Tourist Typology, Sustainable Values, And Willingness To Pay For Green Hotels

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Abstract

Tourists' sustainable behavior is a topic of great interest to scholars. This study addresses a gap in the literature by examining the relationships among personality traits, sustainability values, and willingness to pay (WTP) for green hotels, based on 522 survey responses. The results indicate that individuals with different personality traits do not differ significantly in socio-cultural and economic values, but they do differ significantly in environmental values. Allocentric individuals demonstrate the highest sustainable ecological values, while psychocentric individuals show the least. Similarly, allocentric and mid-centric perspectives are more inclined towards WTP for green hotels, unlike psychocentric ones. These findings have practical implications for the tourism industry, suggesting that psychographics can provide unique insights into tourists' behavior. This could empower tourism practitioners to predict sustainability values and WTP and shape their marketing strategies accordingly.

Keywords: Plog's Typology, Sustainability, Willingness to Pay, Green Practices, Consumer Behaviour

Introduction

The hospitality and tourism industry has a significant influence on sustainability discussions due to its economic, socio-cultural, and environmental impacts. For years, this sector has adopted green practices to reduce its ecological footprint, integrating sustainable service features into its operations (Han et al., 2018; Wang et al., 2018). Hotels, as major players in the industry, shape the sustainability dialogue through their resource use and socio-economic effects on local communities (Guzzo et al., 2020). The integration of green initiatives has become essential for hotel management (Kim et al., 2019), driven by increased awareness among managers and growing consumer preference for sustainable practices (Yi et al., 2018). A pertinent question is how we can influence visitors to pay for these green hotels and their services to ensure economic sustainability.

Green hotels are ecologically responsive hotels (Verma & Chandra, 2018). Consumers' willingness to pay (WTP) for green hotels provides the hotel industry with essential insights that support sustainability efforts (Boronat-Navarro & Perez-Aranda, 2020). For this reason, given tourists' likelihood of embracing green behaviors, WTP for green hotels remains a crucial area of interest for academic scholars and hospitality service providers (Kang & Nicholls, 2021). Moreover, scholars accept WTP as a critical contextual factor for predicting behavior and decision-making (Yadav et al., 2024). Earlier papers, such as Dharmesti et al. (2020), noted that the determinants of travelers' WTP for green environmental hotels remain unclear (Li et al., 2023). Therefore, this paper examines the association between tourist typology, sustainability values, and WTP for green hotels.

Plog's (1974) typology categorizes tourists based on their travel motivation and preferences for types of tourist destinations. Both psychocentric and allocentric personalities were identified, with psychocentric personalities referred to as "dependables" and allocentric personalities as "venturers" (Plog, 2001). Often, tourists with psychocentric personalities tend to be more conservative and non-adventurous about their travel decisions and prefer safe destinations, whereas venturers are known to possess high self-confidence and are intellectually curious with an intention to explore new places and experiences (Jeon et al., 2018; Litvin, 2006; Plog, 1974, 2001). Tourists with mid-centric personalities neither fit the

profile of non-adventurous individuals seeking familiar environments nor align entirely with active, outgoing, and adventurous personalities (Litvin, 2006). This typology model is extensively used to understand travelers' attitudes and behaviors (Jeon et al., 2018). Despite its relevance, this typology model has not been empirically examined to understand tourists' attitudes and behaviors for the sustainable marketing and management of tourism destinations. Earlier studies have shown that values are crucial for elucidating specific beliefs and behaviors and can serve as predictors of other dependent variables, such as attitudes or behavioral intentions (Stern, 2000; Stern & Dietz, 1994). In this context, allocentric, mid-centric, and psychocentric may likely have different sustainability values. This idea is one of the study's areas of investigation.

Several studies on WTP for green lodging options primarily focus on environmental attitudes and beliefs (Millar & Mayer, 2013). Nevertheless, the proof regarding WTP for green hotel rooms is mixed (Kang & Nicholls, 2021). Thus, WTP research on green hotels needs to be explored beyond psychological antecedents of behavior (Chen & Peng, 2012; Rahman & Reynolds, 2016). Plog's typology (Plog, 1974) was first introduced to understand visitors' choices regarding destination characteristics, vacation activities, and destination selection. The typologies were linked with the rise and fall of the destinations. It is popular among tourism scholars because it can predict visitors' choices. It is plausible that personality traits will influence the choice of green hotels and the willingness to pay for them. Another reason to consider personality traits is that positive attitudes toward green products do not necessarily translate into green choices, such as staying in green hotels (Bhattacharya & Sen, 2004). Further personality traits influence motivation and tourist destination choices (Abbate & Di Nuovo, 2013).

Thus, the goal of this research is to assess the theoretical significance and utility of Plog's typology in the context of green marketing. This notion is executed by evaluating the sustainability value and WTP for green hotels as a function of tourists' green behavior and its association with Plog's (1974, 2001) venturesomeness. This psychographics framework serves as a reference concept, providing the ground for investigation (Bagozzi, 1984). Moreover, considering the limited research on tourists' psychographics and green behavior, investigating the influence of Plog's personality-based traits can enhance the existing understanding of the association between psychographics and green behavior. Thus, a primary inquiry of this study is how green behavior interacts with Plog's typology in foreseeing WTP for green hotels. This study initiates a novel discussion by linking personality traits with green behaviors and assessing sustainability values among tourists of different typologies. This study can help hotel managers understand and effectively target segments with suitable green products and programs. Hotel managers can offer distinct green products and pricing to customers of different typologies.

Methods

The study utilized online data collected via Facebook using Qualtrics. The snowball sampling technique was also utilized to increase the number of surveys completed by Facebook users. The survey instrument was pilot-tested before actual data collection, and both online and paper-based questionnaires were collected during the pilot testing. Importantly, the survey questionnaire was approved by the Institutional Review Board (IRB) at a tier-one public research university in the U.S, ensuring ethical considerations were met. The data were collected from Fall 2020 to Fall 2021, allowing a flexible timeline that facilitated a high response rate. A total of 522 usable surveys were collected. The target population consisted of individuals 18 years of age and older with prior travel experience, both domestic and international. Therefore, the findings and their implications are not limited to specific destinations.

Web-based questionnaires distributed on online social media platforms, such as Facebook, are popular data-collection methods in hospitality and tourism (Chen et al., 2024; Vukic et al., 2015). They have an advantage in minimizing social desirability and mitigating bias (Hung & Law, 2011; Mariani et al., 2019). In addition, this study captured a wide range of individuals to diversify the sample; for instance, the data is representative to reflect various income, age, education, and gender categories. This diverse sample population, comprising a wide range of individuals, enables the findings to be generalized to global tourism destinations. The survey consisted of questions related to travel patterns and behaviors, WTP, likelihood to pay more, amount willing to pay more, and travel personalities (i.e., psychocentric, mid-centric, and allocentric) proposed by Plog (1974; 2001) as a typology, and sustainable values (Poudel et al., 2016). The study employed descriptive analysis and group comparisons. The analysis of variance (ANOVA) test was used to compare the means of more than three groups, along with the Bonferroni post hoc test.

Findings and discussion

Socio-Demographic Profile and Travel Pattern

The data are well distributed across the demographic variables. The respondents are evenly divided, with 27% male and 72% female, providing a good representation of the genders. Respondents' annual household income ranged from less than $15,000 to over $200,000. The highest concentration of respondents falls within the $50,000 to $125,000 range. Nearly 15% of respondents earned over $200,000. Similarly, nearly 23% of respondents are from the 26-35 age group, 27% are from the 36-45 age group, 20% are from the 45-55 age group, and the remainder are divided among other age groups. Most of the respondents have a bachelor's degree (44%), followed by some college and associate degrees (24%), and 22% have master's degrees. Below 4% hold professional or doctoral degrees. Hence, demographically, the sample represents all the groups.

The review of travel patterns shows that 61% of travelers have 1-5 domestic or international trips per year, and 23% travel 6-10 times per year. Around 11% of travelers travel more than 15 times a year. The average vacation length is 4-7 days for 58% of respondents; around one-fourth have 1-3 days. Around 11% of the respondents have 8-10 days of vacation. For international travel, 45% of respondents reported spending up to $500, and 24% reported spending above $ 3,000. The rest were uniformly divided between. For domestic travel, 44% of respondents reported spending over $2000. Approximately 10 to 15% of the respondents reported spending between $250 and $ 2,000. This shows that domestic travel is also becoming costly for travelers. A vast portion of travelers travel internationally on a budget.

Traveller's distribution based on Plog Typology

A fundamental interest lies in the Plog typology-based population, as different personality traits lead to distinct behaviors (Abbate & Di Nuovo, 2013). This study reveals that only 7.3% of tourists are psychocentric, preferring familiar, well-established destinations, suggesting a risk-averse approach. However, about one-third of the tourists (31.2%) are allocentric, drawn to adventure, new and varied activities, and risk-taking (Table 1). Most people (61.5%) are mid-centric, located in the middle of Plog's Psychographic Model continuum. The study shows this is the general distribution of tourists. It is encouraging that nearly one-third of the population is concerned about the environment, more than half of the tourists are fence-sitters, and fewer than one-tenth are not concerned.

Plog's Typology and Sustainable Tourism Values

Sustainability involves the balanced integration of social, environmental, and economic

performance to benefit both current and future generations (Geissdoerfer et al., 2017). However, how tourists comprehend sustainability remains uncertain. To decipher this, the general agreement among the three dimensions within the Plog typology segments was assessed.

Table 1: Tourists' typology and their sustainable value orientations (N=522; Strongly Disagree = 1 and Strongly Agree = 5)

	Psychocentric (N = 38 - 7.28%)	Mid-centric (N = 321 - 61.49%)	Allocentric (N = 163 - 31.23%)
Environmental Sustainability *	3.44	3.85	4.00
Economic Sustainability **	4.04	4.18	4.25
Socio-cultural Sustainability**	4.00	4.09	4.56

Note: Based on the ANOVA test and post hoc, the Bonferroni test
* The means are significantly different at the 0.05 level
**All three clusters are not significantly different from each other at the 0.05 level

The findings reveal three distinct groups in terms of environmental sustainability values, but the same in terms of socio-cultural and economic sustainability values. Conclusively, the three personality groups differ only in their values regarding environmental sustainability. As Faber et al. (2010) pointed out, sustainability is often understood far too narrowly in ecological terms only. Rokeach (1973) stated that individuals share a set of values organized into value hierarchies and differ in the strength with which they hold values. This study confirms that environmental values are held to varying degrees, with Psychocentric travellers at the lower end of the environmental sustainability spectrum and allocentric travellers at the higher end.
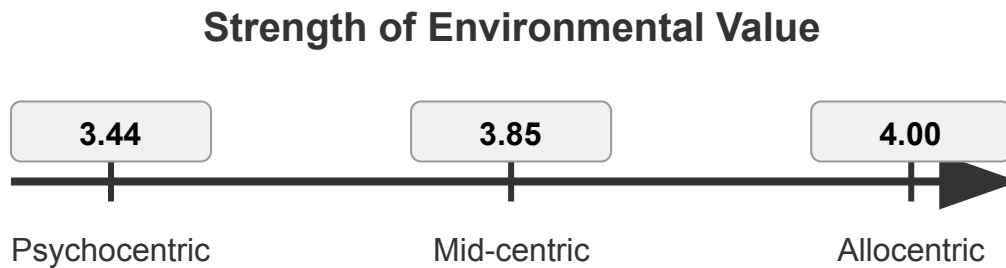
Strength of Environmental Value

Figure 1: Plog Typology Continuum across Environmental Values

Therefore, the higher environmental value is associated with 'other-centered' individuals who enjoy exposing themselves to diverse cultures and experiences and are willing to take risks in the process. Whereas psychocentric individuals with lower environmental values are 'self-centred', they make traditional choices, which prefer familiar and risk-averse experiences. The mid-centric segment is the most significant centric tilt towards allocentric segments. Figure 1 illustrates the typologies of travelers who find environmental sustainability appealing.

Plog's Typology and Willingness to Pay
The psychocentric group is the least willing to pay for sustainable tourism, with a mean of only 2.92 (Table 2), indicating the least concern for sustainable tourism. Similarly, allocentric tourists are most likely to pay for sustainable tourism, with a mean value of 3.71, indicating their highest level of care for sustainable tourism. Further, mid-centric individuals are more

inclined towards allocentric for WTP for sustainable tourism. They are more willing to pay for sustainable tourism than psychocentric travellers. This outcome is encouraging and is consistent with studies. Research on Booking.com has reported that 87% of global tourists expressed an intention to travel sustainably (Booking.com, 2019). Therefore, most of the population has positive attitudes toward green products. In this study, too, mid-centric and allocentric tourists comprise the majority (92%), who are more willing to pay for sustainable tourism.

Table 2: Plog typology distribution and willingness to pay

Typology	Destination preferences	Willingness to pay more for sustainable tourism (Very Unlikely = 1 and Very Likely = 5)
Psychocentric	I prefer destinations with well-developed amenities (branded hotels and restaurants) and attractions for tourism	2.92***
Mid-centric	I prefer destinations with well-developed amenities that also give me the opportunity to escape the crowd to explore less developed or natural areas	3.53**
Allocentric	I prefer less-developed destinations (without well-developed amenities) to avoid crowded places and/or look for new experiences and adventures	3.72*

Note: Based on the ANOVA test and post hoc, the Bonferroni test
*** Psychocentric is significantly different than Mid-centric and Allocentric
** Mid-centric is significantly different than Psychocentric but not significantly different than Allocentric
* Allocentric is significantly different than Psychocentric but not significantly different than Mid-centric

This outcome can be explained by allocentric tourists seeking authentic places and willing to pay for them, whereas psychocentric tourists prefer familiar places, are more inclined towards mass tourism (Tasci & Knutson, 2004), and are unwilling to pay for sustainable tourism. However, most people are mid-centric, wanting both amenities and the natural environment. This notion is explained by Holloway and Humphreys (2022), who state that the three core elements of a thriving destination are quality of attraction, amenities, and accessibility. Mid-centric people tend to get most of the core elements in the destinations' offerings, so they are willing to pay significantly more. This represents the majority (62%) of the population.

The nature of allocentric, mid-centric, and psychocentric segments' WTP for sustainable tourism was further validated. The findings show that slightly less than half (47%) of psychocentric tourists are unwilling to pay no more than their usual $100 for a green hotel; further, allocentric and mid-centric tourists show similar patterns. Only less than one-third (31%) are psychocentric tourists, but more than half of mid-centric (55%) and allocentric (59%) tourists are willing to pay more than $11 per night for green hotels. This demonstrates that allocentric and mid-centric are inclined toward sustainable tourism.

Table 3: Plog typology and willingness to pay for green hotel

	Psychocentric (7.28%)	Mid-centric (61.49%)	Allocentric (31.23%)
	Percent	Percent	Percent
No more than my usual $100	**47.4**	17.8	16
Up to $5 more per night	0	7.2	4.9
From $6 to $10 more per night	21.1	19.9	20.2

From $11 to $20 more per night	21.1	**26.5**	**23.3**
From $21 to $30 more per night	5.3	15.3	20.2
From $31 to $50 more per night	0	11.2	9.8
Greater than $50 more per night	5.3	2.2	5.5
	100	100	100

Hence, the outcome shows that the strength of environmental values increases from psychocentric to allocentric, and this is subsequently reflected in their willingness to pay (WTP) for green hotels. Based on the findings, we can propose the following relational model with confidence. Plog Typology (personality traits) ☐ Sustainability Values (environmental sustainability values) ☐ WTP for green hotels (see Table 4)

Table 4: Relation between Plog Typology, Sustainability value and WTP for green hotels

Psychocentric	Midcentric	Allocentric
Weakest Environmental Value	Moderate Environmental Value	Strongest Environmental Value
Weakest WTO for green hotels	Moderate WTP for green hotels	Strongest WTP for green hotels

Hence, a higher degree of venturesomeness leads to stronger environmental values and a higher willingness to pay for green hotels, and stronger environmental values also correspond with a higher willingness to pay for green hotels.

Conclusion, implications, and future research

This study uniquely assessed sustainability values and WTP for green hotels across Plog's typology. Only the allocentric and mid-centric perspectives are willing to pay more for sustainable tourism and have higher environmental sustainability values. Hence, the personality traits of tourists, as suggested by Plog (1974), contribute to understanding tourists' sustainable behavior, a key finding of this study. The study undertakes the important task of initiating a discussion on the usefulness of Plog typology for understanding sustainable behaviors. It shows that different travellers with varying Plog personality traits have different sustainability values, which translates into WPT for green hotels. This finding confirms the utility of the Plog typology, which is a theoretical contribution to the literature in this area.

Furthermore, it provides a portrayal of travellers' distribution across the Plog typology. Most tourists are mid-centric, leaning toward the allocentric segment, with 9 out of 10 indicating their WTP for sustainable tourism. This finding suggests that most people want comfortable, convenient green products. Secondly, it demonstrates that personality traits are linked to environmental values and sustainable choices, such as WTP for green hotels. On the practical side, sustainability marketers can understand their personality traits and use them to create value with green products and services, as well as to price offerings targeted to specific groups of travelers. Similarly, they can develop targeted communication for each visitor segment.

Additionally, the study concludes that while environmental sustainability resonates well across segments, economic and sociocultural aspects may be less practical in promoting sustainability. For instance, the economic benefits of sustainability may not be immediately apparent to consumers, and sociocultural aspects may be more difficult to communicate effectively. However, the findings are specific to the green hotel context and may not apply to other tourism sectors. Future research can build on these insights, using Plog's typology as a

foundation for further investigations in areas like restaurants and airlines.

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References:
Abbate, C. S., & Di Nuovo, S. (2013). Motivation and personality traits for choosing religious tourism. A research on the case of Medjugorje. *Current Issues in Tourism*, *16*(5), 501-506.

Bagozzi, R. P. (1984). A prospectus for theory construction in marketing. *Journal of marketing*, *48*(1), 11-29.

Bhattacharya, C. B., & Sen, S. (2004). Doing better at doing good: When, why, and how consumers respond to corporate social initiatives. *California Management Review*, *47*(1), 9-24.

Booking.com. (2019). Booking.com reveals key findings from its 2019 sustainable travel report. https:// globalnews.booking.com/bookingcom-reveals-key-findings-from-its-2019- sustainable-travel-report.

Boronat-Navarro, M., & Pérez-Aranda, J. A. (2020). Analyzing willingness to pay more to stay in a sustainable hotel. *Sustainability*, *12*(9), 3730.

Chen, A., & Peng, N. (2012). Green hotel knowledge and tourists' staying behavior. *Annals of Tourism Research*, *39*(4), 2211-2219.

Chen, C. F., White, C., & Ting, W. H. (2024). Consumer engagement and place identity in online travel forums. *Tourism Recreation Research*, *49*(6), 1273-1283. https://doi.org/10.1080/02508281.2022.2143623

Dharmesti, M., Merrilees, B., & Winata, L. (2020). "I'm mindfully green": Examining the determinants of guest pro-environmental behaviors (PEB) in hotels. *Journal of Hospitality Marketing & Management*, *29*(7), 830-847.

Faber, N. R., Maruster, L., Peters, K., & van Haren, R. J. F. (2010). Knowledge management's role in the management of sustainable innovation. *International Studies of Management Organization*, *40*(3), 8-22.

Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy– A new sustainability paradigm? *Journal of Cleaner Production*, *143*, 757-768.

Guzzo, R. F., Abbott, J., & Madera, J. M. (2020). A micro-level view of CSR: A hospitality management systematic literature review. *Cornell Hospitality Quarterly, 61*(3), 332-352. https://doi.org/10.1177/1938965519892907

Han, H., Lee, J. S., Trang, H. L. T., & Kim, W. (2018). Water conservation and waste reduction management for increasing guest loyalty and green hotel practices. *International Journal of Hospitality Management*, *75*, 58-66.

Holloway, J. C., & Humphreys, C. (2022). *The Business of Tourism*. Sage.

Hung, K., & Law, R. (2011). An overview of Internet-based surveys in hospitality and tourism journals. *Tourism Management*, *32*(4), 717-724. https://doi.org/10.1016/j.tourman.2010.05.027

Jeon, H., Ok, C., & Choi, J. (2018). Destination marketing organization website visitors' flow experience: an application of Plog's model of personality. *Journal of Travel & Tourism Marketing*, *35*(4), 397-409. https://doi.org/10.1080/10548408.2017.1358234

Kang, S., & Nicholls, S. (2021). Determinants of willingness to pay to stay at a green lodging facility. *International Journal of Hospitality Management*, *94*, 102834.

Kim, Y. H., Barber, N., & Kim, D. K. (2019). Sustainability research in the hotel industry: Past, present, and future. *Journal of Hospitality Marketing & Management*, *28*(5), 576-620.

Li, R., Ma, Y., Ding, Z., & Mou, Y. (2023). Time-space-connections in online pro-environmental behavior choice. *Journal of Cleaner Production*, *414*, 137598.

Litvin, S. W. (2006). Revisiting Plog's model of allocentricity and psychocentricity... one more time. *Cornell Hotel and Restaurant Administration Quarterly*, *47*(3), 245-253. https://doi.org/10.1177/0010880406289138

Mariani, M., Ek Styven, M., & Ayeh, J. K. (2019). Using Facebook for travel decision-making: an international study of antecedents. *International Journal of Contemporary Hospitality Management*, *31*(2), 1021-1044. https://doi.org/10.1108/IJCHM-02-2018-0158

Millar, M., & Mayer, K. J. (2013). A profile of travelers who are willing to stay in environmentally friendly hotel. *Hospitality Review*, *30*(2), 5.

Plog, S. (2001). Why destination areas rise and fall in popularity: An update of a Cornell Quarterly classic. *Cornell Hotel and Restaurant Administration Quarterly*, *42*(3), 13-24. https://doi.org/10.1016/S0010-8804(01)81020-X

Plog, S. C. (1974). Why destination areas rise and fall in popularity. *Cornell Hotel and Restaurant Administration Quarterly*, *14*(4), 55-58. https://doi.org/10.1177/001088047401400409

Poudel, S., Nyaupane, G. P., & Budruk, M. (2016). Stakeholders' perspectives of sustainable tourism development: A new approach to measuring outcomes. *Journal of Travel Research*, *55*(4), 465-480. https://doi.org/10.1177/0047287514563166

Rahman, I., & Reynolds, D. (2016). Predicting green hotel behavioral intentions using a theory of environmental commitment and sacrifice for the environment. *International Journal of Hospitality Management*, *52*, 107-116.

Rokeach, M. (1973). The nature of human values. *New York: The Free Press. Şimşek*, (2012).

Tasci, A. D., & Knutson, B. J. (2004). An argument for providing authenticity and familiarity in tourism destinations. *Journal of Hospitality & Leisure Marketing*, *11*(1), 85-109.

Verma, V. K., & Chandra, B. (2016). Hotel guest's perception and choice dynamics for green hotel attribute: A mix method approach. *Indian Journal of Science and Technology*, *9*(5), 1-9.

Vukic, M., Kuzmanovic, M., & Kostic Stankovic, M. (2015). Understanding the heterogeneity of Generation Y's preferences for travelling: A conjoint analysis approach. *International Journal of Tourism Research*, *17*(5), 482-491. https://doi.org/10.1002/jtr.2015

Wang, J., Wang, S., Xue, H., Wang, Y., & Li, J. (2018). Green image and consumers' word-of-mouth intention in the green hotel industry: The moderating effect of Millennials. *Journal of Cleaner Production*, *181*, 426-436.

Yadav, M., Gupta, R., & Nair, K. (2024). Time for sustainable marketing to build a green conscience in consumers: Evidence from a hybrid review. *Journal of Cleaner Production*, 443, 141188.

Yi, S., Li, X., & Jai, T. M. (2018). Hotel guests' perception of best green practices: A content analysis of online reviews. *Tourism and Hospitality Research*, *18*(2), 191-202.