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Values and norms as drivers of pro-environmental behavior in tourists: A sustainable tourism perspective

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ABSTRACT

This study aims to examine the key role of altruistic and biospheric concerns, along with social and personal norms, in shaping tourists pro-environmental behavior. Grounded in the Value-Belief-Norm theory and employing a structural equation modelling (SEM) approach, the research examines the influence of altruistic and biospheric values, subjective norms, and personal norms on tourist's pro-environmental behavior. A structured survey was conducted from 217 participants recruited via social media platforms, and the proposed theoretical framework was tested using Smart-PLS 4. The findings highlight the pivotal role of altruistic and biospheric values, alongside subjective norms, in shaping personal norms and promoting eco-friendly behavior among tourists. Personal norms found to mediate the relation of altruistic values, biospheric values, subjective norms with tourists' intentions to engage in sustainable practices. These insights have practical implications for tourism stakeholders as they suggest that raising environmental awareness, integrating pro-environmental education, and fostering personal responsibility can enhance tourists commitment to sustainable practices. By addressing both individual and societal influences this study provides valuable recommendations for policymakers and tourism operators to support the long-term viability of tourist destinations.

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1. Introduction

Pro-environmental behavior (PEB) is widely recognized as actions that contribute to saving the environment from human-induced damage (Awais, Fatima, & Awan, 2022; He, Xu, Wang, & Nguyen, 2024). Ghazali, Nguyen, Mutum, and Yap (2019) define PEB as activities that encourage sustainable use of natural resources by individuals or communities. Stern (2000) expands on this by explaining PEB as behavior adopted to benefit the environment. In tourism, PEB refers to actions tourists perform to reduce the negative impact on the destination environment and promote sustainable resource use (Kiatkawsin & Han, 2017). It plays a crucial role in achieving sustainable tourism (He et al., 2024). Tourism development heavily relies on the environmental sustainability of tourist destinations (Awan & Awais, 2023; He et al., 2024; Su & Swanson, 2017). However, increasing misbehaviour among tourists is damaging the local environment of destinations, thus requiring research to promote positive tourist behavior at destinations (Kiatkawsin & Han, 2017). This study addresses the critical issue of promoting pro-environmental behavior among tourists, which is vital for sustainable tourism development (Awan & Awais, 2023; Su, Li, Wen, & He, 2025). Despite the growing body of literature, there is limited research on the specific factors influencing tourist PEB in the context of destination sustainability as reported (He et al., 2024). This research aims to bridge the gap by investigating the impact of tourists internal values-based concerns as (altruistic and biospheric), subjective norms, and personal norms on tourist pro-environmental behaviour (Ajzen, 1991; Schwartz, 1977; Stern, Dietz, Abel,

Guagnano, & Kalof, 1999). By focusing on these factors, the study seeks to contribute to the understanding of how these values, social expectations, and moral duties influence tourists' actions to protect the environment (He et al., 2024). Additionally, this research will explore the mediating role of personal norms in strengthening the relationship between values, subjective norms and tourists pro-environmental behavior.

As pro-environmental behaviour (PEB), is defined those actions that contribute to environmental protection, including sustainable use of natural resources. So PEB can be referred to as ecological, green, or eco-friendly behavior, all aiming to reduce human impact on the environment (Awais et al., 2022; Ghazali et al., 2019). In same way tourists' pro-environmental behavior is essential for sustainable tourism (He et al., 2024), but tourism often exacerbates environmental degradation due to increased tourist misbehaviour (Su et al., 2025). Therefore, it is important to explore factors that promote PEB, such as personal and subjective norms, altruistic, and biospheric concerns (Riaz & Awais, 2024; Schwartz, 1977; Stern, 2000). The primary objective of this study is to explore the factors influencing pro-environmental behavior (PEB) among tourists. Specifically, the research will examine the effects of altruistic, and biospheric concerns (Stern et al., 1999) on tourists' willingness to engage in pro-environmental actions. It will also investigate the influence of subjective norms (Ajzen, 1991), including social expectations and pressures, on the intention to adopt environmentally friendly behaviors. Additionally, the study aims to understand the mediating role of personal norms (Schwartz, 1977) in bridging the relationship between values, subjective norms, and pro-environmental behavior of tourists. By addressing these objectives, the research seeks to provide valuable insights for developing strategies to encourage sustainable tourism practices and reduce the environmental impact of tourists activities (He et al., 2024). Furthermore, the findings will contribute to the literature by shedding light on the lesser-explored role of personal norms in the context of pro-environmental behavior in tourism.

This study focuses on altruistic and biospheric values, subjective norms, and personal norms because these factors are central to understanding pro-environmental behavior within the Value-Belief-Norm (VBN) framework (Stern et al., 1999). Prior studies have examined pro-environmental behavior using different theoretical models, such as the Stimulus-Organism-Response framework, Theory of Planned Behavior and the Norm Activation Model (Han, 2015; Su & Swanson, 2017), but limited research has explored the combined impact of these specific factors within the VBN framework in a tourism context. Taking a broader perspective this study analyzes sustainable tourism behavior without restricting the context to a specific region, making the findings applicable across various tourist destinations. By addressing this gap the study provides valuable insights for tourism policymakers and marketers. Policymakers can use the findings to design awareness campaigns, implement eco-friendly regulations, and incentivize sustainable tourism practices. Meanwhile, marketers can integrate sustainability messages into tourism promotions, appealing to environmentally conscious travelers and fostering long-term sustainability in tourist destinations.

This study is significant as it offers insights into the factors that influence pro-environmental behavior among tourists, which is crucial for promoting sustainable tourism practices and mitigating the environmental impact of tourism (Su et al., 2025). By examining the role of altruistic and biospheric concerns, subjective norms, and personal norms, the research contributes to the understanding of how these factors shape tourists sustainable behavior and decision-making (Ajzen, 1991; Schwartz, 1977; Stern et al., 1999). The scope of the study is limited to tourists who have travelling experience, with a focus on the influence of altruistic and biospheric concerns, subjective and personal norms on their pro-environmental actions. It aims to provide actionable recommendations for destination managers, policymakers, and tourism-related organizations to foster sustainable behaviors in tourists, thereby ensuring the long-term viability of tourism destinations.

2. Research Method

Hypothesis Development

Values and Personal Norms

Value belief norm theory stated that altruistic and biospheric concerns are strongly related to belief, norms and pro-environmental behaviour of people (Stern et al., 1999). According to this theory there is an indirect relation between these constructs. But there are studies that have tested the direct and significant relation of altruistic, biospheric concerns toward personal norms and pro-environmental behaviour. Kim and Seock (2019) in their study on consumer pro-environmental found that altruistic and biospheric concerns of

consumer are directly related to their personal norms and indirectly to behaviour. Other studies also finds the direct relation among these constructs (Chakraborty, Singh, & Roy, 2021; L. Wang, Wong, & Narayanan Alagas, 2020). Based on evidence from previous literature, this study proposes the following hypotheses.
H1: Altruistic concerns have positive impact on tourists personal norms.
H2: Biospheric concerns have positive impact on tourists personal norms.

Values and Tourist Pro-Environmental Behavior

Stern (2000) argue that altruistic values are peoples concern for human beings and biospheric values are peoples concern for all other living things rather than human beings. These both altruistic and biospheric concerns promote pro-environmental behaviour in proples (Awais et al., 2022). L. Wang et al. (2020) in their study found that both altruistic and biospheric concerns have significant and positive impact on peoples green purchase behaviour. Also, these values are found positively related to peoples behaviour in other domains like higher education faculty members, sustainable development goals, green purchase (Caniëls, Lambrechts, Platje, Motylska-Kuźma, & Fortuński, 2021; Chakraborty et al., 2021; D'Souza, Apaolaza, Hartmann, & Gilmore, 2020). Based on evidence from previous literature, this study proposes the following hypotheses.
H3: Altruistic concerns have positive impact on tourist pro-environmental behavior (TPEB).
H4: Biospheric concerns have positive impact on TPEB.

Subjective Norms and Personal Norms and Tourist Pro-Environmental Behavior

Personal norms vary from social norms in that they adhere to individual inner expectations for a certain behavior, while social norms are refer to external pressure from society (Kallgren, Reno, & Cialdini, 2000). Further the relationship among subjective, and personal norms is proved by several studies (Riaz & Awais, 2024). Han (2020) in their recent study on sustainable consumption of green restaurants built a theory of green purchase to which he found significance relation between subjective norms and personal norms. This study found that personal norms are directly predicted by social norms. Also similar results are found by (Awais et al., 2022) in their study on peoples pro-environmental behaviour toward solar energy.

Subjective norms are defined as series of principles distinctly performed and obeyed by a community (Ajzen, 1991). The extent to which a person feels that any activity leads to harm the environment or climate change, is possible to linked to the perception of other people he considered as important (Awais et al., 2022). Also, there are common agreements that people society and surrounding environment greatly effects their way of behaves. Further (Farrow, Grolleau, & Ibanez, 2017) stated that influence of social norm is found on broad area of behaviors including conservation practices, charitable contributions, alcohol intake, food and fitness routines etc. Based on evidence from previous literature, this study proposes the following hypotheses.
H5: Subjective norms have positive impact on tourists personal norms.
H6: Subjective norms have positive impact on TPEB.

Personal Norms and Tourist Pro-Environmental Behavior

Personal norms are moral obligations of a person and are strongly related with pro-environmental behaviour of that person (Awais et al., 2022). The value belief theory and norm activation model provides the base of this relation (Schwartz, 1977; Stern et al., 1999). Similarly a recent study by Riaz and Awais (2024) found that peoples personal norms positively impact their pro-environmental to use solar energy instead of electricity. Studies show that while acting in pro-environmental way individuals are inspired by some internal ethics or principles and are directed by considering of what is good or bad in relation to them and others (Lindenberg & Steg, 2007). Based on evidence from previous literature, this study proposes the following hypotheses.
H7: Personal norms have positive impact on TPEB.

Personal Norm as Mediator

Personal norms as moral obligations play an important role in bridging values with pro-environmental behaviors. According to VBN theory there is a causal relation among these variables as values, beliefs, norms and then behavior (Stern et al., 1999). But altruistic and biospheric concerns have been found to have direct and significance effect on personal norms and also motivate peoples to participate in sustainable activities simultaneously (Chakraborty et al., 2021). Similarly Q.-C. Wang et al. (2023) in their study on energy-saving behaviours hotel guests found that Altruistic and biospheric values of guests are positively related toward their moral obligations and energy conservation behaviour during long stay in hotels. In addition subjective norms also play a significant role in shaping personal norms and subsequent pro-environmental behaviors (Awais et al., 2022). Because social environment and surrounding people

greatly influence individuals decision making (Ajzen, 1991). Previous studies shows that social norms have influence on peoples environmental behavior directly and indirectly via personal norms (Ghazali et al., 2019). So, altruistic, and biospheric concerns, with subjective norms, strengthens the role of personal norms as a mediator in fostering tourist pro-environmental behaviors. Based on evidence from previous literature, this study proposes the following hypotheses.

H8: Personal norms positively mediate the relation between altruistic concerns and TPEB.
H9: Personal norms positively mediate the relation between biospheric concerns and TPEB.
H10: Personal norms positively mediate the relation between subjective norms and TPEB.
The conceptual framework of study is presented in Figure no 1.

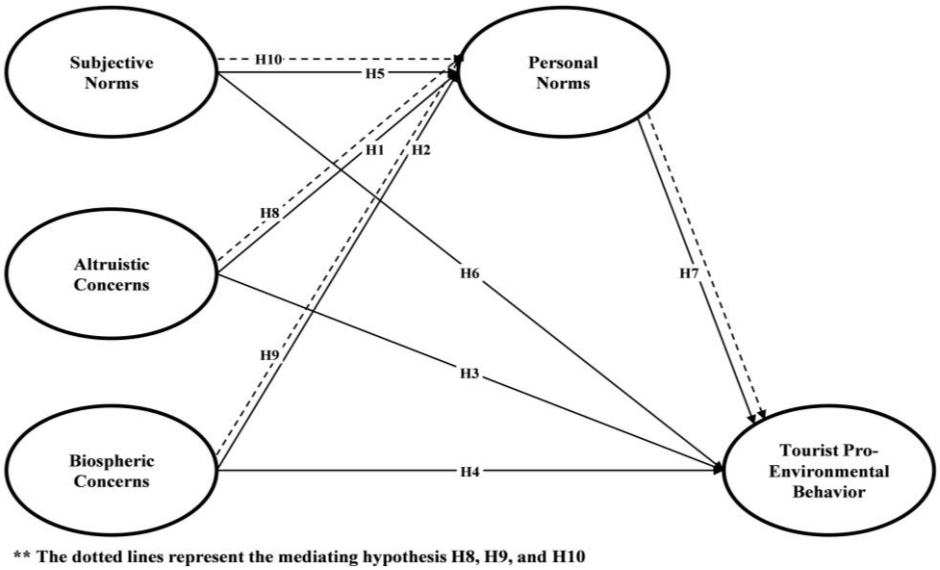

Figure 1. Conceptual framework

Questionnaire Design

A structured questionnaire with the choices of answers was developed for survey in association to variables. Further questionnaire was arranged into two portions. The first part of questionnaire focused to capture demographic information of respondents. The second part of questionnaire focused to capture data related to proposed variables. A seven-point Likert scale, ranging from 'strongly disagree' to 'strongly agree,' was used for the survey. Items included are adapted from previously published papers of good journals. Altruistic and biospheric concerns are tested using 4 and 5 items each adopted from (Ciocirlan, Gregory-Smith, Manika, & Wells, 2020). Social norms are tested using 3 items adopted from (Han, 2020). Personal norms are tested using 8 items adopted from (Awais et al., 2022). And finally tourist pro-environmental behavior is tested using 5 items adopted from (Han, Kim, & Kiatkawsin, 2017). Further Table no 1 contains all item and their sources.

Table 1. Items and sources

No	Statements	Sources
	Altruistic Concerns	(Ciocirlan et al., 2020)
1	I am concerned about environmental problems because of the consequences for humanity	
2	I am concerned about environmental problems because of the consequences for children	
3	I am concerned about environmental problems because of the consequences for people in the community	
4	I am concerned about environmental problems because of the consequences for future generations	
	Biospheric Concerns	(Ciocirlan et al., 2020)
1	I am concerned about environmental problems because of the consequences for plants	
2	I am concerned about environmental problems because of the consequences for trees	

No	Statements	Sources
3	I am concerned about environmental problems because of the consequences for marine life (sea animals)	
4	I am concerned about environmental problems because of the consequences for birds	
5	I am concerned about environmental problems because of the consequences for animals	
	Subjective Norms	(Han, 2020)
1	Most people who are important to me think I should behave pro-environmentally at tourism sites	
2	Most people who are important to me would want me to behave pro-environmentally at tourism sites	
3	Most people whose opinions I value would prefer that I should behave pro-environmentally at tourism sites	
	Personal Norms	(Awais et al., 2022)
1	I feel an obligation to behave pro-environmentally at tourism sites	
2	I feel a strong personal obligation to behave pro-environmentally at tourism sites	
3	I feel a moral obligation to protect the environment	
4	I feel that I should protect the environment	
5	I feel it is important that people in general protect the environment	
6	I feel I must do something to help future generations	
7	Because of my own values/principles, I feel an obligation to behave in an environmentally friendly way	
8	I should do what I can to conserve natural resources	
	Tourist Pro-Environmental Behavior	(Han et al., 2017)
1	I would try to dispose garbage properly if possible	
2	I would try to protect local resources as much as I could	
3	I would try to save water and electricity when travelling	
4	I would buy eco or organic products when possible	
5	I would try to learn about the recycling facilities and actions of the locals	

Data Collection and Analysis

Data is collected through an online survey by sharing link of questionnaire. A non-probability convenience sampling method was used to recruit respondents, ensuring accessibility to a diverse group of tourists interested in sustainable tourism practices. Participants are selected on social media platform like Facebook and Instagram. As on Facebook and Instagram there are different groups and pages that promotes different tourism destinations, so from there it is easy to find participants with travelling experience and interest. Also some participants are approached through WhatsApp based on their travelling experiences, known to author. The date was collected from May-2024 to September-2024. After five month 217 responses were collected, 123 from Facebook, 48 from Instagram, and 46 through WhatsApp. There were no missing values in questionnaire as it was compulsory to fill all the questions otherwise the respondent cannot submit it. Further proposed theoretical model of study is checked through structural equation modeling (SEM) using Smart-PLS 4 software. Measurement model and structural model is used to check internal consistency of items and proposed hypothesis among variables**.**

3. Result and Discussion

Demographic Information of Respondents

The study surveyed a total of 217 participants, with a majority being female (55.2%), while males comprised 44.8% of the respondents. Regarding age, the largest group of participants (42%) fell within the 21-30 age range, followed by those aged 31-40 (28.1%). Participants aged 20 and below accounted for 18%, whereas those aged 41-50 and 51 and above made up 7.8% and 4.1%, respectively. In terms of marital status, 54.3% of respondents were married, while 45.7% were single. Educationally, 43.8% of participants held a university degree, making it the most represented category, followed by college-level education (34.1%) and secondary/high school education (22.1%). These demographics provide a comprehensive representation of the study's diverse participant group. Further details of demographic information is presented in Table no 2.

Table 2. Respondents profile

Characteristics	Items	Frequency	Percentage
Gender	Male	97	44.8
	Female	120	55.2
Age	20 and below	39	18
	21-30	91	42
	31-40	61	28.1
	41-50	17	7.8
	51 and above	9	4.1
Marital status	Single	99	45.7
	Married	118	54.3
Education	Secondary/high school	48	22.1
	College	74	34.1
	University	95	43.8

Measurement Model Assessment

In this study, the measurement model is utilized to ensure the reliability and validity of the constructs. The factor loadings of all items for the proposed constructs are above the recommended threshold of 0.7 (Hair, Risher, Sarstedt, & Ringle, 2019), range from 0.792 for TPEB4 to 0.945 for SN1, as clearly depicted in the Figure no 2. Construct reliability was assessed using Cronbach's alpha and composite reliability (CR). Values of Cronbach's alpha range from 0.893 (Altruistic Concerns) to 0.963 (Personal Norms), while CR values range from 0.895 to 0.964, confirming reliability within the 0.7–1 threshold (Hair Jr et al., 2021). Convergent validity, examined through average variance extracted (AVE), shows values from 0.735 for Tourist Pro-environmental Behavior (TPEB) to 0.841 for Subjective Norms (SN), exceeding the threshold of 0.5. Detailed results for Outer loadings, Cronbach's alpha, CR, and AVE are in Table no 3.

Table 3. Outer loading, construct reliability and validity

Construct	Items	Outer loadings	M	SD	Cronbach's alpha	CR	AVE
Altruistic Concerns	AC1	0.895	22.959	2.935	0.893	0.895	0.758
	AC2	0.840					
	AC3	0.863					
	AC4	0.883					
Biospheric Concerns	BC1	0.926	28.369	4.158	0.944	0.945	0.818
	BC2	0.898					
	BC3	0.903					
	BC4	0.892					
	BC5	0.902					
Subjective Norms	SN1	0.945	17.180	2.149	0.905	0.911	0.841
	SN2	0.896					
	SN3	0.910					
Personal Norms	PN1	0.885	45.258	6.057	0.963	0.964	0.795
	PN2	0.872					
	PN3	0.899					
	PN4	0.918					
	PN5	0.875					
	PN6	0.911					
	PN7	0.888					
	PN8	0.884					
Tourist Pro-environmental Behaviour	TPEB1	0.914	28.585	4.624	0.910	0.924	0.735
	TPEB2	0.882					
	TPEB3	0.899					
	TPEB4	0.792					
	TPEB5	0.792					

Lastly, discriminant validity was assessed using the heterotrait-monotrait (HTMT) ratio. The results indicate that all HTMT values are below the acceptable threshold of 0.9, as recommended by Teo, Srivastava, and Jiang (2008). This confirms the discriminant validity of the constructs. The HTMT results are provided in Table 4. Additionally, multicollinearity was checked through the variance inflation factor (VIF). The VIF values for all relationships range from 1.815 to 2.918, which are below the critical value of 5, indicating no multicollinearity issues among the constructs. The detailed VIF results are presented in Table 5.

Table 4. Discriminant validity (htmt ratios)

	AV	BV	PN	SN	TPEB
AC					
BC	0.849				
PN	0.735	0.756			
SN	0.641	0.719	0.735		
TPEB	0.733	0.725	0.776	0.712	

Structural Model Assessment

Structural model is used for the assessment of impact and intensity between the proposed variables in study. It will help to find whether the relation among constructs is negative or positive, and is the relationship significance or not significance. So, on the base of results obtained from structural model it can be decided whether the proposed hypothesis is accepted or rejected. For the assessment structural model, in Smart-PLS 4 bootstrapping technique was applied by selecting option of 5,000 samples as recommended by (Hair Jr et al., 2021). Further the standard assessment criteria used in this study includes, VIF (measure of collinearity), R^2 (coefficient of determination), student test, and at last significance test based on these terms it is determined whether proposed hypothesis are accepted or rejected (Hair et al., 2019).

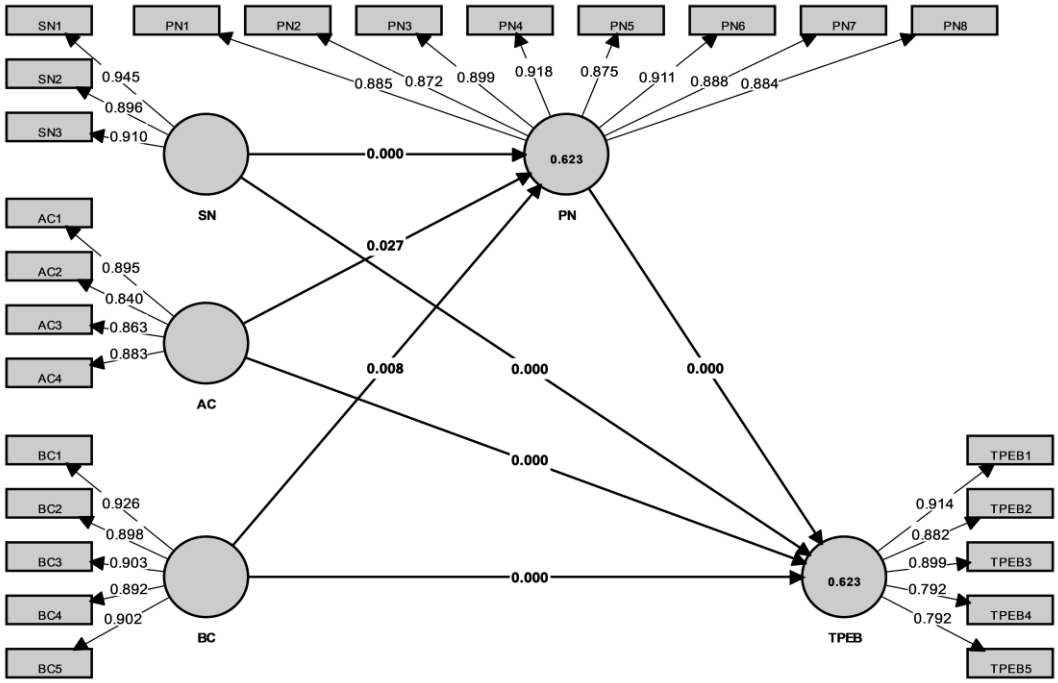

Figure 2. Measurement model and path coefficients

Further path model is used to test propose hypothesis in this study. The results show that altruistic concerns (AC) have positive impact on personal norms (PN) (β = 0.244, t = 2.212, p = 0.027), and tourist pro-environmental behaviour (TPEB) (β = 0.322, t = 4.585, p = 0.000), which support hypothesis H1 and H3 respectively. Biospheric concerns (BC) have positive impact on PN (β = 0.287, t = 2.647, p = 0.008), and TPEB (β = 0.199, t = 1.944, p = 0.000), which support hypothesis H2 and H4 respectively. Subjective and norms (SN) have positive impact on PN (β = 0.359, t = 4.206, p = 0.000), and TPEB (β = 0.333, t = 3.713, p = 0.000), which support hypothesis H5 and H6 respectively. Personal norms (PN) have positive impact on TPEB (β = 0.379, t = 4.413, p = 0.000), which support hypothesis H7. Detailed results are presented in Table no 5.

Table 5. Direct effect

Hypothesis	Relation	β	STD	t-value	p-value	Result	VIF
H1	AC→PN	0.244	0.110	2.212	0.027	Accepted	2.918
H2	BC→PN	0.287	0.108	2.647	0.008	Accepted	2.491

Hypothesis	Relation	β	STD	t-value	p-value	Result	VIF
H3	AC→TPEB	0.322	0.070	4.585	0.000	Accepted	2.075
H4	BC→TPEB	0.199	0.102	1.944	0.000	Accepted	2.710
H5	SN→PN	0.359	0.085	4.206	0.000	Accepted	1.815
H6	SN→TPEB	0.333	0.090	3.713	0.000	Accepted	2.156
H7	PN→TPEB	0.379	0.086	4.413	0.000	Accepted	2.649

Mediation Effect

In the framework of study personal norms are used as mediation variable between independent and dependent variables. So, the mediation hypothesis, were also proposed in this study as H7, H8, and H9. The results from bootstrapping technique on Smart-PLS shows that, personal norms significantly mediate the relation between independent variables as, altruistic concerns (AC), biospheric concerns (BC), social norms (SN), and dependent variable the tourist pro-environmental behaviour (TPEB) respectively (β = 0.122, t = 1.875, p = 0.021), (β = 0.109, t = 2.209, p = 0.027), and (β = 0.136, t = 3.320, p = 0.001), and these results do support hypothesis H8, H9, and H10 respectively. Further the mediation effect is complementary partial as recommended by (Zhao, Lynch Jr, & Chen, 2010). Results of mediation effect are presented in Table no 6.

Table 6. Mediation Effect

Hypothesis	Relation	β	STD	t-value	p-value	Results
H8	AC→PN→TPEB	0.122	0.049	1.875	0.021	Accepted
H9	BC→PN→TPEB	0.109	0.049	2.209	0.027	Accepted
H10	SN→PN→TPEB	0.136	0.041	3.320	0.001	Accepted

Discussion

This study reveals that altruistic concerns, and biospheric concerns, along with social and personal norms, play a significant role in influencing tourist pro-environmental behaviors. The findings indicate that tourists with stronger altruistic and biospheric concerns are more likely to engage in sustainable tourism practices. Furthermore, social norms, such as the perceived behavior of others and the collective responsibility towards environmental conservation, significantly impact tourists' intentions to engage in eco-friendly behaviors. Personal norms also serve as a key motivator, with individuals who align their actions with personal values feeling a higher sense of responsibility toward the environment. These results highlight the importance of integrating both individual and societal factors to understand the drivers of pro-environmental behavior in tourists (He et al., 2024).

The results suggest that values related to altruism and biospheric concerns are more influential in driving pro-environmental behavior among tourists. This finding aligns with previous studies that emphasize the importance of intrinsic motivations in promoting sustainable practices (Awais et al., 2022; Riaz & Awais, 2024). Social norms further amplify the influence of personal values by creating an environment where sustainable behavior is seen as a shared responsibility. The significant role of personal norms indicates that tourists who are intrinsically motivated and hold strong personal obligations towards environmental protection are more likely to adopt eco-friendly behaviors. These insights provide a nuanced understanding of how values and norms interact to shape tourists' intentions, offering practical implications for policymakers and tourism providers aiming to foster sustainable tourism practices.

Additionally, policymakers can enhance sustainable tourism by strengthening environmental regulations, offering incentives for eco-friendly travel, and integrating pro-environmental education into tourism experiences. Policies such as eco-certifications for hotels, carbon offset programs, and stricter waste management regulations can encourage tourists to adopt greener behaviors. Also, public-private partnerships can promote responsible tourism through awareness campaigns and improved infrastructure, ensuring long-term environmental sustainability in tourist destinations.

4. Conclusion

This study underscores the critical role of altruistic and biospheric concerns, alongside social and personal norms, in shaping tourists' pro-environmental behaviors. The findings highlights that intrinsic motivations, such as a sense of responsibility toward the environment, are stronger drivers of sustainable practices. Social norms further reinforce these behaviors by fostering collective responsibility. By integrating individual and societal factors, this research provides a comprehensive framework for understanding the determinants of

sustainable tourism intentions. As governments and the private sector play a vital role in promoting environmental awareness in tourism. Policymakers can enforce eco-friendly regulations, launch awareness campaigns, and incentivize green tourism initiatives. Meanwhile, the private sector can adopt sustainable practices, educate tourists, and integrate corporate social responsibility (CSR) efforts. Collaborative efforts between both sectors can significantly enhance tourists commitment to sustainable travel. The findings of this study offer valuable insights for tourism stakeholders, including destination managers, policymakers, and tourism operators, to develop more effective strategies for promoting sustainable tourism mainly after pandemic. Emphasizing altruistic and biospheric concerns in marketing campaigns can resonate with tourists who are intrinsically motivated by environmental concerns. Additionally, incorporating social norms into tourism promotion, such as highlighting the sustainable behaviors of other tourists or the local community, can create a broader sense of collective responsibility as highlighted. Tourism operators should also foster personal norms by encouraging tourists to reflect on their environmental impact and offering incentives for sustainable actions, such as eco-friendly accommodations or activities. These practical steps can significantly enhance the effectiveness of sustainable initiatives in tourism.

This study has several limitations that should be acknowledged. Data collection was conducted through online platforms, including Facebook, Instagram, and WhatsApp, targeting members of tourism groups, pages, and communities. While this approach allowed for diverse respondents, it inherently introduced sampling bias, as participants were primarily active social media users. Additionally, the WhatsApp sample relied on the author's personal network of individuals with known travel histories, potentially limiting the representativeness of the data. Further future research should benefit from employing random sampling techniques and expanding data collection to include offline settings for broader generalizability. Moreover, including longitudinal studies, ansd qualitative methods, such as interviews or focus groups, could further enrich understanding of tourists sustainable travel motivations and barriers. Also, external factors like government policies and social trends also influence tourists pro-environmental behavior. Regulations such as eco-tourism incentives and waste management laws can promote sustainable travel while growing environmental awareness encourages green choices. Although this study focuses on individual factors, future research could examine how these external influences interact with tourists decision-making.

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