only at Jeju International Airport and the Jungmun Tourist Complex, so there is a risk of oversampling short-term tourists, potentially skewing the findings. In future investigations, researchers could diversify the data collection sites, include long-stay travelers, and analyze different travel seasons to broaden participant profiles and enhance the generalizability of the results. Third, this study categorized the participants' nationalities into a binary classification of "Korean" and "non-Korean", which may have oversimplified the potential cultural differences pertaining to the non-Korean participants. Such simplification could obscure the influence of diverse cultural backgrounds on the studied variables, thereby limiting the generalizability and explanatory power of the findings. In the future, researchers should incorporate more detailed cultural background information during the data collection stage to enable finer-grained subgroup analyses (e.g., accounting for regional or cultural values), thereby offering a more comprehensive understanding of the impact of cultural factors on the confirmation process of TERB. Fourth, while this study provides valuable insights into the formation of pro-environmental behavioral intentions among island tourists by focusing on Jeju Island, the generalizability of the findings may be limited due to this destination's unique cultural, policy, and ecological context. Future researchers are encouraged to conduct comparative studies across island destinations with varying governance models and environmental policies (the Maldives, Bali, etc.) to test the robustness of the identified findings and explore how different institutional and cultural contexts shape the dynamics of tourists' environmental behaviors.

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Abbreviations

The following abbreviations are used in this manuscript:

TERB	Tourists' environmentally responsible behavior
VIP	Value–identity–personal norm
VAB	Value–attitude–behavior
TPB	Theory of planned behavior
SEM	Structural equation modeling
fsQCA	Fuzzy-set qualitative comparative analysis
UNWTO	United Nations World Tourism Organization
SIDSs	Small island developing states
UNESCO	United Nations Educational, Scientific, and Cultural Organization
SI	Self-identity
PN	Personal norms
EV	Egoistic value
AV	Altruistic value
BV	Biospheric value
AT	Attitude
SN	Subjective norms
PBC	Perceived behavioral control
Λ	Factor loading
M	Mean
CR	Composite reliability
AVE	Average variance extracted
Skew	Skewness
Kurt	Kurtosis
χ^2/df	Chi-square/degrees of freedom
NFI	Normed fit index
TLI	Tucker–Lewis index
CFI	Comparative fit index
RMSEA	Root mean square error of approximation
NCA	Necessary condition analysis
SCA	Sufficient condition analysis
PRI	Proportional reduction in inconsistency

References

1. Gao, J.; Song, L. A Cross-Cultural Comparison of Island Vacation Experience: Empirical Evidence from the Maldives. *Asia Pac. J. Tour. Res.* **2024**, *29*, 804–817. [\[CrossRef\]](#)
2. Kurniawan, F.; Adrianto, L.; Bengen, D.G.; Prasetyo, L.B. The Social-Ecological Status of Small Islands: An Evaluation of Island Tourism Destination Management in Indonesia. *Tour. Manag. Perspect.* **2019**, *31*, 136–144. [\[CrossRef\]](#)
3. Tripvivid. World Island Tourism Development Report. 2019. Available online: <https://www.tripvivid.com/> (accessed on 7 March 2025).
4. UNWTO. *Tourism in Small Island Developing States (SIDS)*; World Tourism Organization: Madrid, Spain, 2024.
5. Walker, B.T.; Lee, T.J.; Li, X. Sustainable Development for Small Island Tourism: Developing Slow Tourism in the Caribbean. *J. Travel Tour. Mark.* **2021**, *38*, 1–15. [\[CrossRef\]](#)
6. Fakfare, P.; Manosuthi, N.; Lee, J.S.; Promsivapallop, P.; Kang, H.; Han, H. Eliciting Small Island Tourists' Ecological Protection, Water Conservation, and Waste Reduction Behaviours. *J. Destin. Mark. Manag.* **2024**, *32*, 100900. [\[CrossRef\]](#)
7. Zhang, J.; Jin, L.; Pan, X.; Wang, Y. Pro-Environmental Behavior of Tourists in Ecotourism Scenic Spots: The Promoting Role of Tourist Experience Quality in Place Attachment. *Sustainability* **2024**, *16*, 8984. [\[CrossRef\]](#)
8. Ali, H.; Li, Y. Evaluation of Sustainable Tourism Development in Dachen Island, East China Sea: Stakeholders' Perspective. *Sustainability* **2024**, *16*, 7206. [\[CrossRef\]](#)
9. Zheng, X.; Lin, Y.; Cheng, X.; Ahn, Y.J.; Chi, X. An Investigation into the Formation of Tourists' Pro-Environmental Behavior in Geotourism: Balancing Tourism and Ecosystem Preservation. *Sustainability* **2025**, *17*, 1422. [\[CrossRef\]](#)

10. Khan, S.; Zhang, Q.; Khan, I.U.; Khan, S.U.; Mehmood, S. Tourists' Pro-Environmental Behaviour in an Autonomous Vehicle's Adoption: Aligning the Integration of Value-Belief-Norm Theory and the Theory of Planned Behaviour. *Curr. Issues Tour.* **2024**, *27*, 1–18. [\[CrossRef\]](#)
11. Kim, J.J.; Kang, H.; Tan, H.; Hwang, J. Environmental Locus of Control in Island Travelers and Pro-Environmental Behavior. *Int. J. Tour. Res.* **2024**, *26*, e2781. [\[CrossRef\]](#)
12. Lee, S.; Park, H.J.; Kim, K.H.; Lee, C.K. A Moderator of Destination Social Responsibility for Tourists' Pro-Environmental Behaviors in the VIP Model. *J. Destin. Mark. Manag.* **2021**, *20*, 100610. [\[CrossRef\]](#)
13. Ateş, H. Merging Theory of Planned Behavior and Value Identity Personal Norm Model to Explain Pro-Environmental Behaviors. *Sustain. Prod. Consum.* **2020**, *24*, 169–180. [\[CrossRef\]](#)
14. Jacobs, K.; Petersen, L.; Hörisch, J.; Battenfeld, D. Green Thinking but Thoughtless Buying? An Empirical Extension of the Value-Attitude-Behaviour Hierarchy in Sustainable Clothing. *J. Clean. Prod.* **2018**, *203*, 1155–1169. [\[CrossRef\]](#)
15. Govaerts, F.; Olsen, S.O. Consumers' Values, Attitudes and Behaviours Towards Consuming Seaweed Food Products: The Effects of Perceived Naturalness, Uniqueness, and Behavioural Control. *Food Res. Int.* **2023**, *165*, 112417. [\[CrossRef\]](#)
16. Wang, Y.; Zhao, J.; Pan, J. The Investigation of Green Purchasing Behavior in China: A Conceptual Model Based on the Theory of Planned Behavior and Self-Determination Theory. *J. Retail. Consum. Serv.* **2024**, *77*, 103667. [\[CrossRef\]](#)
17. Fakfare, P.; Wattanacharoensil, W. Low-Carbon Tourism for Island Destinations: A Crucial Alternative for Sustainable Development. *Sustain. Dev.* **2023**, *31*, 180–197. [\[CrossRef\]](#)
18. Hammad, N.M.; Ahmad, S.Z.; Papastathopoulos, A. The Moderating Role of Nationality in Residents' Perceptions of the Impacts of Tourism Development in the United Arab Emirates. *Int. J. Tour. Res.* **2019**, *21*, 61–75. [\[CrossRef\]](#)
19. Azali, M.; Kamal Basha, N.; Chang, Y.S.; Lim, X.J.; Cheah, J.H. Why Not Travel to Malaysia? Variations in Inbound Tourists' Perceptions Toward Halal-Friendly Destination Attributes. *J. Hosp. Tour. Res.* **2023**, *47*, 177–206. [\[CrossRef\]](#)
20. Gao, J.; Xu, D.; Pan, Y. Configurational Paths to Arouse Tourists' Positive Experiences in Smart Tourism Destinations: A fsQCA Approach. *Sage Open* **2024**, *14*. [\[CrossRef\]](#)
21. Zhou, G.; Chen, Y.; Liu, Y. From Inner Needs to External Actions: The Impact of Face Consciousness on Tourists' Pro-Environmental Behavior. *Asia Pac. J. Tour. Res.* **2025**, *30*, 92–109. [\[CrossRef\]](#)
22. Wang, S.; Wang, J.; Wan, L.; Wang, H. Social Norms and Tourists' Pro-Environmental Behaviors: Do Ethical Evaluation and Chinese Cultural Values Matter? *J. Sustain. Tour.* **2023**, *31*, 1413–1429. [\[CrossRef\]](#)
23. Ferreira, S.; Pereira, O.; Simões, C. Determinants of Consumers' Intention to Visit Green Hotels: Combining Psychological and Contextual Factors. *J. Vacat. Mark.* **2023**. [\[CrossRef\]](#)
24. Alencastro, L.A.; Carvache-Franco, M.; Carvache-Franco, W. Preferences of Experiential Fishing Tourism in a Marine Protected Area: A Study in the Galapagos Islands, Ecuador. *Sustainability* **2023**, *15*, 1382. [\[CrossRef\]](#)
25. Fakfare, P.; Wattanacharoensil, W. Sustainable Consumption in Tourism: Perceptions of Low-Carbon Holidays in Island Destinations—A Cluster Analysis Approach. *Asia Pac. J. Tour. Res.* **2024**, *29*, 641–662. [\[CrossRef\]](#)
26. Kim, J.J.; Yoon, Y.; Gan, M.; Hwang, J. Voluntary and Collective Payment Intentions for Sustainable Island Tourism: An Investigation Using an Extended Value-Belief-Norm Theory. *Asia Pac. J. Tour. Res.* **2025**, *1*, 1–16. [\[CrossRef\]](#)
27. Yacout, O.M. Personal Values, Consumer Identities, and Attitudes Toward Electric Cars among Egyptian Consumers. *Bus. Ethics Environ. Responsib.* **2023**, *32*, 1563–1574. [\[CrossRef\]](#)
28. Liu, J.; Zhao, Y.; Jang, S. Understanding Beach Tourists' Environmentally Responsible Behaviors: An Extended Value-Attitude-Behavior Model. *J. Travel Tour. Mark.* **2021**, *38*, 696–709. [\[CrossRef\]](#)
29. Sadiq, M.; Adil, M.; Paul, J. Eco-Friendly Hotel Stay and Environmental Attitude: A Value-Attitude-Behaviour Perspective. *Int. J. Hosp. Manag.* **2022**, *100*, 103094. [\[CrossRef\]](#)
30. Qin, Q.; Hsu, C.H. Urban Travelers' Pro-Environmental Behaviors: Composition and Role of Pro-Environmental Contextual Force. *Tour. Manag.* **2022**, *92*, 104561. [\[CrossRef\]](#)
31. Esfandiari, K.; Pearce, J.; Dowling, R.; Goh, E. The Extended Theory of Planned Behaviour Model and National Parks Visitors' Pro-Environmental Binning Behaviour: A Cross-Cultural Perspective. *J. Outdoor Recreat. Tour.* **2023**, *42*, 100602. [\[CrossRef\]](#)
32. Clark, E.; Mulgrew, K.; Kannis-Dymand, L.; Schaffer, V.; Hoberg, R. Theory of Planned Behaviour: Predicting Tourists' Pro-Environmental Intentions after a Humpback Whale Encounter. *J. Sustain. Tour.* **2019**, *27*, 649–667. [\[CrossRef\]](#)
33. Yazdanpanah, M.; Forouzani, M. Application of the Theory of Planned Behaviour to Predict Iranian Students' Intention to Purchase Organic Food. *J. Clean. Prod.* **2015**, *107*, 342–352. [\[CrossRef\]](#)
34. Wang, L.; Zhang, Q.; Wong, P.P.W. Purchase Intention for Green Cars among Chinese Millennials: Merging the Value-Attitude-Behavior Theory and Theory of Planned Behavior. *Front. Psychol.* **2022**, *13*, 786292. [\[CrossRef\]](#) [\[PubMed\]](#)
35. Kim, M.J.; Hall, C.M.; Kim, D.K. Predicting Environmentally Friendly Eating Out Behavior by Value-Attitude-Behavior Theory: Does Being Vegetarian Reduce Food Waste? *J. Sustain. Tour.* **2020**, *28*, 797–815. [\[CrossRef\]](#)
36. Van der Werff, E.; Steg, L. The Psychology of Participation and Interest in Smart Energy Systems: Comparing the Value-Belief-Norm Theory and the Value-Identity-Personal Norm Model. *Energy Res. Soc. Sci.* **2016**, *22*, 107–114. [\[CrossRef\]](#)

37. Floress, K.; Shwom, R.; Caggiano, H.; Slattery, J.; Cuite, C.; Schelly, C.; Lytle, W. Habitual Food, Energy, and Water Consumption Behaviors among Adults in the United States: Comparing Models of Values, Norms, and Identity. *Energy Res. Soc. Sci.* **2022**, *85*, 102396. [\[CrossRef\]](#)
38. Han, H.; Hwang, J.; Lee, M.J.; Kim, J. Word-of-Mouth, Buying, and Sacrifice Intentions for Eco-Cruises: Exploring the Function of Norm Activation and Value-Attitude-Behavior. *Tour. Manag.* **2019**, *70*, 430–443. [\[CrossRef\]](#)
39. Ajzen, I. The Theory of Planned Behavior. *Organ. Behav. Hum. Decis. Process.* **1991**, *50*, 179–211. [\[CrossRef\]](#)
40. Lavuri, R.; Roubaud, D.; Grebinevych, O. Sustainable Consumption Behaviour: Mediating Role of Pro-Environment Self-Identity, Attitude, and Moderation Role of Environmental Protection Emotion. *J. Environ. Manag.* **2023**, *347*, 119106. [\[CrossRef\]](#)
41. Homer, P.M.; Kahle, L.R. A Structural Equation Test of the Value-Attitude-Behavior Hierarchy. *J. Personal. Soc. Psychol.* **1988**, *54*, 638. [\[CrossRef\]](#)
42. Shin, Y.H.; Moon, H.; Jung, S.E.; Severt, K. The Effect of Environmental Values and Attitudes on Consumer Willingness to Pay More for Organic Menus: A Value-Attitude-Behavior Approach. *J. Hosp. Tour. Manag.* **2017**, *33*, 113–121. [\[CrossRef\]](#)
43. Shi, H.; Chen, W. Environmental Values, Face, and Ecotourism Intention in China: The Mediating Role of Ecotourism Attitude and the Moderating Role of Emotional Intelligence. *J. Hosp. Tour. Manag.* **2024**, *61*, 101–114. [\[CrossRef\]](#)
44. Liu, X.; Zhao, W.W. Family Education? Unpacking Parental Factors for Tourism and Hospitality Students' Entrepreneurial Intention. *J. Hosp. Leis. Sport Tour. Educ.* **2021**, *29*, 100284. [\[CrossRef\]](#)
45. Gao, Y.; Zhao, Z.; Ma, Y.; Li, Y. A Rational-Affective-Moral Factor Model for Determining Tourists' Pro-Environmental Behaviour. *Curr. Issues Tour.* **2023**, *26*, 2145–2163. [\[CrossRef\]](#)
46. Tuhin, M.K.W.; Miraz, M.H.; Habib, M.M.; Alam, M.M. Strengthening Consumers' Halal Buying Behaviour: Role of Attitude, Religiosity and Personal Norm. *J. Islam. Mark.* **2022**, *13*, 671–687. [\[CrossRef\]](#)
47. Griffiths, I.; Sharpley, R. Influences of Nationalism on Tourist-Host Relationships. *Ann. Tour. Res.* **2012**, *39*, 2051–2072. [\[CrossRef\]](#)
48. Vieira, J.C.; Jordan, E.; Santos, C. The Effect of Nationality on Visitor Satisfaction and Willingness to Recommend a Destination: A Joint Modeling Approach. *Tour. Manag. Perspect.* **2021**, *39*, 100850. [\[CrossRef\]](#)
49. Lee, K.Y.; Jeong, J.Y. The Effects of Health Beliefs upon Nature-Based Tourism During COVID-19: Cases from the United States and South Korea. *J. Leis. Res.* **2023**, *54*, 203–226. [\[CrossRef\]](#)
50. Manosuthi, N.; Lee, J.S.; Han, H. Investigating Residents' Support for Muslim Tourism: The Application of IGSCA-SEM and fsQCA. *J. Travel Tour. Mark.* **2022**, *39*, 412–431. [\[CrossRef\]](#)
51. Li, H.; Chen, S.; He, B.; Huang, G. The Role of Motivation in the Subjective Well-Being of Older Adult Sojourners: An Investigation Using a Hybrid Technique of PLS-SEM and fsQCA. *J. Vacat. Mark.* **2024**. [\[CrossRef\]](#)
52. Chi, X.; Cheng, X.; Zhou, H.; Zheng, X.; Cao, J.; Han, H. Investigation on Driving Mechanism of Heritage Tourism Consumption: A Multi-Method Analytical Approach. *J. Travel Tour. Mark.* **2024**, *41*, 1141–1160. [\[CrossRef\]](#)
53. Kim, T.; Han, S.; Park, J.H. What Drives Long-Stay Tourists to Revisit Destinations? A Case Study of Jeju Island. *Asia Pac. J. Tour. Res.* **2022**, *27*, 856–870. [\[CrossRef\]](#)
54. Kim, M.; Choi, K.W.; Chang, M.; Lee, C.H. Overtourism in Jeju Island: The Influencing Factors and Mediating Role of Quality of Life. *J. Asian Financ. Econ. Bus.* **2020**, *7*, 145–154. [\[CrossRef\]](#)
55. Song, W. Climate Change and Tourism Sustainability in Jeju Island Landscape. *Sustainability* **2022**, *15*, 88. [\[CrossRef\]](#)
56. Hair Jr, F.; Gabriel, M.L.; Patel, V.K. AMOS Covariance-Based Structural Equation Modeling (CB-SEM): Guidelines on Its Application as a Marketing Research Tool. *Remark Rev. Bras. Mark.* **2014**, *13*, 1–16.
57. Podsakoff, P.M.; MacKenzie, S.B.; Lee, J.Y.; Podsakoff, N.P. Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *J. Appl. Psychol.* **2003**, *88*, 879–903. [\[CrossRef\]](#)
58. Curran, P.J.; West, S.G.; Finch, J.F. The Robustness of Test Statistics to Nonnormality and Specification Error in Confirmatory Factor Analysis. *Psychol. Methods* **1996**, *1*, 16–29. [\[CrossRef\]](#)
59. Fornell, C.; Larcker, D.F. Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *J. Mark. Res.* **1981**, *18*, 382–388. [\[CrossRef\]](#)
60. Dul, J. Identifying Single Necessary Conditions with NCA and fsQCA. *J. Bus. Res.* **2016**, *69*, 1516–1523. [\[CrossRef\]](#)
61. Rasoolimanesh, S.M.; Ringle, C.M.; Sarstedt, M.; Olya, H. The Combined Use of Symmetric and Asymmetric Approaches: Partial Least Squares-Structural Equation Modeling and Fuzzy-Set Qualitative Comparative Analysis. *Int. J. Contemp. Hosp. Manag.* **2021**, *33*, 1571–1592. [\[CrossRef\]](#)
62. Ragin, C.C. *Redesigning Social Inquiry: Fuzzy Sets and Beyond*; University of Chicago Press: Chicago, IL, USA, 2009.
63. Soares, A.M.; Farhangmehr, M.; Shoham, A. Hofstede's Dimensions of Culture in International Marketing Studies. *J. Bus. Res.* **2007**, *60*, 277–284. [\[CrossRef\]](#)
64. Schwartz, S.H.; Melech, G.; Lehmann, A.; Burgess, S.; Harris, M.; Owens, V. Extending the Cross-Cultural Validity of the Theory of Basic Human Values with a Different Method of Measurement. *J. Cross-Cult. Psychol.* **2001**, *32*, 519–542. [\[CrossRef\]](#)

65. Chao, R.F.; Zhang, L. The Influence of Trekkers' Personal and Subjective Norms on Their Pro-Environmental Behaviors. *J. Outdoor Recreat. Tour.* **2024**, *48*, 100836. [[CrossRef](#)]
66. Radić, I.; Monaco, C.; Cerdan, C.; Peri, I. Establishing Communities of Value for Sustainable Localized Food Products: The Case of Mediterranean Olive Oil. *Sustainability* **2023**, *15*, 2236. [[CrossRef](#)]

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