

Personality Traits and Its Link to Green Social Behavior: An Empirical Study of the Hospitality Sector

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Abstract

The current paper evaluated the association among the ‘Big Five personality traits’ (‘openness to experience’, ‘conscientiousness’, ‘extraversion’, ‘agreeableness’, and ‘neuroticism’) with green social behavior among employees in the hospitality industries. The main objective is to determine how personality traits influence employees’ engagement in green responsible actions at the workplace. Data were collected from 200 hospitality sector employees using a structured survey questionnaire. This paper used a survey questionnaire; ‘non-probability’ convenience method was applied to select a sample of employees. ‘Smart PLS- 4’ was used to analysis the hypothesis. The findings of SEM “Smart-PLS-4” indicated personality traits “openness to experience” and “extraversion” have a significantly impact on green social behavior. However, the findings also indicated that links among personality traits “conscientiousness”, “agreeableness” and “neuroticism”, and green social behavior were found to be insignificant. The paper makes a theoretical contribution by being amid the first to analyze the associations among personality traits and green social behavior (GSB), expanding the understanding the individual differences in environmental behavior. Additionally, the paper provides practical implications for hospitality organizations and fostering the openness and extraversion traits among employees could enhance pro-environmental behaviors in the workplace.

Keywords: ‘Conscientiousness’; ‘Personality traits’; ‘Neuroticism’; ‘Green social behavior’; ‘Smart-PLS’; ‘Agreeableness’ ; ‘Openness to experience’ and ‘Extraversion’.

1. Introduction

In modern era, environmental concerns have gained significant global attention (Yuan, et al., 2024). In light of the global issues in the area of sustainability and the grand objectives outlined ‘UN Agenda 2030’ ‘Sustainable Development Goals’ (SDGs) (Steinigke, M., & Puchner, G. 2025) understanding the factors that drive sustainable behavior has become increasingly crucial (United Nations, 2024). Among various sectors years, the hospitality sector has emerged as a focal point for adopting sustainable practices, largely due to its substantial ecological footprint and increasing consumer demand for environmentally responsible services. As key contributors to environmental degradation, hospitality industries are being urged to embrace sustainable development more proactively (Shen et al., 2018; Jabbour & Renwick, 2020; Tang et al., 2023; Diaz-Carrion et al., 2021). The growing urgency of climate change and resource depletion and biodiversity loss has pushed business to integrate green social behavior into their core operations. GSB (Green social behavior) defined to green actions within an organizational setting such as reducing waste, conserving water, utilizing energy-efficient technologies, and promoting sustainable sourcing practices (Tu, Y. T. 2024). These practices are not merely environmental imperatives but also crucial elements of corporate social responsibility and long term business viability (Graci & Dodds, 2008; Bohdanowicz et al., 2011). Moreover sustainable behavior in hospitality is often shaped by both structural enablers such as policies, infrastructure and individual psychological variables, particularly personality traits. ‘Personality’ construct have been widely used in psychological studies (Zacher et al., 2023), they have been mainly ignored in organizational ecological research (Zacher et al., 2023). ‘Big Five Personality traits’ have a significantly influence on person behavior patterns (McCrae & Costa, 1997), which could also be important for sustainability. Personality traits, which shape individual attitudes, behaviors, and decision-making (Wang et al., 2021a), play a vital role in determining whether workers and managers in the hospitality sector engage in these green behaviors. The ‘Big-5 personality traits’, recognized as ‘openness to experience’, ‘conscientiousness’, ‘neuroticism’, ‘agreeableness’ and ‘extraversion’ (Goldberg 1992) have been found to influence environmentally friendly behaviors in various contexts.

Despite this growing body of work, empirical studies connecting personality traits and green social behavior in the hospitality sector mainly in developing nations like India remain scarce. This gap is especially significant in regional contexts such as Punjab and Chandigarh, where hospitality operations are expanding rapidly due to tourism growth, economic development, and urbanization. Chandigarh, often hailed for its urban design and environmental planning, presents a unique urban model where sustainability is actively promoted. Punjab, by contrast, encompasses a mix of urban and rural settings with varying levels of environmental awareness, infrastructure, and sustainability implementation. These regions provide a rich contextual backdrop for studying the psychological drivers of green behavior within the hospitality industry. Moreover, the local hospitality industry in Punjab and Chandigarh faces challenges such as limited environmental training, resource constraints, inconsistent policy enforcement, and high employee turnover factors that can hinder the successful implementation of top-down sustainability initiatives (Kasim, 2007; Chan et al., 2014). In such scenarios, bottom-up drivers like personality traits may become even more critical. Understanding how individual-level psychological factors contribute to green social behavior can help bridge the implementation gap and enhance the effectiveness of sustainability initiatives.

The study is divided in five sections. Section 1 is the introduction section where we identified the study research gap that this study aims to address. Section 2 introduced the conceptual framework, where, drawing on existing literature, we examined the connection between personality traits and green social behavior. This led to the development of hypotheses and the formulation of our conceptual model. Section 3 detailed the research method, outlining the data collection measures and analysis techniques employed. In Section 4, we applied ‘Smart-PLS’ to analyze the data and present the empirical findings. Section 5 offered a discussion of these findings in relation to prior research, highlighting key implications for both scholars and policymakers. This also acknowledged the limitations and proposed guidelines for future studies. Finally, the conclusion summarized the key contributions of the study and emphasized its relevance to the growing discourse on sustainability within the hospitality sector.

2 Literature Review

2.1 Personality Traits

‘Personality traits’ (Parks and Guay., 2009) play a major function in the growth of an integrative view of the individual in the fields of organizational behavior (Parks-Leduc et al. 2015). Research on personality has mainly focused on the personality big-five model since the early 1990s (McCrae and John 1992). The ‘Big Five model’ has a extensive historical growth, with significant contributions from numerous scholars (Goldberg 1992; McCrae & Costa 1997; Kabigting, 2021). ‘Personality traits’ are defined to as “a relatively stable, consistent and enduring internal characteristic that is inferred from a pattern of behaviours, attitudes, feelings and habits in the individual” (‘APA Dictionary of Psychology, 2024’; Steinigke, M., & Puchner, G. 2025). In many areas of life, personality traits have been utilized to clarify behavioral choices and variations, providing an understanding of typical emotional, cognitive, and behavioral patterns (Fietze, S., & Boyd, B. 2017). A person's emotional and cognitive qualities influence many of their decisions, and these qualities are referred to as personality traits (Sobaih, et al., 2022; Krishnan, R., & Beena, F. 2009).

In many areas of life, personality traits have been utilized to clarify behavioral choices and variations, providing an understanding of typical emotional, cognitive, and behavioral patterns (Fietze, S., & Boyd, B. 2017). A person's emotional and cognitive qualities influence many of their decisions, and these qualities are referred to as personality traits (Sobaih, et al., 2022; Krishnan, R., & Beena, F. 2009). The well-known and commonly used structure for analyzing personality traits is the ‘McCrae and Cost Big Five Model’ (Sobaih, et al., 2022; Fietze, S., & Boyd, B. 2017) and the ‘Five Factors Model’ (Steinigke, M., & Puchner, G. 2025; Kabigting, 2021; Soutter et al., 2020). Both different in the survey technique but investigates the similar five dimensions: ‘Openness to experience’, ‘Conscientiousness’, ‘Extraversion’, ‘Agreeableness’ and ‘Neuroticism’ (Steinigke, M., & Puchner, G. 2025).

1. ‘Agreeableness’ is defined as “trusting, altruistic, cooperative, and modest, they show sympathy and concern for the needs of others”. Person who are kind, compassionate and cooperative are supposed to be agreeable (Zhao et al. 2010; Sobaih, et al., 2022).

2. 'Extra-version' is "gregarious, outgoing, warm, and friendly; they are energetic, active, assertive, and dominant in social situations (Zhao et al. 2010); they experience more positive emotions and are optimistic" (Zhao et al. 2010). Individual with high extraversion are likely to happy, like person around in groups, and search for stimulation and excitement according to early research studies (Costa and McCrae 1992; Goldberg 1992).

3. 'Conscientiousness' is defined as "level of achievement, work motivation, organization and planning, self-control and acceptance of traditional norms, and virtue and responsibility toward others" (Zhao et al., 2010). The ability to deliberate before acting follow rules and guidelines, act rationally and sensibly (as opposite to instinctively or emotionally) and plan and arrange tasks are all examples of a people's capability for conscientiousness. High conscientiousness individuals are probably controlled, well-organized, diligent, persistent, and proactive planners (Bandera and Passerini 2020).

4. 'Openness to experience' refers "people's willingness to question authority, to be unconventional, and to entertain new ethical, social, and political ideas" (Costa & McCrae 1992; Thompson, et al., 2002). 'Openness to fantasy', 'aesthetics', 'feelings', 'actions', 'ideas', and 'values' are the six dimensions that makes up this personality trait (Gallimore, A. 2020). 'Openness to fantasy' defines people who are highly aware of their feelings and value them; 'openness to actions' describes people who like innovative or remarkable experiences; People who are intellectually curious are described as "open to ideas," and those who are continually reevaluating social, political, and religious ethics are described as "open to values." (Gallimore, A. 2020; Albrecht et al., 2014).

5. 'Neuroticism' reflects emotional insecurity, including tendencies towards anxiety, vulnerability to stress, anger, depression, self-consciousness and impulsiveness. "Those with neuroticism experience a variety of negative emotions more frequently and intensely, including anxiety and worry, depression, and low self-esteem" (Zhao et al. 2010). It is well known that negative emotions like worry, anxiety, and sadness are associated with neuroticism. These traits may make a person less persist, search for original solutions, and be unable to effectively deal with criticism and unforeseen challenges (Zhao et al., 2010).

2.2. Green Social Behavior

Green social behavior (GSB) is crucial from both an environment and entrepreneurial perspective as it addresses the challenges relevant to integrating sustainable development with green growth within an economy. GSB shows action towards social equity and environmental concerns, which, when combined, can lead to achievement. Conversely, GSB is the collective actions and practices of an individual and a community directed towards the environment as well as sustainability (Tu, Y. T. 2024). "Green social behavior (GSB) refers to the habits and actions of persons and communities that are motivated by a concern for the environment and a commitment to sustainability" (Tu, Y. T. 2024). Green social behavior (GSB) reduces the harmful ecological effects of industry actions, thus fostering sustainability (Varela-Candamio et al., 2018; Streimikiene, 2023). Consequently, it extensively contributes to reduce industries toxic waste and defending well-being of planetary (Tu, Y. T. 2024).

2.3 Personality Traits and Green Social Behavior

Personality has been analyzed at different levels with respect to the social and environmental areas of sustainability. Ecological values and attitudes are related to employee's green social behavior both at work and at home (Stern et al., 1999). Individual psychological differences that are relatively stable (Norton et al., 2015) and impact behaviors are referred to as personality traits (Tang et al., 2023). "Green social behavior (GSB) determines the organizations action and persons take to suppress harmful environmental impacts and encourage the sustainability (Tu, Y. T. 2024). Accordingly, the adoption of a circular economy, the utilize of renewable energy sources, and waste reduction and recycling initiatives has led to the development of new business models and technology" (Tu, Y. T. 2024).

Despite a emergent body of literature investigating the connection between personality traits and environmentally sustainable behaviors, a major gap persists in understanding how these traits influence **green social behavior (GSB)** that is, environmentally oriented actions carried out in social or collective contexts, such as environmental advocacy, participation in green movements, volunteering for ecological causes, or influencing others to adopt sustainable practices. Latest studies have mainly focused on the '**Big Five personality traits**' functioning in shaping **individual-level green behaviors** (Tang Gifford & Nilsson, 2014), such as recycling, reducing energy

use, or purchasing eco-friendly products. ‘Big Five personality traits’ impact on green using behavior and how they link the gap among intentions, behaviour, and actual green uses (Dong 2022). Personality traits like **openness to experience** (Fraj & Martinez, 2006; Tang, et al., 2023; Markowitz et al., 2012) **agreeableness** (Tang, et al., 2023; Kim et al., 2014) have consistently shown positive associations with environmental concern, ‘conscientiousness’, and ‘neuroticism’ also link with (Hirsh 2010) green social behavior (Milfont & Sibley 2012). the **social dimensions** of environmentally responsible behavior remain underexplored. Specifically, the literature has not sufficiently addressed how personality traits may influence actions that involve **social engagement, collective efficacy, or normative influence**-key aspects of green social behavior.

Based on previous findings, we frame the conceptual model as shown in (figure1) and proposed following hypotheses:

H1: Agreeableness is significant linked with green social behavior of employees.

H2: Conscientiousness is significant linked with green social behavior of employees.

H3: Extroversion is significant linked with green social behavior of employees.

H4: Neuroticism is significant linked with green social behavior of employees.

H5: Openness to experience is significant linked with green social behavior of employees.

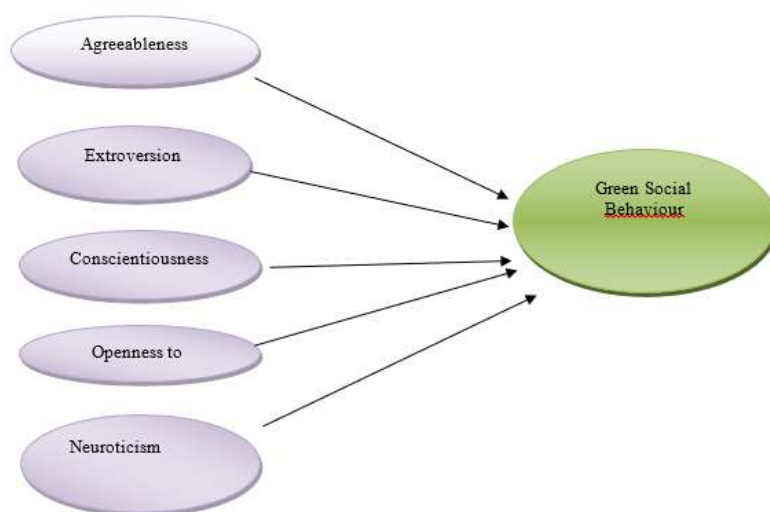
2. Methodology

3. METHODS

3.1 Population

The paper employed a quantitative, cross-sectional research design to examine the association among ‘personality traits’ and ‘green social behavior’. The cross sectional approach was chosen to capture data at a specific time, thereby reflecting the current trends and practices within the hospitality and tourism sectors of Punjab and Chandigarh. These regions are witnessing significant growth in their industries, accompanied by rising emphasis on eco-friendly services and sustainability practices. The paper utilized a survey questionnaire as the primary tool for data collection. A ‘non-probability sampling method’ specifically, ‘convenience sampling’ was applied, aligning its suitability in social science and business research context where the target population is vast or lacks clear boundaries (Munir et al.,2025).

A total of 230 questionnaires were distributed, of which 205 were returned. Among the returned questionnaires, five were found to be incomplete and were excluded from the analysis. Consequently, the final dataset comprised 200 valid responses. This sample size exceeds the threshold of one hundred for structural equation modeling analysis, thereby supporting the adequacy and reliability of the data for the research (Hair et al. 2019).



3.2 Measure

3.2.1 Personal Traits

This paper adopts the most widely “Big Five Personality Model” is used in this paper (De Fruyt et al., 2009) to assess individual personality traits. The model encompasses five sub construct ‘conscientiousness’, ‘openness to experience’, ‘agreeableness’, ‘extroversion’ and ‘neuroticism’ which have been extensively examined across various time periods, culture and research settings (Costa et al., 1992). The construct items used to assess these traits were drawn from “NEO Five-Factor Inventory” (Spence, et al., 2012; Shafer 2000; Costa, & McCrae 1989). The personality traits scale were evaluated using a on a ‘five-point Likert scale’ “(ranging from ‘1 (strongly disagree), to 5 (strongly agree)’”.

3.2.2 Green Social Behavior

To asses green social behavior, this study adapted four items from Su and Swanson's (2019) green behavior scale and 5-items scale Kraus et al. (2017). These items were assessed using ‘5-point Likert scale’, ‘ranging from 1 (“strongly disagree”) to 5’ (“strongly agree”).

3.2.3 Analysis

The study employs ‘Smart-PLS-4’ for data analysis, utilizing ‘Partial Least Squares Structural Equation modeling (PLS-SEM)’. Within the domains of information technology (IT) and management, PLS-SEM is widely used due to its ability to generate robust and reliable outcome (Avkiran & Ringle 2018). As a non-parametric technique, ‘PLS-SEM’ focuses on explanation of the variance in latent constructs which are not directly observable. ‘Compared to the “COV-SEM” the “Smart PLS-SEM” requires fewer assumptions regarding sample sizes, measurement scales, and data distributions (Hair, et al., 2019). Given the complexity of the research models and its theoretical underpinnings, PLS-SEM was deemed appropriate for the analysis. Following Leguina's (2015) recommendation, a two step approach was adopted: initially, the ‘outer model’ was evaluated for ‘convergent’ and ‘discriminant validity’, followed by the assessment of ‘inner model’ to test the proposed hypotheses’.

4. Results and Findings

4.1 Participants Characteristics

Demographic profile of the participants was summarized in (Table 1). A majority of the respondents were male (N=136, 68%), while female respondents constituted (N=64, 32%). In terms of age distribution, (N=92, 46%) of the respondents were aged between 31to 40 years old, whereas (N=40, 20%) were under 30 years of age. Regarding educational qualifications, the majority of the participants were post graduates (N=108, 54%), followed by were graduates (N=76, 38%), diploma holders (N=10, 5%) and a small numbers of respondents held Ph.D degrees (N= 6, 3%). With respect to job experience (N=96, 48%) of the participants had 1to 10 years of experience, (N=62, 31%) of participants had 11 to 20 years and (N=42, 21%) reported 21 to 30 years of professional experience. Moreover the organizational level distribution revealed that (N=120, 60 %) of the employee’s were from middle management level, while (N=80, 40 %) belongs to senior management. Assessment of the data’s normality indicated that the ‘skewness and kurtosis’ values fell within the satisfactory limits of (-2 or +2), suggesting a normal distribution (Nunnally et al., 1994). Additionally, **multi-collinearity** analysis suggested that the study construct’ ‘VIF values’ were under 0.5, confirming the absence of multi-collinearity among the variables (Becker et al., 2015; see **Table 2**).

Table1. Demographic Characteristics

Variables	Categories	Count	%
Gender	Male	136	68%
	Female	64	32%
Age-wise	Below 30 yrs	40	20%
	Between 31 to 40 yrs	92	46%

	Between 41 to 50 yrs	54	27%
	Above 50	14	7%
Education	Diploma	10	5%
	Under-graduate	76	38%
	Post-graduate	108	54%
	PhD-degree	6	3%
Designation	Middle level	120	60%
	Senior level	80	40%
Work Experience	Between 1to 10 years	96	48%
	Between 11 to 20years	62	31%
	21to 30 years	42	21%

4.2 Consistent PLS Algorithm Result

To evaluated the ‘reliability and validity’ (Hair, et al., 2019) of the paper, several statistical methods were used (Kline 2015). These included “internal consistency reliability”; “composite reliability” (CR); “convergent validity”; and “discriminant validity”. As presented in (Table 2), the “Cronbach’s alpha” score between (0.794 to 0.920), while the “composite reliability” (CR) between (0.793 to 0.920), suggesting a acceptable level of ‘internal reliability’ for the constructs (Kline, R. B. 2015). Additionally, all constructs exhibited “Standardized Factor Loadings” above than 0.60, further supporting the measurement model reliability (see Figure 2). Finally, CV ‘Convergent validity’ (CV) was also confirmed, as each construct determining demonstrated an ‘AVE’ score more than 0.5, which meets the (Hair et al., 2021) lowest acceptability threshold for establishing sufficient.

Table 2. Analysis of Measurement Model & VIF

Variables	Items	Type	Loading	(α)	CR ‘rho A’	CR ‘rho c’	AVE	VIF
Green Social Behavior	GSB1	Reflective	0.737	0.920	0.924	0.920	0.562	2.181
	GSB2		0.676					2.163
	GSB3		0.697					2.198
	GSB4		0.758					2.318
	GSB5		0.769					2.188
	GSB6		0.810					2.493
	GSB7		0.887					2.782
	GSB8		0.618					1.695
	GSB9		0.762					2.179
Agreeableness	AG1	Reflective	0.805	0.845	0.845	0.845	0.645	2.341

	AG2		0.795					1.722
	AG33		0.809					2.361
Extroversion	EXT1	Reflective	0.769	0.794	0.793	0.793	0.561	1.545
	EXT2		0.752					1.721
	EXT3		0.725					1.975
Conscientiousness	CON1	Reflective	0.747	0.912	0.916	0.912	0.722	3.065
	CON2		0.857					2.785
	CON3		0.868					3.023
	CON4		0.918					3.138
Openness to experience	OTE1	Reflective	0.834	0.900	0.901	0.900	0.751	2.449
	OTE2		0.899					2.945
	OTE3		0.865					3.469
Neuroticism	NEU1	Reflective	0.788	0.863	0.865	0.863	0.678	2.968
	NEU2		0.814					1.778
	NEU3		0.867					2.757

In addition, two key criterion were employed to establish that the scale demonstrated sufficient DV (discriminant validity) (Leguina 2015). These were the “Fornell-Larcker criterion method” and “Heterotrait-Monotrait method”. Firstly, as shown in (Table 3) ‘Fornell-Larcker structural model criterion’ confirmed strong discriminant validity, as the square root of the AVE values exceeded the inter-construct correlations. Secondly, HTMT values were also examined, with all HTMT values less than the recommended threshold value (0.90), additional supporting the existence of discriminant validity (Leguina, 2015; see Table 4). Taken together, these results validate the ‘convergent validity’, ‘reliability’ and ‘discriminant validity’, of the measurement model employed in this paper.

Table 3: Assessments of Discriminant Validity

Construct	Agreeableness	Conscientiousness	Extroversion	Green Social Behavior	Neuroticism	Openness to experience
Agreeableness	0.803					
Conscientiousness	0.663	0.850				

Extroversion	0.572	0.536	0.749			
Green Social Behavior	0.657	0.535	0.529	0.750		
Neuroticism	0.556	0.482	0.507	0.554	0.824	
Openness to experience	0.575	0.488	0.409	0.898	0.489	0.866

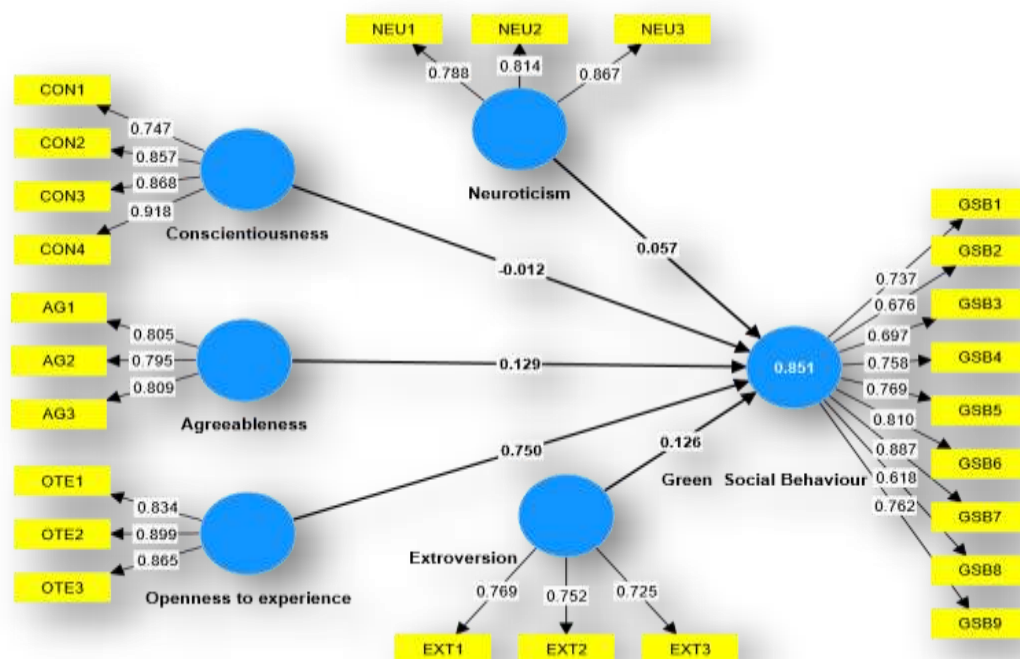


Figure2. Consistent PLS Algorithm

Table 4: Assessments of HTMT Ratio for Discriminant Validity

	Agreeableness	Conscientiousness	Extroversion	Green Social Behavior	Neuroticism	Openness to experience
Agreeableness						
Conscientiousness	0.665					
Extroversion	0.572	0.537				
Green Social Behavior	0.653	0.533	0.530			
Neuroticism	0.558	0.481	0.505	0.551		
Openness to experience	0.576	0.488	0.410	0.895	0.490	

4.3 Consistent PLS Bootstrapping Result

The paper employed SEM using ‘Smart PLS-4’ to test the proposed hypotheses. After the measurement analysis was established, ‘PLS-SEM’ was applied to confirm the hypothesized relationships in the structural model. As outlined by (Hult et al., 2018), the primary goal was to assess the model’s ability to enlighten and predict the influence of exogenous constructs on the endogenous constructs. Additionally, (Chin 1998) suggested an R square value of a minimum (0.10) is necessary to ensure an acceptable model fit. Therefore, the **R² value** for the endogenous construct "green social behavior" was 0.851, which indicates a strong descriptive power and confirms that the model effectively represents the observed data (see **Table 5**). Moreover, predictive relevance was assessed using the **Q² value**, which was calculated at **0.705** for green social behavior well above the recommended threshold demonstrating the model’s robust predictive capability (Henseler et al., 2009). Additionally, the **model fit indices** supported the overall ‘Goodness of Fit’ (GOF); specifically, the **NFI** was (**0.90**), and the **SRMR** was (**0.043**). Both values fall between the acceptable range, as an NFI > 0.90 and an SRMR < 0.08 are indicative of a well-fitting model (Hair Jr. et al., 2017).

‘Structural model’ also presented in-depth insight into the coefficients of determination (R²) and path coefficients, which are visually presented in Figure 3. To test the direct associations, a bootstrapping technique with 5000 subsamples was conducted using ‘Smart PLS-4’, which produced the path coefficients and associated t-values. The paper proposed five hypotheses regarding the affects of personality traits on green social behavior. The findings suggested that two personality traits had a positively and significantly impact on environmental behavior. Particularly, ‘openness to experience’ ($\beta = 0.080$, $t = 9.404$, $p < 0.001$) and ‘extraversion’ ($\beta = 0.062$, $t = 2.461$, $p < 0.001$) were found to significantly related to green social behavior. On the contrary, ‘agreeableness’, ‘conscientiousness’, and ‘neuroticism’ did not show any significant association with green social behavior. As shown in Table 6, only H3 and H5 were supported, whereas H1, H2, and H4 were not. These results highlight the illustrative strength of the structural model and add to a deeper understanding of the associations among the construct studied.

Table 5 (Q2) and (R2) and model fit Indices

Endogenous Latent	(R2)	(Q2)
GSB	0.851	0.705
MFI	SRMR	NFI
	0.043	0.9

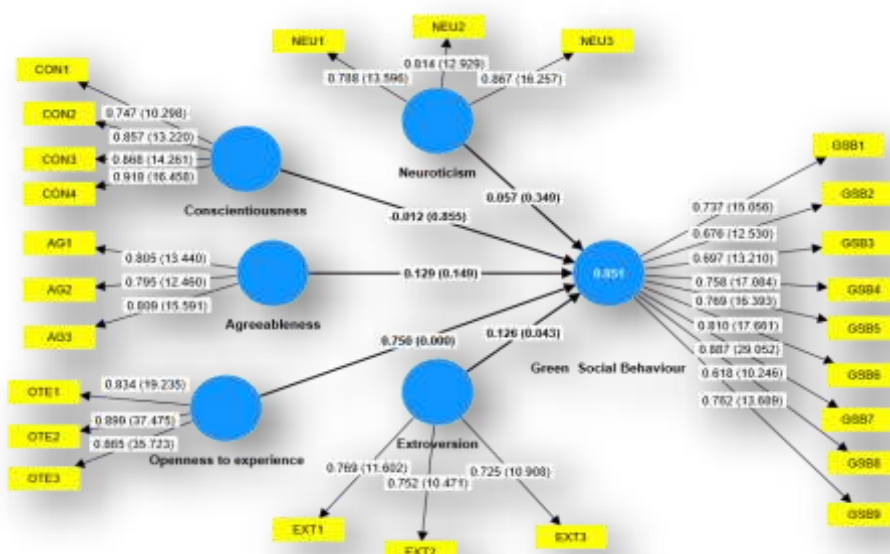


Figure3. Consistent PLS Bootstrapping

Table 6. Results of Structural model

H	Path Relationships	Beta	Mean	t-values	P-Values	Decisions Accepted/Not Accepted
H1	Agreeableness -> Green Social Behavior	0.090	0.131	1.443	0.149	Not Accepted
H2	Conscientiousness -> Green Social Behavior	0.065	-0.01	0.182	0.855	Not Accepted
H3	Extroversion -> Green Social Behavior	0.062	0.126	2.02	0.043	Accepted
H4	Neuroticism -> Green Social Behavior	0.061	0.055	0.936	0.349	Not Accepted
H5	Openness to experience -> Green Social Behavior	0.080	0.752	9.404	0.000	Accepted

5. Discussion

Overall the present paper highlights the connection between ‘Big-Five personality traits’ and ‘green social behavior’ (GSB). The paper findings revealed that ‘big five personality traits’ exert differing the levels of influence on green social behavior depending on the specific category.

H1: The first hypothesis proposed that agreeableness would have a significantly impact on green social behavior of employees (GSB). However, the result of this study did not support this hypothesis. Contrary to earlier research, agreeableness did not have a significantly influence on green social behavior among employees in the hospitality sector of Punjab and Chandigarh. Previous studies findings indicated that personality trait agreeableness characterized are trust, altruism, cooperation and empathy as a strong predictor of sustainable behavior. Agreeableness person are more inclined toward ecological behaviors at work due to their concern for the others welfare (Dilchert & Ones 2011) and the broader community. Similarly, Kim et al. (2014) suggested that agreeableness is significantly linked to environmental behavior because it fosters empathy and a keenness to engage in behaviors that benefit the collective good. Person with agreeableness traits are more likely to act in green responsible ways, driven by a desire to maintain relationship with others and the surroundings (Halkos and Gkargkavouzi 2024). These studies together recommend that agreeableness, through its pro-social orientation, should naturally donate to green social behavior.

H2: The hypothesis second proposed that conscientiousness would be significantly and positively associated with green social behavior (GSB) of hospitality employees. However, the study results did not support this hypothesis, revealed that conscientiousness does not have a significantly influence on green social behavior (GSB) with in Punjab and Chandigarh hospitality sector. The findings challenge the conventional considerate of conscientiousness (McCrae & Costa, 1999), which is often characterized by traits responsibility, dependability and diligence. Although these traits are typically associated with high performance and ethical decision making and their impact on green behavior appears limited in this perspective. Prior literature have found positive association among conscientiousness and sustainability behavior which indicated that person with conscientious traits may engage in green practices due to their sense of responsibility and long term goal (Kvasova, 2015; Bissing-Olson et al., 2013; Milfont & Sibley, 2012; Hirsh, 2010). However, another studies offer more nuanced

or even contradictory findings. For example, (Fraj & Martinez 2006; Brick & Lewis 2016) argue that conscientiousness does not always translate into sustainable behavior unless environmental values are strongly internalized. In hospitality sector where employee behavior are often shaped by external expectations, client service norms and culture the impact of conscientiousness on voluntary, pro-social green actions may be overshadowed.

H3: The third hypothesis proposed that extraversion **would be** positively and significantly correlated with an employee's green social behavior (GSB). The empirical findings of this study confirm this hypothesis, highlighting a positive and significantly relationship between extraversion and GSB among employees in the hospitality sector of Punjab and Chandigarh. This result is consistent with prior research that associates extraverted personality traits such as sociability, assertiveness, and enthusiasm with higher levels of environmentally responsible behavior. For example, Soliño and Farizo (2014) and Fraj and Martinez (2006) both found a significant relationship among extraversion and environmental attitudes, suggesting that persons who are more outgoing and socially active are more liable to involve in environmental behavior, particularly when it involves social or group-oriented initiatives. People with highly 'extraversion' traits are more willing to support others (Sun et al., 2018), and high extrovert persons would have an optimistic influence on green actions (Sun et al., 2018). Another study revealed that 'extraversion' is significantly correlated to ecological commitment (Milfont & Sibley 2012). Posts materialistic values such as subjective well-being and self-expression are positive related with 'extraversion' (Kvasova, 2015) and correlated to green concern and behavior (Wang et al., 2021a, b).

H4: The findings of hypothesis four indicated that **'neuroticism' is negatively related to employees' green social behavior (GSB)**. The finding is linked with several recent studies that have explored the neuroticism role in shaping environmentally friendly behavior (Akhtar, 2019; Kvasova, 2015). Specifically, it aligns with prior research; neuroticism is negatively related with green behavior and action (Wang et al. 2021a, b; Milfont & Sibley 2012). 'Neuroticism' is generally characterized by a heightened tendency to experience negative emotional states for instance fear, nervousness, bad temper, and psychological distress. These emotional tendencies can serve as psychological barriers, limiting an individual's willingness or ability to engage in voluntary, pro-social behaviors like GSB. As Wang et al. (2021a, b) suggested, such emotional instability may reduce motivation for environmentally responsible behavior, particularly in workplace contexts that demand emotional regulation and proactive engagement.

H5: The results for the fifth hypothesis revealed a positively and significantly influence of the personality trait 'Openness to Experience' (OTE) on green social behavior (GSB). This aligns with previous research, which has consistently identified OTE as a significant predictor of various green behaviors and attitudes (Milfont & Sibley, 2012; Sun et al., 2018). The findings indicated that personality trait 'Openness to Experience' constantly emerges as a strong predictor of GSB. Highly openness persons are more willing to change habits open to new experiences and adopt green alternatives, positioning them as pioneers in GSB (Hirsh & Dolderman, 2007; Markowitz et al., 2012; Hirsh, 2010).

5.1 Implications

The study findings carry considerable implications for management science, mainly with in the hospitality industries, by providing empirical support on how personality traits impacted the green social behavior. Understanding this relationship enables managers to design additional sustainability strategies that resonate with employees and customers, intrinsic dispositions. For example, persons high with conscientiousness and openness may be more responsive to green efforts can be positioned as sustainability champions with in organizations. From a strategic management view point, integrating personality driven insights into human resource practices: 'recruitment', 'employee engagement' and 'training' can foster a green environmental responsibility. By aligning job roles and sustainability goals with workforce personality profiles, hospitality industries can boost green performance outcomes and make long term competitive advantages.

Environmentally, the paper emphasizes the role of individual psychological factors in gaining broader sustainability objectives. It encourages shift from generic behavioral campaign to more nuance, psychologically informed interventions that can lead to deeper and more lasting behavioral change. This is mainly vital in

hospitality sectors, where daily operations and customers interactions have direct impact on environments. From a community standpoint, the study highlights the potential of leveraging personality aware engagement strategies to support pro-environmental norms. Encouraging green social behavior through organizational structure contributes not only to environmental protection but also to societal awareness and group responsibility.

5.2 Study Limitations and Future Research Direction

Given the inherent limitations of the paper, the results should be interpreted with caution, despite this study advancing research in the area of environment social behavioral research by exploring a novel connection between employee personality traits and green social behavior. Firstly this study employed ‘cross-sectional research design’, which restricts the ability to draw outcomes regarding the causal direction of the observed relationships. To address this limitation, further researcher should consider adopting longitudinal research design that can more effectively validate the causality of the proposed associations. Secondly, the paper was geographical and sectorally constrained focusing solely on the hospitality sector within Punjab and Chandigarh. Since industries efforts towards environmental sustainability are influenced by variations in physical, legal and cultural contexts, expanding this model to other geographic regions and industries would enhance the generaliz-ability of the current findings and provide deeper insights into contextual effect on green behavior. Lastly, in the view of comprehensive nature of green social behavior among employees, future studies should explore alternative or extended theoretical models that incorporate additional psychological or organizational mechanisms. Incorporating moderating variables such as gender and age (demographic factors) could also provide valuable insight into the conditional nature of association between ‘personality traits’ and ‘green social behavior’. These findings offer scope for future studies and can significantly increase the understanding environmental behavior in industrial settings.

Conclusions

The findings of the study highlighted that ‘Big Five Personality traits’ play a noteworthy role in explaining individual difference in sustainable practices and ecological behavior. The present study centered on ‘personality Five Factor Model’, which captures variability in self reported traits across five key dimensions ‘extraversion’, ‘openness to experience’, ‘agreeableness’, ‘neuroticism’, and ‘conscientiousness’. Among these, ‘extraversion’ and ‘openness to experience’ emerged as the most influential qualities in predicting concern for the environment and engagement green behaviors. Although ‘agreeableness’, ‘neuroticism’ and ‘conscientiousness’ have also been connected to ecological concerns in prior studies, the evidence for these relations remain in consistent, revealed that contextual factors may moderate these relationships. Understanding how personality traits shape individuals’ environmental preferences and behaviors provides valuable insights into why people differ in their support for environmental policies. It also sheds light on how the costs and benefits of such policies may be perceived and distributed differently across personality profiles. These behavioral and psychological considerations may pose challenges or create opportunities for the implementation of environmental initiatives (Brick & Lewis 2016).

Overall, the paper highlights the critical personality role in promoted green attitudes, behaviors, and the willingness to accept sustainable routines. By elucidating the underlying psychological drivers of environmental engagement, this research offers a foundation for the growth of more effective strategies and interventions aimed at promoting sustainability. It encourages both researchers and policymakers to give greater attention to the psychological dimensions of environmental behavior in their efforts to build more eco-conscious and sustainable societies.

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