

RESEARCH ARTICLE

Destination psychological ownership, environmental awareness and sustainable practices: A study among inbound UK and Chinese adults of Generation Zs

Fangfang Liu^{1,*}, Anees Jane bin Ali¹, Qaisar Iqbal²

¹ School of Management, Universiti Sains Malaysia, Gelugor 11700, Malaysia

² IRC for Finance & Digital Economy, KFUPM Business School, King Fahd University of Petroleum & Minerals, Dhahran 31261, Saudi Arabia

* Corresponding author: Fangfang Liu, liufangfang@student.usm.my

ABSTRACT

Sketching on psychological ownership-attitude-behavior theory, the present study examines the effect of destination psychological ownership on Generation Z's tourist environmental attitude, which in turn influences their sustainable behavior. This study also investigates the conditional impact of environmental awareness on the ecological attitude-sustainable behavior relationship. Using a purposive sampling approach, the authors collected data from inbound Generation Z tourists in the UK and China through a survey. The findings concluded with a significant positive impact of destination psychological ownership on Generation Z's environmental attitude. The current evidence also supports the positive effect of ecological attitude on Generation Z's sustainable behavior. The present work offered robust evidence that environmental awareness moderates the environmental attitude-sustainable behavior relationship in Generation Z. Concerning UK and Chinese cultural differences, the findings concluded with variations among their Generation Z tourist destination psychological ownership, ecological attitude and sustainable practices. Implications and limitations have also been elaborated on at the end.

Keywords: destination psychological ownership; environmental awareness; positive environmental attitude; sustainable behavior

1. Introduction

Sustainable tourism is concerned with creating harmony between the natural environment and tourists. Over time, tourists have become highly sensitive towards the territory of tourist places. Along these lines, the United Nations introduced the Sustainable Development Goals (SDGs) and emphasized the fundamental role of young tourists in the sustainable tourism arena^[1]. Sustainable behavior has recently become a hot topic among practitioners and academicians^[2,3]. Till now, there is room to contribute to the arena of tourists' behavior towards sustainability, and future research is recommended^[4]. Plenty of research examined tourist behavior using generational analysis^[5,6], such as the Baby Boomer generation^[7], Generation Y^[8] and Millennials^[9]. Generation Z's adult members recently entered the international tourism market^[4]. After the post-pandemic era, tourism has emerged as a standard global social activity where Gen Z participation has

ARTICLE INFO

Received: 6 June 2023 | Accepted: 12 September 2023 | Available online: 10 November 2023

CITATION

Liu F, Ali AJb, Iqbal Q. Destination psychological ownership, environmental awareness and sustainable practices: A study among inbound UK and Chinese adults of Generation Zs. *Environment and Social Psychology* 2024; 9(1): 1802. doi: 10.54517/esp.v9i1.1802

COPYRIGHT

Copyright © 2023 by author(s). *Environment and Social Psychology* is published by Asia Pacific Academy of Science Pte. Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), permitting distribution and reproduction in any medium, provided the original work is cited.

exponentially increased^[10,11]. An increasing flow of tourists brings substantial threats to the environmental sustainability of tourist places. The irregular increase of nature-friendly tourists and ineffective access management have already damaged the beauty of many tourist places^[12]. In addition, specific tourist behaviors such as smoking, making noise, spitting, damaging plants and littering also devastated tourist areas^[7,13]. Considering the growing proportions of this generation of international consumers, it is essential to assess its impact on the tourism industry^[14]. Therefore, this study focuses on the sustainable behavior of Generation Z tourists.

Considering sustainable tourism, extant literature has focused on pro-environmental behavior towards environmentally friendly lodging^[15], picking up litter in public tourist places, responsible behavior towards tourist places, comparison of ecologically friendly behaviors among residents and foreign tourists, environmental awareness among tourists towards green products and services^[10,11,15-17]. Past studies have mainly employed the norm activation theory^[18], planned behavior theory^[19], reasoned action model^[20] and the value-belief-norm theory^[21] to examine the environmental behaviors among tourists. Most studies have adopted the value-based-norm approach, which focuses on the relationship between individual values and tourists' motivations towards specific environmental behaviors^[22]. The theory of planned behavior follows a rational decision-making model, and past studies used it widely to explore different human behaviors in the tourism context^[23]. However, past studies have recommended increasing the explanatory power of specific behaviors, such as sustainable behaviors, by adopting the psychological ownership concept^[24]. The psychological ownership-attitude-behavior model^[25] states that individuals' psychological ownership influences their attitude, affecting their behaviors towards their organization. Zhang and Xu^[26] have adopted this model to predict the citizenship behavior among residents.

Nevertheless, there are rarely any studies on international tourists' environmental attitudes and sustainable behaviors in the context of generation^[27,28]. Destination psychological ownership concerns the degree to which tourists feel ownership towards a tourist place^[29]. According to Van Dyne and Pierce^[30], psychological ownership influences human behaviors in different contexts and promotes organizational citizenship behaviors.

Moreover, destination psychological ownership is highly critical to spur environmentally friendly behavior among tourists^[31]. Thus, the present study examines the indirect effect of destination psychological ownership on Gen Z's sustainable behavior through environmental attitudes.

Encouraging and promoting sustainable practices among tourists is necessary to preserve tourist places^[32,33]. Thus, understanding environmental awareness, which provides tourists with essential knowledge about environmentally friendly activities in a tourist place, emerges as highly significant to promoting sustainable practices among tourists^[14]. Tourists who are closer to the environment and have greater awareness about nature are highly likely to behave environmentally friendly^[8]. There is an absence of any evidence about the direct relationship of environmental attitude-sustainable behavior in the context of any generation^[34]. Therefore, the current study examines the moderating role of environmental awareness on the relationship between environmental attitudes and sustainable behaviors among Generation Z tourists.

National culture substantially affects the young generation's attitudes and behaviors^[35]. Because of different economic, technological and socio-cultural factors, Generation Z's attitudes, values and behaviors are different from those of other generations^[36]. UK and China both have different cultures. Chinese society focuses on collectivism and long-term orientation and has a restrained culture, whereas UK people practice individualism, short-term orientation and an open culture. Therefore, this study also examines the

psychological destination ownership and environmental attitudinal and sustainable behavioral changes in UK and Chinese tourists because of their different national cultures.

The present study makes numerous contributions to the emerging literature on sustainable tourism and psychological ownership literature. First, this study complements understanding the predictors of sustainable behavior among Generations Zs in the UK and China. Second, it assesses the impact of destination psychological ownership on young tourists' attitudes towards the environment. Third, the current research explores the conditional effect of environmental awareness on the relationship between environmental attitude and sustainable behavior. Fourth, this study enriches the literature on psychological ownership theory by integrating destination psychological ownership's role in sustainable tourism. Fifth, this article also elaborates on the necessary part of national culture in promoting sustainable tourism by offering findings based on Chinese and UK outbound tourist samples.

2. Theoretical background and hypotheses development

2.1. The psychological ownership-attitude-behavior theory

Nevertheless, most studies employed the theory of planned behavior in research studies related to tourist behaviors, encouraging logical decision-making at the tourist end^[23]. Specific attitudes and behaviors, such as sustainable behavior, have yet to be fully explained^[37]. Accordingly, psychological ownership could emerge as an essential factor explaining tourist behavior. Consequently, Pierce et al. have introduced the psychological ownership-attitude-behavior theory^[25]. According to this theory, psychological ownership among individuals drives their upbeat attitude, which results in their behaviors towards specific entities. Psychological ownership is how individuals feel the target of ownership or a piece of it is theirs^[23,38]. Previously, past studies used this theory regarding residents' place and organizational citizenship behavior^[26,39,40].

Nevertheless, there is a need to develop tourism-related literature based on this theory. Moreover, destination psychological ownership strongly determines tourist eco-friendly behavior^[31,41]. Therefore, the authors conducted the study based on the destination psychological ownership-attitude-behavior model.

2.2. Destination psychological ownership and environmental attitudes

Destination psychological ownership refers to the extent to which one feels ownership toward a tourist spot^[29], which is a dynamic factor to spur sustainable behavior^[42]. In the presence of DPO, tourists view the tourist spot as an extended part of themselves^[38]. Psychologically, employees who view a destination as a "mine" might perceive sustainable behaviors towards a tourist spot or destination as self-directed. Regarding this, tourists will feel responsible for protecting the natural environment of their destination^[31]. Thus, the application of DPO emerges with substantial weightage to assess the impact of DPO on sustainable behaviors.

According to the psychological ownership-attitude-behavioral theory, psychological ownership among tourists creates positive attitudes^[25]. Ownership mindset among employees also influences their attitude towards work^[43]. Research in marketing studies has concluded that psychological ownership is an essential determinant of attitudes towards products^[23,44]. Similarly, psychological ownership towards a destination among tourists is likely to ignite positive attitudes towards environmentally friendly behaviors^[23]. Moreover, co-creation activities influence the relationship quality with any brand, affecting experience and attitude in the Chinese context^[45].

Similarly, hopefulness in the shape of psychological ownership enables tourists to make intertemporal decisions in the presence of high information integrity^[46]. Brand personality significantly affects customer-brand relationships^[47]. Accordingly, the tourists may exhibit higher attitudes towards environmental issues at

the destination in the presence of the destination's psychological ownership. Therefore, the following hypothesis is proposed.

H1: Destination psychological ownership significantly positively influences environmental attitude.

2.3. Environmental attitudes and sustainable behaviors

Sustainable tourism requires the preservation of nature and the creation of opportunities for future generations^[48]. By adopting sustainable tourism practices, a country can gain a competitive advantage by alluring local and international visitors^[49]. Sustainable tourism also contributes to economic development by increasing the number of visitors. In sustainable tourism, sustainable behavior concerns activities geared towards ecological conservation, such as purchasing green products and creating economic benefits for residents, such as the usage of local products and respect for local culture and lifestyle^[23]. According to Ajzen^[19], attitude toward a behavior measures the extent to which an individual has a positive or negative appraisal or evaluation of the behavior under investigation. Extant literature has strongly validated the positive link between favorable attitudes and specific behaviors^[23,50]. According to Wang et al.^[51], a fair attitude with clear objectives ignites a positive motivation affecting a particular behavior, whereas unfavorable behavior results in avoiding related behavior. Han^[15] concluded that attitude towards a behavior is a vibrant determinant of related behavior among tourists.

Extant studies used various terms such as environmental concerns, values, orientation and worldview to investigate ecological attitudes' antecedents and outcomes^[52]. Environmental attitudes based on such issues as altruism, biosphere and egoism play a critical role in steering behavior among tourists^[53]. With higher altruistic value, individuals are concerned about other people and living species and consequently behave environmentally friendly^[54]. With higher biospheric value, individuals are concerned about environmental challenges such as global warming, pollution and deforestation^[14,55]. Here, they are ready to consume environmentally friendly and local products that generate residents' profits.

Moreover, tourists with egoistic values are ready to pay to conserve tourist spots^[18]. Thus, environmental attitude also contributes to the residents of tourist spots. With a solid environmental perspective, tourists are highly motivated and possess knowledge about ecolabels and environmental issues^[56]. In addition, tourists' perceived environmental orientation influences their identification, which drives their specific attitude and behavior towards the hotel^[57]. Value of quality, emotion and knowledge play a vital role in developing tourists' well-being which is positively related to their behavior^[58]. Moreover, Kil et al. have concluded that environmental attitudes have a significant positive impact on environmentally responsible behavior among tourists^[59]. Along with this line, the following hypothesis is proposed.

H2: Environmental attitude significantly positively affects sustainable behavior.

2.4. Moderating role of environmental awareness

According to Kiatkawsin and Han^[48], young tourists follow trendy travel and like challenging destinations but need more knowledge about sustainable activities. Environmental awareness ignites affective attachment towards a tourist place among young tourists, which might drive their behavior^[14]. Environmental awareness positively influences life quality and substantially drives individuals' behaviors towards the environment^[60]. Thus, its adoption is highly significant to cope with environmental challenges^[61]. Past studies have claimed that cognitive factors determine the positive attitude towards the environment, which results in behavioral intentions^[62]. Extant literature has also claimed environmental awareness as a cognitive factor^[6,61].

People with high altruistic value orientations are more prone to participate in environmentally friendly behavior. Environmental awareness is positively related to altruism in sustainable development^[16], which

drives behavioral intention^[10]. When tourists possess an acceptable level of environmental awareness, they will be more careful about their behaviors to cope with environmental issues at tourist places^[63]. Tourists with high biospheric value are highly concerned about environmental problems such as global warming, pollution and deforestation^[54]. When environmental awareness is related to biospheric matter, individuals will be involved in activities to protect the environment^[2]. According to Sharmin et al.^[14], environmental awareness and biosphere value affect environmental attitudes among tourists, which is influenced by selective attention to information^[64]. Considering the impact of environmental awareness on tourists, egoistic importance also influences sustainable behavior^[65]. Under egoistic value, tourists are ready to pay to conserve nature^[55]. By increasing egoistic value, environmental awareness drives tourists to sustainable behavior, pro-environmental behavior and green hotel visit intention^[66].

Considering nature-based tourism, environmental awareness has emerged as a vibrant phenomenon because of limited natural resources, authenticity, environmental values and distinctive attributes related to a tourist place not associated with another destination^[67]. Along with other internal factors, environmental awareness has been proven to affect responsible behaviors among tourists^[65] positively. Past studies have claimed the utmost significance of environmental awareness because of its positive impact on environmentally friendly behaviors^[68]. Generation Z is the future of tourism and makes up a significant portion of its tourist volume, so their awareness level will likely affect sustainable tourism development.

H3: With the increasing level of environmental awareness, environmental attitude has a more substantial effect on sustainable behaviors.

2.5. Role of country-specific cultural differences

There needs to be more studies on cultural differences among Gen Z^[4,69], which affects their behaviors towards sustainable tourism^[70,71]. The present research has focused on two culturally different Gen Zs from China (Asia) and the UK (Europe). China and the United Kingdom have different cultural norms and values^[72,73]. Chinese society is highly collectivist and employs a long-term orientation approach. Chinese tourist also practices a restrained culture.

Contrary to this, UK society is individualistic and focuses on short orientation. UK travellers practice open culture in their social activities. However, these two societies are equally inclined towards uncertainty avoidance.

Moreover, past studies have claimed that Gen Z are shaped and have similar approaches in their lives. Nevertheless, Filimonau et al.^[35] have argued that the culture of tourists has a substantial impact on sustainable tourism and behaviors towards the environment. Thus, the following hypothesis is developed,

H4: There are country-specific cultural differences in environmental attitudes and sustainable behaviors.

Based on the above hypotheses development, the proposed research framework is exhibited in the **Figure 1** below.

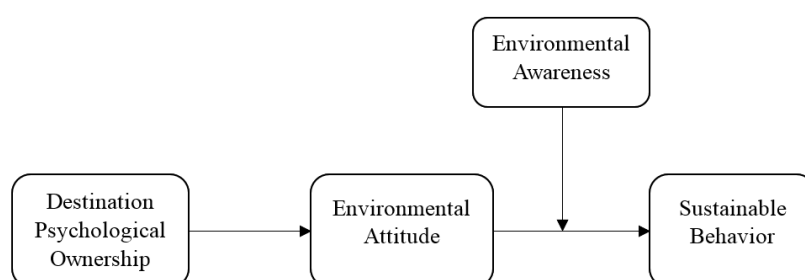


Figure 1. Research framework.

3. Research methodology

3.1. Context, population and sample

As there is a need for more studies about the generational analysis in sustainable tourism and how national cultures play a dynamic role in developing young adults' attitudes and behaviors, the present study focuses on Generation Z tourists of the United Kingdom (UK) and China. Generation Z tourists were born after the 1990s^[42]. Moreover, there needs to be a list of the ages of Zs tourists. So, the authors adopted a non-probability-based convenience sampling approach to collect data from UK and Chinese visitors without a sampling frame^[74]. In the lack of a regular list of tourists and target population, authors consciously selected survey sites. To tackle sampling bias, the authors employed a spontaneous sampling process^[75]. The data collection process lasted for three months in both countries. Data was collected from Chinese travellers at London Heathrow Airport and Manchester Airport in the UK. In addition, research assistants approached UK travellers at Beijing Daxing International Airport and Shanghai Pudong International Airport in China. The authors hired eight research assistants to collect data at these airports and paid them 25 yuan per questionnaire.

Completing the survey form took 15 minutes on average in China and the UK. Only those travellers who showed a positive and kind attitude towards the study were requested to fill out the survey form. Participants were also rewarded with a small token of appreciation to increase their motivation to complete the survey form. The authors distributed 1000 survey forms at four locations. In return, we received only 771 filled survey forms. After screening those forms, there were 723 valid responses for further analysis. Therefore, the current response rate is 72.30%. The authors collected at least ten responses per item to deliver robust results based on an acceptable sample size^[76].

3.2. Measures

In the current study, tourists rate measurement items of all continuous variables based on a five-point Likert scale ranging from strongly disagree to agree strongly.

Tourists were asked to rate their destination psychological ownership using three items adapted from Zhang et al.'s study^[77]. A sample item is "I feel a very high degree of personal ownership for X". Qiu et al.^[23] have also employed these three items in their study and found them highly reliable ($\alpha = 0.876$) and valid.

Generation Z's sustainable behaviors were measured using the 07-item scale adapted from the study of Agyeiwaah et al.^[78]. A sample item is "I respect the nature and wildlife of this protected area". Prayag et al.^[42] have also used these items in their study in New Zealand and found them highly reliable ($\alpha = 0.83$).

Tourists rate their environmental attitude using 12 items from the study of Dunlap and Van Liere^[79]. A sample item is "When I travel, I try to choose tourism services and products that preserve the environment". Extant studies have confirmed the validity of this scale in the context of New Zealand^[42]. Tourists rated environmental awareness using four items from Panda et al.^[16] and Xu et al.^[67]. A sample measurement item of this scale is "I feel pressure to save the environment". This scale has also been used in the Chinese context previously and was found reliable and valid^[14].

The authors also requested tourists to share their demographic details, such as gender, age, education, and travelling frequency. Travelling frequency was measured by asking tourists whether they were travelling for the first time. All these categorical variables were treated as control variables.

3.3. Analytical strategy

As the present study investigates the integrated relationship between destination psychological ownership, environmental awareness, sustainable behavior and environmental attitude, it is explanatory. The proposed

framework comprises both a mediator and a moderator, which makes it complex. According to Hair et al., applying partial least square-structural equation modelling (PLS-SEM) is appropriate in such situations. Contrary to PLS-SEM, covariance-based structural equation modelling (CB-SEM) is primarily confirmatory and requires a large sample size^[74]. Moreover, CB-SEM aims to minimize the difference between the sample covariance.

Nevertheless, PLS-SEM aims to maximize the dependent latent constructs' explained variance (prediction)^[80]. Therefore, the authors employed PLS-SEM over CB-SEM in the current study. The PLS-SEM analysis is concerned with evaluating both the measurement and structural model. Before running the PLS-SEM analysis, it is advised to assess the distinctiveness of constructs and mode fit through confirmatory factor analysis (CFA).

National culture drives individuals and organizational preferences. Past studies have also concluded a significant role of national culture in directing tourist behaviors. Therefore, this study also assessed the variation in tourist environmental attitudes and sustainable behavior because of their culture. This multigroup analysis was conducted in SmartPLS using the PLS-MGA multigroup analysis function.

4. Findings

4.1. Demographic analysis

In the current work, mostly male tourists ($n = 567$, 78.42%) filled the survey form, whereas females had only 21.57% participation. The highest participation comes from Chinese tourists ($n = 448$, 61.96%) compared to UK travellers ($n = 275$, 38.03%). The first-time visitors ($n = 532$, 73.58%) dominated, followed by those who have already visited their destination in this research. Among generations Z in the current dataset, 309 tourists are 25–30 years old, followed by 232 who are 20–25 years old.

4.2. Descriptive analysis

As tourists rated all continuous variables measurements based on a five-point Likert scale, authors interpreted the mean values following Sekaran and Bougie^[81] recommendations. Mean values of destination psychological ownership ($M = 3.880$), environmental attitude ($M = 3.611$) and sustainable behaviors ($M = 3.396$) indicate their moderate level of presence and practices among Generation Z tourists of the UK and China (Table 1). Yet, the means value of environmental awareness ($M = 2.575$) indicates its low level among young adults.

Table 1. Mean, stand deviation and normality values.

| Construct | Mean | Std. deviation | Skewness | Kurtosis |
|--|----------|----------------|----------------|----------|
| Destination psychological ownership (DPO) | 3.880 | 0.508 | -0.037 | -0.650 |
| Environmental awareness (EA) | 2.575 | 0.475 | -0.155 | 0.661 |
| Environmental attitude (EAt) | 3.611 | 0.481 | -2.546 | -0.380 |
| Sustainable behavior (SB) | 3.396 | 0.333 | -0.974 | -1.852 |
| Mardia's multivariate skewness and kurtosis | | | | |
| | b | z | p-value | |
| Skewness | 0.684 | 29.512 | 0.078 | |
| Kurtosis | 24.115 | 0.134 | 0.893 | |

4.3. Screening of data

Before relationship testing, screening data for missing values, outliers, data normality and standard method bias issues is advised. As participants manually filled out the survey form, there was a high possibility of missing values. The authors adopted the complete information maximum likelihood (FIML) method to cope with missing values. This approach employs the covariances matrix estimated with the expectation-maximization (EM) algorithm as the initial point for model fit. The authors examined both univariate and multivariate outliers. The Z-score values of all cases were less than 3.29, indicating the absence of univariate outliers. Additionally, the Mahalanobis distance test confirmed the absence of multivariate outliers, where all its values were higher than 0.001. The skewness and kurtosis values of destination psychological ownership, environmental attitude, environmental awareness and sustainable behaviors were found in the range of ± 3 (**Table 1**). So, these variables possess univariate normality.

Moreover, the Mardia's kurtosis ($\beta = 24.115, p > 0.05$) and skewness ($\beta = 0.684, p > 0.05$) values signified the presence of multivariate normality in a dataset (**Table 1**)^[82]. To ensure common method bias results, authors adopted statistical tools such as Harman's single factor test to diagnose potential bias. Harman's single-factor test revealed that one factor contributes to 19.819% of total variation, which is lower than 50%. Hence, the present dataset is more complimentary than any standard method bias issue.

The authors run confirmatory factor analysis (CFA) observing values of the confirmatory fit index (CFI), the Tucker-Lewis index (TLI), the root-mean-square error of approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). The CFA analysis showed a good fit of the proposed four-factor model (CFI = 0.956, TLI = 0.962, RMSEA = 0.059, SRMR = 0.057) compared to alternative models^[83,84].

4.4. Measurement model analysis

In the present study, all variables are reflective. The measurement assessment of reflective constructs deals with indicator reliability, construct reliability, convergent and discriminant validity. The indicator loadings of all items were greater than the cut-off values of 0.50 and fell in the range of 0.613 and 0.834 (**Table 2**). It shows their acceptable indicator reliability. All continuous variables' composite reliability (CR) values are higher than 0.70 (**Table 2**), indicating good construct internal reliability. Convergent validity requires the average variance extracted (AVE) > 0.50 and factor loading values > 0.60^[74]. Along with acceptable values of factor loadings, AVE values of destination psychological ownership, environmental awareness, environmental attitude and sustainable behavior are also greater than 0.50 (**Table 2**). Therefore, these variables possess acceptable convergent validity.

Table 2. Loading, CR and AVE values.

| Construct | Item | Loading | CR | AVE |
|---|------|---------|-------|-------|
| Destination psychological ownership (DPO) | DPO1 | 0.868 | 0.849 | 0.653 |
| | DPO2 | 0.759 | | |
| | DPO3 | 0.793 | | |
| Environmental awareness (EA) | EA1 | 0.736 | 0.84 | 0.569 |
| | EA2 | 0.756 | | |
| | EA3 | 0.699 | | |
| | EA4 | 0.821 | | |

Table 2. (Continued).

| Construct | Item | Loading | CR | AVE |
|------------------------------|-------|---------|-------|-------|
| Environmental attitude (EAt) | EAt1 | 0.777 | 0.934 | 0.543 |
| | EAt2 | 0.673 | | |
| | EAt3 | 0.666 | | |
| | EAt4 | 0.811 | | |
| | EAt5 | 0.749 | | |
| | EAt6 | 0.667 | | |
| | EAt7 | 0.717 | | |
| | EAt8 | 0.767 | | |
| | EAt9 | 0.689 | | |
| | EAt10 | 0.817 | | |
| | EAt11 | 0.797 | | |
| | EAt12 | 0.692 | | |
| Sustainable behavior (SB) | SB1 | 0.613 | 0.896 | 0.553 |
| | SB2 | 0.687 | | |
| | SB3 | 0.811 | | |
| | SB4 | 0.794 | | |
| | SB5 | 0.765 | | |
| | SB6 | 0.834 | | |
| | SB7 | 0.676 | | |

To examine the discriminant validity, the authors employed the Fornell-Larcker Criterion. According to the Fornell-Larcker Criterion, a construct has acceptable discriminant validity provided the square root of its average variance extracted (AVE) is greater than its inter-construct correlation values^[85]. As shown in **Table 3**, the square root of Ave values of all four continuous variables are higher than their inter-construct correlation values. So, destination psychological ownership, environmental awareness, environmental attitude and sustainable behavior possess acceptable discriminant validity.

Table 3. Discriminant validity.

| Construct | 1 | 2 | 3 | 4 |
|---|--------------|--------------|--------------|--------------|
| Destination psychological ownership (DPO) | <i>0.808</i> | - | - | - |
| Environmental awareness (EA) | 0.312 | <i>0.754</i> | - | - |
| Environmental attitude (EAt) | 0.438 | 0.322 | <i>0.737</i> | - |
| Sustainable behavior (SB) | 0.361 | 0.227 | 0.622 | <i>0.744</i> |

*Italic value indicates the square root of AVE.

4.5. Structural model analysis

The path analysis disclosed that destination psychological ownership significantly and positively affects environmental attitude ($\beta = 0.438, \rho < 0.05$). It was also found that ecological attitude significantly and positively related to sustainable behavior ($\beta = 0.591, \rho < 0.05$) among Generation Z tourists (**Table 4**). So, hypotheses H1 and H2 are accepted in the current study.

To investigate the moderating impact of environmental awareness, the authors assessed the effect of interaction terms on the tourists' sustainable behaviors. The current findings do not offer sufficient evidence

to support the positive impact of the interaction term (environmental awareness × environmental attitude) on the tourist’s sustainable behavior ($\beta = 0.100, \rho = 0.08 > 0.05$) (Table 4). These findings have been shown in Figure 2 as well. It means environmental awareness does not moderate the relationship of ecological attitude with sustainable behavior. Thus, hypothesis H3 is rejected. Moreover, the authors evaluated the proposed model by determining R square values. The R square values for environmental attitude and sustainable practices among Generation Z tourists are 0.191 and 0.397, respectively. Following the recommendations of Cohen^[86], these R square values indicate small and medium changes in related variables.

Table 4. Hypotheses testing.

| Hypotheses | β | Standard deviation | T-value |
|---|---------|--------------------|---------|
| Destination psychological ownership → Environmental attitude | 0.438 | 0.054 | 8.124 |
| Environmental attitude → Sustainable behavior | 0.591 | 0.048 | 12.316 |
| Environmental attitude × Environmental awareness → Sustainable behavior | 0.100 | 0.058 | 1.711 |

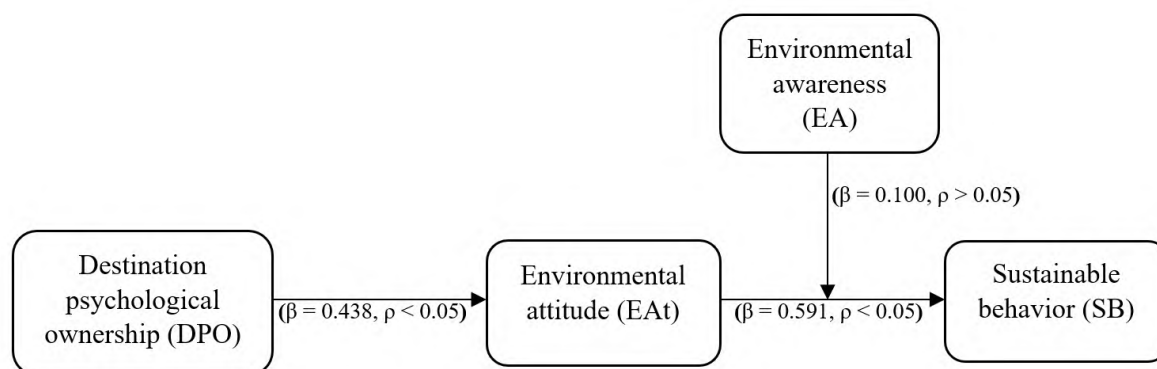


Figure 2. Study findings.

4.6. Multigroup analysis

The authors investigated potential differences in relationships between continuous variables significantly depending on the national cultures of the studies group, i.e., the United Kingdom and China (Hypothesis 4). Authors run PLS-MGA multigroup analysis in smartPLS 3.0. The findings did not offer any significant differences in relationships (Table 5). So, it is evident that national culture does not affect Generation Z’s psychological ownership, awareness, attitude and sustainability practices in the UK and China. Hence, this study rejected hypothesis H4.

Table 5. Multigroup analysis (MGA) results.

| Hypotheses | The UK. | | | China | | | B diff. | T-value | P-value |
|---|---------|--------------------|---------|---------|--------------------|---------|---------|---------|---------|
| | β | Standard Deviation | P-value | β | Standard Deviation | P-value | | | |
| Destination psychological ownership → Environmental attitude | 0.348 | 0.081 | 0.000 | 0.529 | 0.066 | 0.000 | 0.181 | 1.754 | 0.081 |
| Environmental attitude → Sustainable behavior | 0.561 | 0.066 | 0.000 | 0.615 | 0.072 | 0.000 | 0.054 | 0.552 | 0.582 |
| Environmental attitude × Environmental awareness → Sustainable behavior | 0.111 | 0.077 | 0.902 | 0.169 | 0.082 | 0.039 | 0.058 | 1.416 | 0.158 |

5. Discussion

The current findings supported two out of four proposed hypotheses. Path analysis confirmed the positive impact of destination psychological ownership on the tourist's environmental attitudes (H1). This finding is consistent with past studies conducted in the context of robot servers^[87], Online shopping^[88], non-profit firms^[89] and the retail industry^[90]. In the hotel industry, psychological ownership significantly affects customers' favourable attitudes towards robot servers^[87]. In a similar domain, Xiong et al. concluded with a strong positive effect of psychological ownership on employees' attitudes towards voice^[89]. Ainsworth^[91] conducted a study among employees in non-profit service organizations and confirmed the positive relationship between psychological ownership and attitude towards volunteering. In the retail industry and online shopping context, studies offer sufficient evidence about the positive impact of psychological ownership on the employee's attitude towards their organization^[90] and quality perception^[88]. Moreover, Mayhew et al. conducted a study among supervisors and employees in a large accounting firm and found a positive impact of both job-based and organization-based psychological ownership on employees' job satisfaction and organizational commitment^[92].

The present findings concluded with a positive impact of environmental attitude on Generation Z tourists' sustainable behavior. This result of hypothesis H2 is consistent with those offered by Meng et al.^[93], Koch et al.^[94] and Fritsche et al.^[95]. Global motives such as attitude are critical to promoting sustainable employee behavior in the hospitality and tourism industry^[93]. Koch et al.^[94] offered sufficient empirical support for the positive relationship between managers' sustainability attitudes and firm sustainable behaviors in German small and medium enterprises. Extant studies also support the positive effect of pro-environmental attitudes on sustainable behavior^[95-97]. Similarly, Eastman et al.^[98] found that social-adjustive and value-expressive luxury attitudes also positively promote sustainable behaviors. In addition, Liu^[99] adopted a mixed-mode approach and developed a mutual relationship between environmental development, sustainable behaviors and environmental impacts.

The present study did not support the moderating role of environmental awareness on the relationship of environmental attitude with sustainable behavior among Generation Z adults (H3). Contrary to current findings about the moderating role of environmental awareness, extant literature claims its positive moderating impact^[100-104]. Similarly, studies concluded with the conditional effect of environmental awareness on connectedness to nature-organizational citizenship behavior relationship in the hotel industry^[103] and place attachment-sustainable tourism development relationship in Turkey's tourism industry^[105]. Along with this line, Han et al.^[106] concluded the positive impact of environmental awareness on young tourists' sustainable buying behaviors, recycling behaviors and intention to protect natural and local resources while travelling. Nevertheless, past studies such as Foroughi et al. also offer empirical evidence in support of current findings about the non-significant moderating role of environmental awareness^[107]. Moreover, two studies concluded the buffering of the impact of environmental awareness on the consumer's attitude towards sustainably produced fish- behavioral consumption relationship^[108] and fast fashion purchase intention-purchase behavior^[109].

This study also negated the potential variations in young tourists' environmental attitudes and sustainable behaviors (hypothesis H4), which is contrary to the claims made by past studies, e.g., Dawkins et al.^[110] and Dunford et al.^[111]. Individual cultural differences drive the development of psychological ownership. In addition, ownership culture directs employees' perception of their specific attitudes and behavior^[111]. The reasons behind the non-significant effect of national culture on respective Generation Z tourists may be globalization and integrating different cultures into a society. Generations Z has grown up with social media,

access to diverse information sources, inclusive development and a global village. Thus, they might have the same mindset about world issues and challenges.

Implications and limitations

By exploring how destination psychological ownership affects sustainable behavior, the present study enriches theory and literature on Generation Z tourists by offering a deeper understanding of how psychological concepts could elaborate behavior. The current empirical findings about the sustainable behavior of Generation Zs unravel that sustainable behavior does not just happen, but instead, it is an outcome of environmental attitude and destination psychological ownership^[78]. The study also offers insights into the role of environmental awareness and national culture on environmental attitude and sustainable behavior, which needs more to be investigated in past studies. In addition, it negates the differences among generations Z's attitudes and behavior because of national culture in the sustainable development context^[112].

Practically, this study offers numerous implications for tourists, tourism businesses and destination marketing managers. Environmental attitude does not directly drive sustainable tourism^[113], but they strongly determine sustainable behavior. The findings confirm that generations Zs engaged in sustainable behaviors to affirm their destination psychological ownership through environmental attitude at the tourist spots. Tourism authorities should emphasize and reinforce such ownership by promoting tourist destinations as top locations for adults' cultural awareness, interactions and language learning. Budget accommodation owners and hostel managers should advertise their facilities as platforms that positively contribute to the tourist's ownership and identify and positively affect sustainable tourism. In addition, destination marketing organizations should also focus on tourism attractions and resources that are highly related to Generation Z's social identity. Environmental awareness among generations Zs is low among study participants, which might be the reason behind its non-significant conditional impact. As past studies claim a robust positive effect of environmental awareness on sustainable behavior^[114], destination marketing managers should ensure specific information sharing points to direct tourists to environmental behaviors and enhance their understanding of environmental opportunities, e.g., availability of eco-friendly products and low carbon transportation. For sustainable tourism promotion, the current findings also offer information concerning the engagement of Generation Z tourists in sustainability behavior. It has been reported that difference across generations exists, which emphasizes applying an intervention approach to developing environmental attitudes concerning specific sustainability practices^[112]. Moreover, variations across generations' attitudes and behaviors do not promote a "one size fits all" approach to encourage sustainable tourism.

Despite substantial contributions to the theory, this study also has numerous limitations. First, the authors collected data from outbound tourists at two airports in the UK and China. Considering the large size of China and the diversity of UK nationals, it is hard to generalize current findings even across China and the UK. Therefore, future research should respond to these concerns. Second, this study only focused on direct relationships, i.e., destination psychological ownership to environment attitude and environmental attitude to sustainable behavior. Future studies can investigate the indirect effect of destination psychological ownership on sustainable behavior through environmental attitude. Third, the present study has only assessed the conditional impact of environmental awareness. In addition, Yan et al.^[115] have classified environmental awareness into environmental cost-benefit awareness and risk awareness. Future research could employ these two dimensions in future as well. Fourth, the authors collected cross-sectional data from tourists at one point, which may bias the findings. Future studies could collect data from multiple sources and at various stages to cope with results biases.

6. Conclusion

Understanding the factors affecting sustainable tourism is highly crucial^[23,39]. Based on the psychological ownership-attitude-behavior model and attention-based theory, we conceptualized the integration of destination psychological ownership, environmental attitude and environmental awareness to explore the impact of destination psychological ownership on sustainable behavior. The authors collected data from outbound tourists from Generation Z in China and the United Kingdom. The present study concluded with a positive impact of destination psychological ownership on tourists' environmental attitude and that of environmental attitude on tourists' sustainable behavior. Nevertheless, this article does not claim the intensifying effect of environmental awareness on the environmental attitude-sustainable behavior relationship. Moreover, the current findings also negated the variation among tourists' environmental attitudes and sustainable behavior because of national culture.

Author contributions

Conceptualization, FL and QI; methodology, FL; software, FL; validation, FL, AJA and QI; formal analysis, FL; investigation, FL; resources, FL; data curation, QI; writing—original draft preparation, FL; writing—review and editing, QI; visualization, AJA; supervision, AJA; project administration, FL; funding acquisition, FL. All authors have read and agreed to the published version of the manuscript.

Conflict of interest

The authors declare no conflict of interest.

References

1. Iqbal Q, Piwowar-Sulej K. Frugal innovation embedded in business and political ties: Transformational versus sustainable leadership. *Asian Business & Management* 2023; doi: <https://doi.org/10.1057/s41291-023-00248-z>
2. Loureiro SMC, Guerreiro J, Han H. Past, present, and future of pro-environmental behavior in tourism and hospitality: A text-mining approach. *Journal of Sustainable Tourism* 2021; 30(1): 258–278. doi: 10.1080/09669582.2021.1875477
3. Awedyk M, Niezgodą A. Resilience planning as an opportunity for future sustainable development in tourism. *Operations Research and Decisions* 2018; 28(2): 23–40. doi: 10.5277/ord180202
4. Nowacki M, Kowalczyk-Anioł J, Chawla Y. Gen Z's attitude towards green image destinations, green tourism and behavioural intention regarding green holiday destination choice: A study in Poland and India. *Sustainability* 2023; 15(10): 7860. doi: 10.3390/su15107860
5. Liu Z, Li W, Hao C, Liu H. Corporate environmental performance and financing constraints: An empirical study in the Chinese context. *Corporate Social Responsibility and Environmental Management* 2020; 28(2): 616–629. doi: 10.1002/csr.2073
6. Seyfi S, Sharifi-Tehrani M, Hall CM, Vo-Thanh T. Exploring the drivers of Gen Z tourists' boycott behaviour: A lifestyle politics perspective. *Journal of Sustainable Tourism* 2023; 1–19. doi: 10.1080/09669582.2023.2166517
7. Ardoin NM, Wheaton M, Bowers AW, et al. Nature-based tourism's impact on environmental knowledge, attitudes, and behavior: A review and analysis of the literature and potential future research. *Journal of Sustainable Tourism* 2015; 23(6): 838–858. doi: 10.1080/09669582.2015.1024258
8. Ballantyne R, Packer J, Falk J. Visitors' learning for environmental sustainability: Testing short- and long-term impacts of wildlife tourism experiences using structural equation modelling. *Tourism Management* 2011; 32(6): 1243–1252. doi: 10.1016/j.tourman.2010.11.003
9. Kowalczyk-Anioł J. Tourism trends among Generation Y in Poland. *Tourism* 2012; 22(2): 15–20. doi: 10.2478/v10106-012-0007-y
10. Landon AC, Woosnam KM, Boley BB. Modeling the psychological antecedents to tourists' pro-sustainable behaviors: An application of the value-belief-norm model. *Journal of Sustainable Tourism* 2018; 26(6): 957–972. doi: 10.1080/09669582.2017.1423320
11. Stylos N, Rahimi R, Okumus B, Williams S. *Generation Z Marketing and Management in Tourism and Hospitality*. Palgrave Macmillan Cham; 2021. doi: 10.1007/978-3-030-70695-1
12. Li W, Zhang Q, Liu C, Xue Q. Tourism's impacts on natural resources: A positive case from China. *Environmental*

- Management 2006; 38(4): 572–579. doi: 10.1007/s00267-004-0299-z
13. Patterson IR. *Growing Older: Tourism and Leisure Behaviour of Older Adults*. Cabi; 2006. doi: 10.1079/9781845930653.0000
 14. Sharmin F, Sultan MT, Badulescu A, et al. Millennial tourists' environmentally sustainable behavior towards a natural protected area: An integrative framework. *Sustainability* 2020; 12(20): 8545. doi: 10.3390/su12208545
 15. Han H. Travelers' pro-environmental behavior in a green lodging context: Converging value-belief-norm theory and the theory of planned behavior. *Tourism Management* 2015; 47: 164–177. doi: 10.1016/j.tourman.2014.09.014
 16. Panda TK, Kumar A, Jakhar S, et al. Social and environmental sustainability model on consumers' altruism, green purchase intention, green brand loyalty and evangelism. *Journal of Cleaner Production* 2020; 243: 118575. doi: 10.1016/j.jclepro.2019.118575
 17. Yamane T, Kaneko S. Is the younger generation a driving force toward achieving the sustainable development goals? Survey experiments. *Journal of Cleaner Production* 2021; 292: 125932. doi: 10.1016/j.jclepro.2021.125932
 18. Schwartz SH. Normative influences on altruism. In: *Advances in Experimental Social Psychology*. Elsevier; 1977. pp. 221–279.
 19. Ajzen I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 1991; 50(2): 179–211. doi: 10.1016/0749-5978(91)90020-T
 20. Dabija DC, Bejan BM, Dinu V. How sustainability-oriented is Generation Z in retail? A literature review. *Transformations in Business & Economics* 2019; 18(2): 140–155.
 21. Stern PC, Dietz T, Abel T, et al. A value-belief-norm theory of support for social movements: The case of environmentalism. *The Human Ecology Review* 1999; 6(2): 81–97.
 22. Higham J, Carr A. Ecotourism visitor experiences in Aotearoa/New Zealand: Challenging the environmental values of visitors in pursuit of pro-environmental behaviour. *Journal of Sustainable Tourism* 2002; 10(4): 277–294. doi: 10.1080/09669580208667168
 23. Qiu H, Wang X, Morrison AM, et al. From ownership to responsibility: Extending the theory of planned behavior to predict tourist environmentally responsible behavioral intentions. *Journal of Sustainable Tourism* 2022: 1–24. doi: 10.1080/09669582.2022.2116643
 24. Han H, Meng B, Kim W. Emerging bicycle tourism and the theory of planned behavior. *Journal of Sustainable Tourism* 2016; 25(2): 292–309. doi: 10.1080/09669582.2016.1202955
 25. Pierce JL, Rubenfeld SA, Morgan S. Employee ownership: A conceptual model of process and effects. *The Academy of Management Review* 1991; 16(1): 121. doi: 10.2307/258609
 26. Zhang H, Xu H. Impact of destination psychological ownership on residents' "place citizenship behavior." *Journal of Destination Marketing & Management* 2019; 14: 100391. doi: 10.1016/j.jdmm.2019.100391
 27. Benckendorff P, Moscardo G, Murphy L. Environmental attitudes of Generation Y students: Foundations for sustainability education in tourism. *Journal of Teaching in Travel & Tourism* 2012; 12(1): 44–69. doi: 10.1080/15313220.2012.650063
 28. Sánchez-Fernández R, Iniesta-Bonillo MÁ, Cervera-Taulet A. Exploring the concept of perceived sustainability at tourist destinations: A market segmentation approach. *Journal of Travel & Tourism Marketing* 2018; 36(2): 176–190. doi: 10.1080/10548408.2018.1505579
 29. Kumar J, Nayak JK. Exploring destination psychological ownership among tourists: Antecedents and outcomes. *Journal of Hospitality and Tourism Management* 2019; 39: 30–39. doi: 10.1016/j.jhtm.2019.01.006
 30. Van Dyne L, Pierce JL. Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior* 2004; 25(4): 439–459. doi: 10.1002/job.249
 31. Li S, Wei M, Qu H, Qiu S. How does self-image congruity affect tourists' environmentally responsible behavior? *Journal of Sustainable Tourism* 2020; 28(12): 2156–2174. doi: 10.1080/09669582.2020.1800717
 32. Weaver DB, Lawton LJ. A new visitation paradigm for protected areas. *Tourism Management* 2017; 60: 140–146. doi: 10.1016/j.tourman.2016.11.018
 33. Chen SC, Shoemaker S. Age and cohort effects: The American senior tourism market. *Annals of Tourism Research* 2014; 48: 58–75. doi: 10.1016/j.annals.2014.05.007
 34. Gómez-Román C, Lima ML, Seoane G, et al. Testing common knowledge: Are Northern Europeans and Millennials more concerned about the environment? *Sustainability* 2020; 13(1): 45. doi: 10.3390/su13010045
 35. Filimonau V, Matute J, Mika M, Faracik R. National culture as a driver of pro-environmental attitudes and behavioural intentions in tourism. *Journal of Sustainable Tourism* 2018; 26(10): 1804–1825. doi: 10.1080/09669582.2018.1511722
 36. Cramer R. Millennials rising: Coming of age in the wake of the great recession. *New America* 2014; 11–16.
 37. Qiu H, Fan J, Zhao L. Development of the academic study of tourists' environmentally responsible behavior: A literature review. *Tourism Tribune*. 2018; 33(11): 122–138.
 38. Pierce JL, Kostova T, Dirks KT. The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology* 2003; 7(1): 84–107. doi: 10.1037/1089-2680.7.1.84

39. Iqbal Q, Piwowar-Sulej K. Organizational citizenship behavior for the environment decoded: Sustainable leaders, green organizational climate and person-organization fit. *Baltic Journal of Management* 2023; 18(3): 300–316. doi: 10.1108/bjm-09-2021-0347
40. Piwowar-Sulej K, Austen A, Iqbal Q. Fostering three types of green behavior through green HRM in the energy sector: The conditional role of environmental managerial support. *Baltic Journal of Management* 2023; 18(7): 509–524. doi: 10.1108/bjm-03-2023-0089
41. Iqbal Q, Ahmad NH, Li Y. Sustainable leadership in frontier Asia region: Managerial discretion and environmental innovation. *Sustainability* 2021; 13(9): 5002. doi: 10.3390/su13095002
42. Prayag G, Aquino RS, Hall CM, et al. Is Gen Z really that different? Environmental attitudes, travel behaviours and sustainability practices of international tourists to Canterbury, New Zealand. *Journal of Sustainable Tourism* 2022: 1–22. doi: 10.1080/09669582.2022.2131795
43. Wang P, Chen S. Psychological ownership in organizations and its relationship to employee's working attitudes and behavior. *Advances in Psychological Sciences*. 2005; 13(6): 774.
44. Pick M. Psychological ownership in social media influencer marketing. *European Business Review* 2020; 33(1). doi: 10.1108/eb-08-2019-0165
45. Zhang Y, Liu Y, Tao W. The influence of tourists' online value co-creation behavior on consumer-brand relationship quality: The moderating effect of altruism. *Frontiers in Psychology* 2022; 13: 950546. doi: 10.3389/fpsyg.2022.950546
46. Wei HL, Hai CY, Zhu SY, Lyu B. The impact of consumers' choice deferral behavior on their intertemporal choice preference. *Frontiers in Psychology* 2021; 12: 555150. doi: 10.3389/fpsyg.2021.555150
47. Calderón-Fajardo V, Molinillo S, Anaya-Sánchez R, Ekinci Y. Brand personality: Current insights and future research directions. *Journal of Business Research* 2023; 166: 114062. doi: 10.1016/j.jbusres.2023.114062
48. Kiatkawsin K, Han H. Young travelers' intention to behave pro-environmentally: Merging the value-belief-norm theory and the expectancy theory. *Tourism Management* 2017; 59: 76–88. doi: 10.1016/j.tourman.2016.06.018
49. Zelenika I, Moreau T, Lane O, Zhao J. Sustainability education in a botanical garden promotes environmental knowledge, attitudes and willingness to act. *Environmental Education Research* 2018; 24(11): 1581–1596. doi: 10.1080/13504622.2018.1492705
50. Erul E, Woosnam KM. Explaining residents' behavioral support for tourism through two theoretical frameworks. *Journal of Travel Research* 2021; 61(2): 362–377. doi: 10.1177/0047287520987619
51. Wang X, Fielding KS, Dean AJ. Psychological ownership of nature: A conceptual elaboration and research agenda. *Biological Conservation* 2022; 267: 109477. doi: 10.1016/j.biocon.2022.109477
52. Chen A, Peng N. Examining Chinese tourists' nature-based tourism participation behavior: Incorporating environmental concern into a constraint-negotiation model. *Tourism Analysis* 2016; 21(2): 189–202. doi: 10.3727/108354216x14559233984737
53. Fang WT, Ng E, Wang CM, Hsu ML. Normative beliefs, attitudes, and social norms: People reduce waste as an index of social relationships when spending leisure time. *Sustainability* 2017; 9(10): 1696. doi: 10.3390/su9101696
54. Ojea E, Loureiro ML. Altruistic, egoistic and biospheric values in willingness to pay (WTP) for wildlife. *Ecological Economics* 2007; 63(4): 807–814. doi: 10.1016/j.ecolecon.2007.02.003
55. de Groot JIM, Steg L. Value orientations to explain beliefs related to environmental significant behavior. *Environment and Behavior* 2007; 40(3): 330–354. doi: 10.1177/0013916506297831
56. Jopp R, Mair J, DeLacy T, Fluker M. Climate change adaptation: Destination management and the green tourist. *Tourism Planning & Development* 2014; 12(3): 300–320. doi: 10.1080/21568316.2014.988879
57. Casidy R, Wymer W, O'Cass A. Enhancing hotel brand performance through fostering brand relationship orientation in the minds of consumers. *Tourism Management* 2018; 66: 72–84. doi: 10.1016/j.tourman.2017.11.008
58. Junaid M, Hussain K, Akram U, et al. Brand love: The emotional bridge between tourists' perceived value and well-being. *Asia Pacific Journal of Tourism Research* 2020; 25(12): 1329–1342. doi: 10.1080/10941665.2020.1853577
59. Kil N, Holland SM, Stein TV. Structural relationships between environmental attitudes, recreation motivations, and environmentally responsible behaviors. *Journal of Outdoor Recreation and Tourism* 2014; 7–8: 16–25. doi: 10.1016/j.jort.2014.09.010
60. Handl G. *Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration), 1972 and the Rio Declaration on Environment and Development, 1992*. United Nations Audiovisual Library of International Law; 2012.
61. Bamberg S, Möser G. Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *Journal of Environmental Psychology* 2007; 27(1): 14–25. doi: 10.1016/j.jenvp.2006.12.002
62. Bamberg S. Changing environmentally harmful behaviors: A stage model of self-regulated behavioral change. *Journal of Environmental Psychology* 2013; 34: 151–159. doi: 10.1016/j.jenvp.2013.01.002

63. van Riper CJ, Kyle GT. Understanding the internal processes of behavioral engagement in a national park: A latent variable path analysis of the value-belief-norm theory. *Journal of Environmental Psychology* 2014; 38: 288–297. doi: 10.1016/j.jenvp.2014.03.002
64. Tang M, Zhang X, Wang J, Kim HS. An analysis of online reputation at integrated resort in Macao—Evidence from the survey of customer online review. *Environment and Social Psychology* 2023; 8(1). doi: 10.18063/esp.v8.i1.1517
65. Ghazvini SAM, Timothy DJ, Sarmiento J. Environmental concerns and attitudes of tourists towards national park uses and services. *Journal of Outdoor Recreation and Tourism* 2020; 31: 100296. doi: 10.1016/j.jort.2020.100296
66. Verma VK, Chandra B, Kumar S. Values and ascribed responsibility to predict consumers' attitude and concern towards green hotel visit intention. *Journal of Business Research* 2019; 96: 206–216. doi: 10.1016/j.jbusres.2018.11.021
67. Xu X, Wang S, Yu Y. Consumer's intention to purchase green furniture: Do health consciousness and environmental awareness matter? *Science of The Total Environment* 2020; 704: 135275. doi: 10.1016/j.scitotenv.2019.135275
68. Niankara I, Zoungrana DT. Interest in the biosphere and students environmental awareness and optimism: A global perspective. *Global Ecology and Conservation* 2018; 16: e00489. doi: 10.1016/j.gecco.2018.e00489
69. Hofstede G. *Culture's Consequences: Comparing Values, Behaviors, Institutions, And Organizations Across Nations*, 2nd ed. Sage Publications; 2003.
70. Monaco S. Tourism and the new generations: Emerging trends and social implications in Italy. *Journal of Tourism Futures* 2018; 4(1): 7–15. doi: 10.1108/jtf-12-2017-0053
71. Chawla VK, Chanda AK, Angra S, Chawla GR. The sustainable project management: A review and future possibilities. *Journal of Project Management* 2018; 3(3): 157–170. doi: 10.5267/j.jpm.2018.2.001
72. Hofstede Insights. Compare countries. Available online: <https://www.hofstede-insights.com/product/compare-countries/> (accessed on 14 October 2023).
73. Iqbal Q, Ahmad NH. Workplace spirituality and nepotism-favouritism in selected ASEAN countries: The role of gender as moderator. *Journal of Asia Business Studies* 2020; 14(1): 31–49. doi: 10.1108/jabs-01-2018-0019
74. Hair JF Jr, Howard MC, Nitzl C. Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research* 2020; 109: 101–110. doi: 10.1016/j.jbusres.2019.11.069
75. Henseler J, Ringle CM, Sarstedt M. A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science* 2014; 43(1): 115–135. doi: 10.1007/s11747-014-0403-8
76. Kenny DA, Kaniskan B, McCoach DB. The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research* 2014; 44(3): 486–507. doi: 10.1177/0049124114543236
77. Zhang X, Ma L, Xu B, Xu F. How social media usage affects employees' job satisfaction and turnover intention: An empirical study in China. *Information & Management* 2019; 56(6): 103136. doi: 10.1016/j.im.2018.12.004
78. Agyeiwaah E, Pratt S, Iaquinto BL, Suntikul W. Social identity positively impacts sustainable behaviors of backpackers. *Tourism Geographies* 2020; 25(1): 1–22. doi: 10.1080/14616688.2020.1819401
79. Dunlap RE, Van Liere KD. The “new environmental paradigm.” *The Journal of Environmental Education* 1978; 9(4): 10–19. doi: 10.1080/00958964.1978.10801875
80. Hair JF, Ringle CM, Sarstedt M. PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice* 2011; 19(2): 139–152. doi: 10.2753/mtp1069-6679190202
81. Sekaran U, Bougie R. *Research Methods for Business: A Skill Building Approach*. John Wiley & Sons; 2016.
82. Mardia KV. Applications of some measures of multivariate skewness and kurtosis in testing normality and robustness studies. *Sankhyā: The Indian Journal of Statistics* 1974; 36(2): 115–128.
83. Hooper D, Coughlan J, Mullen MR. Structural equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods* 2008; 6(1): 53–60.
84. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal* 1999; 6(1): 1–55. doi: 10.1080/10705519909540118
85. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 1981; 18(1): 39–50. doi: 10.1177/002224378101800104
86. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. Lawrence Earlbaum Associates; 1988.
87. Ruiz-Equihua D, Romero J, Loureiro SMC, Ali M. Human-robot interactions in the restaurant setting: The role of social cognition, psychological ownership and anthropomorphism. *International Journal of Contemporary Hospitality Management* 2022; 35(6): 1966–1985. doi: 10.1108/ijchm-05-2022-0597
88. Hur S, Ha S. Would luxury brands benefit from empowering consumers in product decision-making? *Journal of Brand Management* 2023. doi: 10.1057/s41262-023-00327-8
89. Xiong L, So KKF, Wu L, King C. Speaking up because it's my brand: Examining employee brand psychological ownership and voice behavior in hospitality organizations. *International Journal of Hospitality Management* 2019;

- 83: 274–282. doi: 10.1016/j.ijhm.2018.11.006
90. Wagner SH, Parker CP, Christiansen ND. Employees that think and act like owners: Effects of ownership beliefs and behaviors on organizational effectiveness. *Personnel Psychology* 2003; 56(4): 847–871. doi: 10.1111/j.1744-6570.2003.tb00242.x
91. Ainsworth J. Feelings of ownership and volunteering: Examining psychological ownership as a volunteering motivation for nonprofit service organisations. *Journal of Retailing and Consumer Services* 2020; 52: 101931. doi: 10.1016/j.jretconser.2019.101931
92. Mayhew MG, Ashkanasy NM, Bramble T, Gardner J. A study of the antecedents and consequences of psychological ownership in organizational settings. *The Journal of Social Psychology* 2007; 147(5): 477–500. doi: 10.3200/socp.147.5.477-500
93. Meng B, Lee MJ, Chua BL, Han H. An integrated framework of behavioral reasoning theory, theory of planned behavior, moral norm and emotions for fostering hospitality/tourism employees' sustainable behaviors. *International Journal of Contemporary Hospitality Management* 2022; 34(12): 4516–4538. doi: 10.1108/ijchm-02-2022-0151
94. Koch J, Gerdt SO, Schewe G. Determinants of sustainable behavior of firms and the consequences for customer satisfaction in hospitality. *International Journal of Hospitality Management* 2020; 89: 102515. doi: 10.1016/j.ijhm.2020.102515
95. Fritsche I, Jonas E, Kayser DN, Koranyi N. Existential threat and compliance with pro-environmental norms. *Journal of Environmental Psychology* 2010; 30(1): 67–79. doi: 10.1016/j.jenvp.2009.08.007
96. Iqbal Q, Ahmad NH, Li Z, Li Y. To walk in beauty: Sustainable leadership, frugal innovation and environmental performance. *Managerial and Decision Economics* 2021; 43(3): 738–750. doi: 10.1002/mde.3415
97. Iqbal Q, Piwovar-Sulej K. Sustainable leadership, justice climate and organizational citizenship behavior towards environment. *Academy of Management* 2022; 2022(1). doi: 10.5465/ambpp.2022.12797abstract
98. Eastman JK, Iyer R, Dekhili S. Can luxury attitudes impact sustainability? The role of desire for unique products, culture, and brand self-congruence. *Psychology and Marketing* 2021; 38(11): 1881–1894. doi: 10.1002/mar.21546
99. Liu CH. Conducting qualitative and quantitative analyses of sustainable behaviour. *Journal of Retailing and Consumer Services* 2021; 60: 102474. doi: 10.1016/j.jretconser.2021.102474
100. Pérez-Luño A, Cabello Medina C, Carmona Lavado A, Cuevas Rodríguez G. How social capital and knowledge affect innovation. *Journal of Business Research* 2011; 64(12): 1369–1376. doi: 10.1016/j.jbusres.2011.01.014
101. Wasaya A, Saleem MA, Ahmad J, et al. Impact of green trust and green perceived quality on green purchase intentions: A moderation study. *Environment, Development and Sustainability* 2021; 23(9): 13418–13435. doi: 10.1007/s10668-020-01219-6
102. Iqbal, Q., Piwovar-Sulej, K. Sustainable leadership and heterogeneous knowledge sharing: The model for frugal innovation. *European Journal of Innovation Management* 2023; doi: <https://doi.org/10.1108/EJIM-03-2022-0144>
103. Rezapouraghdam H, Alipour H, Darvishmotevali M. Employee workplace spirituality and pro-environmental behavior in the hotel industry. *Journal of Sustainable Tourism* 2017; 26(5): 740–758. doi: 10.1080/09669582.2017.1409229
104. Tsai K, Liao Y. Innovation capacity and the implementation of eco-innovation: Toward a contingency perspective. *Business Strategy and the Environment* 2017; 26(2): 1000–1013. doi: 10.1002/bse.1963
105. Aytekin A, Keles H, Uslu F, et al. The effect of responsible tourism perception on place attachment and support for sustainable tourism development: The moderator role of environmental awareness. *Sustainability* 2023; 15(7): 5865. doi: 10.3390/su15075865
106. Han H, Kim W, Kiatkawsin K. Emerging youth tourism: Fostering young travelers' conservation intentions. *Journal of Travel & Tourism Marketing* 2016; 34(7): 905–918. doi: 10.1080/10548408.2016.1261758
107. Foroughi B, Arjuna N, Iranmanesh M, et al. Determinants of hotel guests' pro-environmental behaviour: Past behaviour as moderator. *International Journal of Hospitality Management* 2022; 102: 103167. doi: 10.1016/j.ijhm.2022.103167
108. Skallerud K, Armbrecht J, Tuu HH. Intentions to consume sustainably produced fish: The moderator effects of involvement and environmental awareness. *Sustainability* 2021; 13(2): 946. doi: 10.3390/su13020946
109. Mehta P, Kaur A, Singh S, Mehta MD. “Sustainable attitude”—A modest notion creating a tremendous difference in the glamorous fast fashion world: Investigating moderating effects. *Society and Business Review* 2022; ahead-of-print. doi: 10.1108/sbr-10-2021-0205
110. Dawkins S, Tian AW, Newman A, Martin A. Psychological ownership: A review and research agenda. *Journal of Organizational Behavior* 2015; 38(2): 163–183. doi: 10.1002/job.2057
111. Dunford BB, Schleicher DJ, Zhu L. The relative importance of psychological versus pecuniary approaches to establishing an ownership culture. In: *Advances in Industrial & Labor Relations*. Emerald Group Publishing Limited; 2009. pp. 1–21.
112. Martey EM, Mante GDK, Gligah BK, et al. Environmental concerns, green consumption value and green buying intentions. *Environment and Social Psychology* 2023; 7(2): 1–18. doi: 10.18063/esp.v7.i2.1508

113. Bizarrias FS, Santos JN, Ferreira MCO, et al. Intention to buy sustainable products based on consumer's information and perceptions about "green": The mediating role of attitudes. *Environment and Social Psychology* 2019; 3(1): 1–11. doi: 10.18063/esp.v3.i2.726
114. Miao C, Zhou C, Sun H, et al. The role of social support and environment: The mediating effect of college students' psychology and behavior. *Environment and Social Psychology* 2020; 5(1): 1–9. doi: 10.18063/esp.v5.i1.1387
115. Yan Z, Peng X, Lee S, Fang P. Chasing the light or chasing the dark? Top managers' political ties and corporate proactive environmental strategy. *Technology Analysis & Strategic Management* 2021; 35(10): 1341–1354. doi: 10.1080/09537325.2021.2003774