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Antecedents to Green Personal Care Product Purchase Intention Among Gen Z Consumers from India

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Abstract

This study aims to investigate the antecedents to 'green personal care product' (GPCP) awareness and purchase intention. Based on the theory of planned behavior (TPB) and sustainable consumption (SC), a conceptual model is developed and tested. Data collected from 455 Gen Z consumers from India were analyzed using structural equation modeling. The results confirmed a positive association of subjective norms, perceived behavioral control (PBC), and social media influence with attitude towards GPCPs. The findings indicate that attitude and health consciousness are positively associated with awareness, which in turn leads to purchase intention. Further, the findings support the positive role of environmental consciousness in driving consumers to engage in pro-environmental behavior. This study underscores the importance of health consciousness and environmental consciousness in driving individuals to engage in green purchase behavior. The findings from this study provide valuable insights into an individual's attitude towards GPCPs and awareness of GPCPs, especially in the context of environmental sustainability. This study recommends actionable strategies to policymakers and marketers to advertise the benefits of consuming healthy products. The implications for theory and practice are discussed.

Keywords: green personal care product; attitude; perceived behavioral control; subjective norms; awareness; purchase intention; India

1. Introduction

Recent years have witnessed growing interest among researchers in the importance of green personal care products (GPCPs) by consumers (Lupindo et al., 2024; Luthra et al., 2025; Muk & Chung, 2026; K. Sharma et al., 2023; J. Wang et al., 2020). The evolving consumer awareness of environmental deterioration and contamination leads to increased attention on seeking alternative products that do not harm the environment and protect health (Synodinos, 2023; Venciute et al., 2023; Zollo et al., 2021). Consumers worldwide are becoming increasingly health-conscious and increasingly preferring organic products (Arifin et al., 2026; Tandon et al., 2020). At the same time, consumers are becoming environmentally conscious and are attempting to protect the environment (Halvadia et al., 2022). Meeting these twin objectives of health consciousness and environmental protection, consumers engage in careful product selection—called 'green personal care' (Lupindo et al., 2024).

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The present study investigates the underlying mechanisms of GPCP purchase intention using the theory of planned behavior (TPB) and sustainable consumption (SC). This study examines the effects of subjective norms, perceived behavioral control (PBC), and social media influence on consumers' attitudes towards GPCPs, which, in turn, influence green personal care product awareness. Furthermore, the effect of health consciousness on awareness of GPCPs is examined. Finally, the effect of GPCP awareness and environmental consciousness on GPCP purchase intention is investigated (herein after 'attitude' refers to 'green personal care product attitude, 'awareness' refers to 'green personal care product awareness', and 'purchase intention' refers to 'green personal care product purchase intention').

Personal care products are considered daily essentials used by individuals across all age groups, ethnic backgrounds, genders, and socio-economic categories (Setiawan et al., 2024). The broad categorization of personal care products is haircare, oral care, skin care, toiletries, deodorants, color cosmetics, and feminine hygiene products (Ghazali et al., 2017). Consumers are aware of the harmful effects of daily use of non-green, conventional personal care products (Al Mamun et al., 2018). Moreover, conventional personal care products are known to contribute significantly to environmental pollution (Alex et al., 2024). Recent studies conducted in India on personal care product samples have revealed that plastic microbeads used in these products are a significant source of microplastic pollution (Yadav et al., 2025). These microplastics pose serious hazards to both environmental sustainability and human health. In addition, non-GPCPs contain chemicals that can cause adverse effects in users, such as skin irritation, eye discomfort, and oncological diseases (Shaaban & Alhajri, 2020). Provided that these origins of pollution act as a silent root cause to prolonged environmental and health deterioration. There is a growing need to shift towards substitutes that do not adversely impact human health or the surrounding environment. Here comes the role of GPCPs, which arise as a practical solution. With concerns about individuals' health and the demand for ethical, sustainable production methods, there is growing worldwide interest in green cosmetics (Ahmad et al., 2021; T. T. T. Nguyen et al., 2024). GPCPs feature environmentally friendly characteristics, are sourced ethically from naturally occurring resources, and can provide a sustainable alternative to conventional products.

2. Literature Review and the Study Context: Gen Z Population from India

The study is focused on the Generation Z group. Generation Z consumers are referred to as Centennials or Post-Millennials, and their birth years range from 1995 to 2010 (Bełch et al., 2024; Priporas et al., 2017). The engagement with ecological and societal issues relevant to this generation group paves the way for analyzing their behavior and attitudes from a multifaceted perspective (Confetto et al., 2023; Manley et al., 2023). The Generation Z cluster has immense capacity to influence the surrounding society and market (Dolot, 2018). Even their enlightened generation, with greater environmental stewardship, is better than their former generation cohort due to the more widespread adoption of healthy lifestyle practices. It is imperative to understand the factors that influence the purchase behavior of the Generation Z group. A review of the literature reveals that most studies have focused on the general population's green consumption behavior, and relatively few have focused on the Gen Z population. This is one critical research gap.

A second research gap is the lack of linkage between GPCP attitude, awareness, and intention and sustainability. Previous studies examined green product consumption and sustainability in isolation (Arifin et al., 2026; Spaargaren & Martens, 2005). The present research aims to combine GPCP with ecological and social issues (Manley et al., 2023). The objective of the present study is to investigate how Gen Z engages with GPCPs, particularly in the context of a developing country, India. A product will be categorized as 'green'

when it meets customer demand with a lower environmental impact than its non-green counterparts (Srivastava et al., 2024; Venciute et al., 2023). GPCPs comprise a broad category of personal items made from natural ingredients that do not contain harmful chemicals.

Most importantly, these items are sourced, produced, and packed in an eco-friendly and ethical way to reduce the global ecological footprint (Limbu et al., 2022; Lupindo et al., 2024). Thus, customers perceive natural personal care products as a healthier alternative to conventional ones. The progressive trend of GPCPs in developing countries like India obliges the researcher to conduct a study to explore attitudes and purchase intentions towards GPCPs (Halan et al., 2025; Shimul et al., 2022). It is imperative to understand the perspectives on GPCPs in developing nations to foster the development of local enterprises and to envisage their market entry on a global scale. Insights into green personal care consumption patterns in developing countries will also help promote sustainable global transformation (Bresciani et al., 2023). The study focuses on the young consumer, that is, Generation Z, who are considered change creators and trend influencers. Generation Z consumers are easily adapting their behaviors toward an eco-friendly, environmentally conscious direction (Filimonau et al., 2023; Mason et al., 2025). Also, it is established that Generation Z's consumption behavior is sustainable at present, along with greater emphasis on ecological concerns and healthy consumption (Dragolea et al., 2023). The literature review reveals that research on GPCP buying patterns for Generation Z is sparse and sporadic (Dragolea et al., 2023). To bridge the gap, this study is aimed at answering the following research questions (RQs):

RQ1: How do subjective norms, PBC, and social media influence the attitude of Gen Z towards GPCPs?

RQ2: How does attitude towards GPCPs and health consciousness affect GPCP awareness?

RQ3: How do GPCP awareness and environmental consciousness influence GPCP purchase intention?

3. Theoretical Underpinnings and Hypotheses Development

This study focuses on the theory of planned behavior (TPB) (Ajzen, 1991) and sustainable consumption Theory (SCT) (M. J. Cohen et al., 2013; Welch et al., 2015). The basic tenet of TPB is that attitudes, subjective norms, and PBC influence intention, which in turn drives behavior. Several researchers have applied TPB to explain green product consumption and behavior (Al Mamun et al., 2020; Bevan-Dye & Synodinos, 2025). According to Ajzen (1991), individuals are influenced by three types of beliefs: behavioral, normative, and control. Behavioral beliefs are attitudinal and largely depend on the consequences of behavior. If the consequences of behavior are beneficial, the attitude is favorable; if the consequences are detrimental, the attitude is unfavorable. Individuals are also influenced by what others expect and perceive their own behavior to be, as reflected in subjective norms. Further, PBC (i.e., the ease with which a behavior can be performed) determines the behavior. If the individual feels it is difficult to perform a behavior, they will not engage in it. In this study, we argue that, in addition to subjective norms and PBC, social media influence plays a pivotal role in shaping purchase intention for green care products (Khan et al., 2026; Lupindo et al., 2024). The theory explains these socio-cognitive elements. When these factors are perceived positively by consumers, purchase intention is expected to increase (Khan et al., 2026).

As a departure from TPB, which considers attitudes, PBC, and subjective norms as antecedents of intention, we contend that subjective norms, PBC, and social media influence are antecedents of attitudes. Since attitudes, subjective norms, and PBC are standalone constructs, we wanted to explore their interrelationships. We argue that attitude of individuals is quite likely to be influenced by subjective norms, PBC, and social media.

Another theory on which the present study is based is SCT. Based on a praxiological foundation that individuals engage in purposeful behavior (e.g., the consumption of green products) to achieve a desirable outcome (e.g., environmental sustainability), SCT posits that individuals' attitudes drive them to become aware of and intend to engage in green care purchase behavior. From an ontological perspective, individuals distinguish between products that harm the environment and those that help protect it (Welch et al., 2015). Sustainable consumption complements the ecological modernization of production that is aimed at achieving environmental sustainability (Spaargaren & Martens, 2005). Given the current state of human-induced environmental degradation driven by inconspicuous consumption, a radical transformation of consumption patterns is essential to protect the environment. As charity begins at home, individuals engage in sustainable consumption by demonstrating their attitudes towards GPCPs that support their health and a healthy environment. Thus, in this study, we combine TPB, health consciousness, environmental consciousness, and social media influence in green personal care product awareness and purchase intention. The conceptual model based on these constructs is presented in Figure 1.

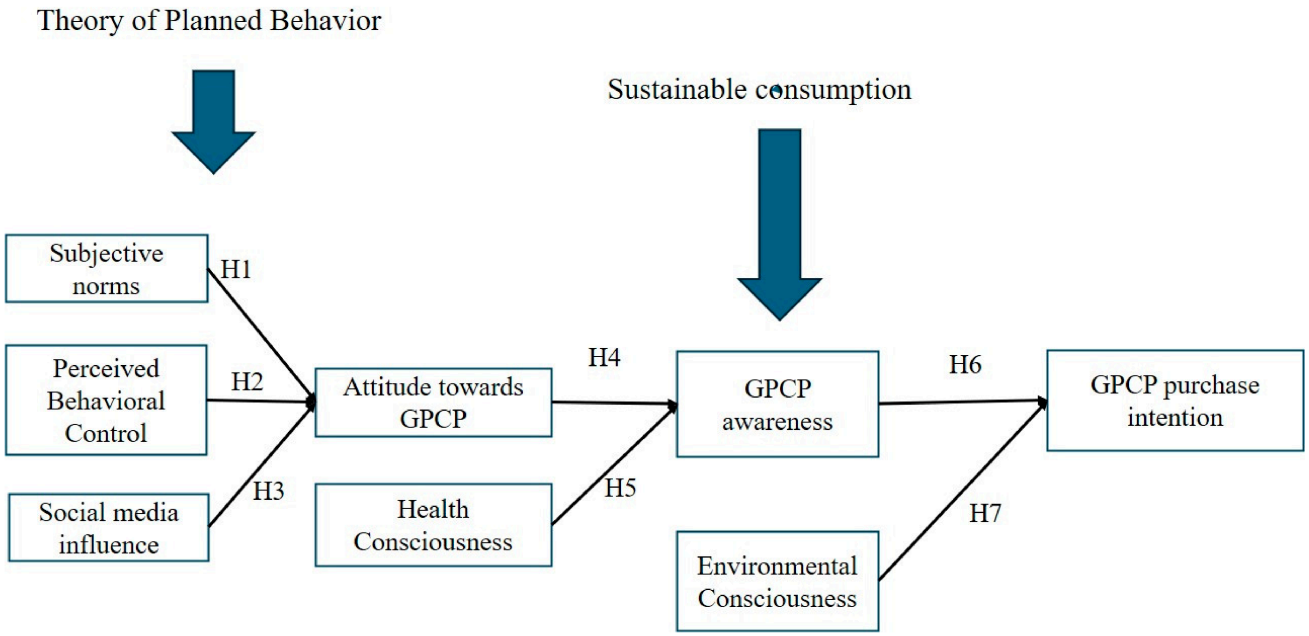

Figure 1. Conceptual model. Source: The authors.

3.1. Subjective Norms and Attitude Towards GPCPs

Subjective norms are considered a significant influence on consumer intention to engage in a particular behavior. Extant research reported a positive effect of subjective norms on attitude towards green purchase behavior (Mancha & Yoder, 2015; Shalender & Sharma, 2021; Shimul et al., 2022). Subjective norms impose social pressure on individuals to behave in a socially acceptable behavior (Ahmed, 2021). 'Subjective norms' is a foundational construct of TPB, emphasizing that an individual's behavior is influenced by the social influences of friends, peers, and family members and their viewpoints (Ajzen, 1991). A recent study conducted with 500 respondents in South Africa reported a positive association between subjective norms and attitudes towards green purchase intention and behavior (Bevan-Dye & Synodinos, 2025). Drawing on prior literature and theoretical support, we offer the following hypothesis.

H1. *'Subjective norms' are positively and significantly associated with attitude towards GPCPs.*

3.2. PBC and Attitude Towards GPCPs

PBC is an influential variable that determines an individual's self-perceived ability and further explains the buyer's trust in their own capability to perform a particular behavior which suits the specific situation (Ajzen, 1991). In the context of green purchase behavior, research indicates that individuals who have confidence in their ability to positively impact environmental sustainability through their actions are more inclined to engage in environmentally friendly behavior (Ali et al., 2023; Bevan-Dye & Synodinos, 2025). In a recent survey of 323 respondents in Indonesia, the researchers found a positive effect of PBC on attitudes towards the consumption of environmentally friendly products (Arifin et al., 2026). The ability or capacity of a person to execute a specific behavior in the personal care product context refers to the accessibility of the product and the financial means to obtain it (Ali et al., 2023; T. T. T. Nguyen et al., 2024). Extant research supported the positive impact of PBC on green purchase behavior of personal care products (Ali et al., 2023; Khan et al., 2026; Lupindo et al., 2024; Ngo-Thi-Ngoc et al., 2024). Thus, based on the theoretical foundation of TPB and the abundant empirical support, we offer the following hypothesis.

H2. *PBC is positively and significantly associated with attitude towards GPCPs.*

3.3. Social Media Influence and Attitude Towards GPCPs

The broad range of social media platforms has a significant influence on an individual's attitude towards green purchase intention and behavior worldwide (Muk & Chung, 2026; Pop et al., 2020; J. Wang et al., 2020; Zhao et al., 2018). For example, in a recent study of Gen Z consumers in the United States and Japan, the researchers found that self-construal patterns of individual behavior were skewed toward green purchase behavior (Muk & Chung, 2026). Social media plays a vital role in enhancing consumer knowledge and the benefits of environmentally responsible sustainability practices. And in the context of the marketplace, social media has brought a shift in consumer interaction practices between consumers and marketers (Zhao et al., 2018). The information source for the present younger generation is primarily the digital world (Jiang et al., 2024). When young consumers make purchase-related decisions, social media plays a vital role in helping them make well-informed choices (Chang & Chang, 2023). Frequent exposure to social media positively shapes consumers' perceptions of green purchases and significantly affects their purchase decisions. These assertions are supported by several scholars who contend that consumer engagement with digital content on eco-friendly purchases influences green purchase behavior (Gupta & Katarya, 2020; Ng et al., 2025; Yang et al., 2021). Based on the above, we offer the following hypothesis.

H3. *Social media influence is positively and significantly associated with attitude towards GPCPs.*

3.4. Attitude Towards GPCPs and Awareness of GPCPs

A favorable attitude towards GPCPs prompts individuals to seek information about such products, pay attention to them, and assess whether they are eco-friendly (N. V. Kumar et al., 2026). In this process, individuals look for green labels on the products and their certification before making purchase decisions. Although research documents a positive association between attitude and awareness, it is logical that attitude plays a vital role in shaping consumer awareness of GPCPs (Baltaci et al., 2024; Pilelienė et al., 2022). Some recent studies found that consumers look for green products that reduce their negative environmental impact (Alamsyah & Febriani, 2020; Asif et al., 2023; Tan et al., 2021). Based on the above, we offer the following hypothesis.

H4. *Attitude towards GPCPs is positively and significantly associated with awareness of GPCPs.*

3.5. Health Consciousness and Awareness of GPCPs

Eco-friendly consumption not only concerns ecological conservation but also has significant effects on personal health consciousness. The growing commonness of long-term illnesses and atmospheric contamination has heightened the buyer's health concern, which is reflected in their purchasing choices (Li & Shan, 2025). This will significantly impact their level of awareness when purchasing a product. Health consciousness has emerged as a crucial factor influencing consumers' eco-friendly purchase decisions (Mai & Hoffmann, 2015; Ritter et al., 2015; J. Wang et al., 2023). It has been proven in the previous study that health consciousness amplifies the consumer's awareness of the health advantage of organic food, which in turn expands their purchase intention (Li & Shan, 2025). Thus, based on the above discussion, we offer the following hypothesis.

H5. *Health consciousness is positively and significantly associated with GPCP awareness.*

3.6. GPCP Awareness and GPCP Purchase Intention

GPCP awareness refers to the extent to which an individual recognizes the attributes and characteristics of a product that protects the environment from degradation (Baltaci et al., 2024). Green product awareness is a major precursor to eco-friendly purchase behavior (Asif et al., 2023). When individuals become aware of a product's environmental benefits, they are more likely to express an intention to purchase it. One way to gain such awareness is through advertising by companies that explicitly state the benefits of green products in protecting the environment from degradation. Extant research reported a positive impact of green personal care product awareness on purchase intention (Baltaci et al., 2024; Chaihanchanchai & Anantachart, 2023; Pancić et al., 2023; Rahmadhani & Widodo, 2023; Siyal et al., 2021; Zhou et al., 2021). Based on available empirical evidence and logical reasoning, we offer the following hypothesis.

H6. *GPCP awareness is positively and significantly associated with GPCP purchase intention.*

3.7. Environmental Consciousness and GPCP Purchase Intention

Environmental consciousness is a multidimensional construct comprising three components—cognitive, attitudinal, and behavioral (Schlegelmilch et al., 1996). These three dimensions collectively influence individuals' ability to reshape their habits to minimize the detrimental impact on the environment. As Schwepker and Cornwell (1991) pointed out long ago, "environmental concern has become a socially accepted norm" (p. 85). Individuals learn to understand the ecological issues associated with product consumption (Duong et al., 2026). Several researchers documented that individuals with greater ecological awareness tend to be highly involved in pro-environmental behaviors (Bulut et al., 2021; Demir et al., 2021; A. Kumar et al., 2021; Zheng et al., 2020). This environmental consciousness will prompt consumers to think and search for products that do not harm the environment or their health. When consumers have sufficient understanding of green products, they are more inclined to differentiate between environmentally friendly and conventional products (Ali et al., 2023). Hence, we offer the following hypothesis.

H7. *Environmental consciousness is positively and significantly associated with GPCP purchase intention.*

4. Materials and Methods

4.1. Sample

The objective of this study is to unravel the green purchase behavior of Generation Z individuals. Since there is no fixed list for this generation, we used non-probability-based convenience sampling to collect data. We used a Google Form to contact students pursuing higher education in India. We collected data during October 2025 and December 2025 (three months). We prepared a carefully crafted survey instrument and uploaded it to Google Forms. We sent 500 surveys to students aged 18–25, as they represent the Gen Z population. Of the 500 respondents, 455 (a response rate of 90%) provided complete data, and data from 45 individuals were discarded due to incompleteness or missing information. The sample meets the minimum sample size requirements of 384 when the population exceeds 100,000 (Krejcie & Morgan, 1970). We assessed non-response bias by comparing the first 50 respondents with the last 50 and found no statistical differences between the two groups on the dependent variable (Armstrong & Overton, 1977).

4.2. Demographic Profile

Out of 455 respondents, 202 (44.4%) were males, and 252 (55.4%) were females. About 242 (53.2%) are in the age group of 18–21, and 213 (46.8%) are under 22–25 years old. Regarding educational qualification, 370 (81.3%) have an undergraduate bachelor's degree, 84 (18.5%) have a post-graduate or master's degree, and one person (0.2%) has a doctoral degree. Regarding annual income, 323(71%) are in the income group of less than Rs. 360,000 ($4000), 71(15.6%) are in the income group of Rs. 360,000 to Rs. 720,000 ($4000–$8000), 33 (7.3%) are in the income group of Rs. 720,000–1,080,000 ($8000–$12,000), and 28 (6.1%) are in the income group of over Rs, 1,080,000 ($12,000).

4.3. Measures

The research study's questionnaire has been split into two parts. The first part consists of demographic questions, and the second part consists of questions related to the study's variables: health consciousness, environmental consciousness, subjective norms, PBC, attitude towards GPCPs, awareness of GPCPs, social media influence, and GPCP purchase intention. The constructs were adapted from previously established measures. We used a Likert-type five-point scale ('1' = strongly disagree; '5'= strongly agree) in the survey instrument. The constructs and the sources of these constructs are presented in Table 1.

Table 1. Measurement properties—Confirmatory Factor Analysis (CFA). Source: The authors.

Constructs and the Sources of Constructs	VIF Values	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance-Extracted Estimate
Health consciousness (Iqbal et al., 2021; Michaelidou & Hassan, 2008)			0.783	0.851	0.534
I am very sensitive to my health concern.	1.413	0.699			
I am attentive to any shifts in my health condition.	1.493	0.743			
I am mindful of my health.	1.515	0.738			
I am conscious of my health throughout the day.	1.538	0.793			
I am accountable for the condition of my well-being.	1.374	0.675			

Table 1. *Cont.*

Constructs and the Sources of Constructs	VIF Values	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance-Extracted Estimate
Environmental consciousness (Dunlap & Van Liere, 1978; Roberts, 1996)			0.765	0.836	0.456
Human intervention in natural processes frequently leads to catastrophic outcomes.	1.301	0.654			
To survive, humans must coexist peacefully with the natural world.	1.442	0.697			
Humanity is greatly mistreating the environment.	1.374	0.673			
Humans were not intended to govern over the other beings in nature.	1.267	0.620			
The earth is nearing its capacity in terms of the number of people it can sustain.	1.340	0.731			
The environment is being significantly harmed by human activities.	1.523	0.669			
Green personal care product awareness (Jinying, 2019; R. Sharma, 2017; Lili et al., 2022)			0.806	0.861	0.509
I can identify the GPCP amidst other competing products.	1.290	0.623			
I am familiar with eco-friendly natural personal care products.	1.526	0.716			
I am aware of the eco-friendly natural personal care products company.	1.579	0.715			
I have knowledge of the green personal care products.	1.598	0.745			
I am familiar with the organic personal care products.	1.616	0.735			
The organic personal care products come to mind whenever I consider the product category.	1.571	0.738			
Social media influence (Pop et al., 2020; Teixeira et al., 2023)			0.732	0.822	0.482
I utilize social media platforms to find details regarding natural personal products.	1.334	0.689			
Information regarding organic personal care on social media is reliable.	1.397	0.700			
Information regarding GPCP on social networking sites is trustworthy.	1.350	0.716			
The perspective of social media influencers greatly influences my decision to buy GPCP.	1.325	0.654			

Table 1. *Cont.*

Constructs and the Sources of Constructs	VIF Values	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance-Extracted Estimate
When seeking information on GPCP, I rely on the insights shared by influencers across various social media platforms.	1.359	0.711			
Attitude (Chryssochoidis, 2000; Kim & Seock, 2009; Shimul et al., 2022; Soler et al., 2002)			0.821	0.870	0.528
I am convinced that GPCP are more advantageous for my health.	1.495	0.719			
GPCP prove to be more effective in their performance than conventional personal care products.	1.712	0.753			
I believe that there are substantial differences in quality between green personal care and traditional personal care products.	1.605	0.729			
I would choose the organic personal care product over the conventional one, even if they are priced the same.	1.500	0.702			
My top priority is always to use GPCP.	1.469	0.700			
I take great pride in purchasing environmentally friendly personal care products.	1.664	0.753			
Subjective norms (Ajzen, 1985; Han et al., 2010; Promotosh & Sajedul, 2011)			0.758		0.453
I opt for buying environmentally friendly personal care items whenever they are suggested by my family members.	1.436	0.710			
I like to buy eco-friendly personal care products when they are suggested by my friends.	1.381	0.681			
My parents taught me how to differentiate between GPCP and traditional personal care products.	1.290	0.643			
I acquired the ability to differentiate between GPCP and traditional personal care products thanks to my friends.	1.386	0.668			
The purchasing of GPCP can be influenced by social media.	1.448	0.669			
The individuals who hold significance in my life would back my decision to purchase environmentally friendly personal care products.	1.408	0.665			

Table 1. *Cont.*

Constructs and the Sources of Constructs	VIF Values	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance-Extracted Estimate
Perceived behavioral control (Al Mamun et al., 2018; Ghazali et al., 2017)			0.814	0.866	0.518
I have the financial means to purchase eco-friendly personal care items.	1.428	0.683			
It would be completely up to me to adopt environmentally friendly practices.	1.545	0.712			
I am interested in purchasing environmentally friendly personal care items.	1.509	0.717			
I can locate the vendors of environmentally friendly personal care items in close proximity to me.	1.612	0.733			
I can dedicate time to finding personal care products that are environmentally friendly.	1.602	0.744			
I am certain that I can easily purchase green personal care if that is what I desire.	1.576	0.727			
Purchase intention of green personal care product (Hoang et al., 2024; D. T. Nguyen & Truong, 2021)			0.808	0.862	0.511
If I will purchase personal care products, I always opt for those that are free from chemical ingredients.	1.505	0.721			
I strive to buy personal care products that are chemical-free, even if they come at a higher price.	1.406	0.701			
I consistently buy environmentally friendly products that can be easily disposed of after use.	1.527	0.721			
I always make sure to avoid purchasing personal care products that contain chemical ingredients.	1.637	0.746			
If faced with the decision between two identical personal care products, I opt for the one that is more environmentally and socially responsible.	1.390	0.658			
I have changed my personal care products due to environmental concerns.	1.559	0.739			

5. Results

5.1. Checking the Measurement Model—Confirmatory Factor Analysis (CFA)

As suggested by Anderson and Gerbing (1988), we followed a two-step process: first, we checked the measurement model before testing the structural model. Using partial

least squares structural equation modeling (PLS-SEM), we conducted CFA, and present the results in Table 1.

As shown in Table 1, most factor loadings exceeded the recommended threshold of 0.70, though some were between 0.60 and 0.70, which are acceptable (Hair et al., 2019; Radomir et al., 2023). The reliability coefficients for the constructs were well over 0.70, ranging from 0.732 to 0.821, thus vouching for internal consistency. The composite reliability (CR) values ranged between 0.822 and 0.870, were above the recommended threshold of 0.70 and did not exceed 0.90 (Hair et al., 2019). Convergent validity was tested using average variance extracted (AVE) values, which were well above 0.50 for five constructs and ranged between 0.45 and 0.50 for three constructs. Since we used established measures from the literature, we retained the indicators that loaded between 0.60 and 0.70, which is reflected in reduced AVE values. Given the nature of established measures, a little deviation from AVE values is acceptable (Hair et al., 2019).

We assessed discriminant validity of the constructs using the Fornell–Larcker criterion and found that the square roots of the AVEs for each construct were greater than the correlations with other constructs. As shown in Table 2, the diagonal values (square roots of the AVEs) are greater than the correlations between the constructs. For example, the correlation between attitude and environmental consciousness is 0.411, and the square roots of the AVEs are 0.726 and 0.675, respectively. Further, all HTMT ratios were below 0.85, indicating that constructs are empirically distinct (Henseler et al., 2015). Table 2 also shows the skewness and kurtosis values, indicating that the distribution was normal.

We assessed the collinearity by checking the variance inflation factor (VIF) values and found these were less than 5 (see Table 1), indicating that multicollinearity is not a problem with this study (Hair et al., 2019).

5.2. Common Method Bias (CMB)

When data is collected on both dependent and independent variables in survey-based studies, one inherent problem is CMB (Podsakoff et al., 2024). To deal with this problem, we have taken procedural (ex ante) and statistical (ex post) remedies. The procedural remedies involved distributing the survey instruments, and, as statistical measures, we applied Harman's single-factor test (which indicated that a single factor accounted for less than 35% of the variance in the dependent variable). As Harman's method was not acceptable to contemporary researchers (Howard et al., 2024), we used the latent variable (LV) method. Following the LV method, we subjected all indicators to a single construct and rotated the process across all constructs, observing that the inner VIF values were less than 3.3, indicating that the data is not infected by CMB (Kock, 2015).

5.3. Hypotheses Testing—Path Analysis

To test the structural model, we used partial least squares structural equation modeling (PLS-SEM) with Smart PLS software (4.1.1.7). Based on 5000 bootstrap samples, the path coefficients are presented in Table 3.

Before conducting the path analysis, we also checked whether any of the demographic variables (age, gender, income, and educational qualifications) affected the dependent variables. We found that the demographic variables did not affect attitude, health consciousness, or green personal product purchase intention; therefore, we did not include them as control variables in the analysis. The path diagram is presented in Figure 2, and the path coefficients with t-values are presented in Figure 3.

Table 2. Correlations, reliability, and validity [Fornell–Larker criterion of discriminant validity]. Source: The authors.

Constructs	Mean	S.D	Skewness	Kurtosis	1	2	3	4	5	6	7	8
1. Attitude	3.549	0.672	−0.700	1.481	0.726							
2.Environmenal Consciousness	3.797	0.694	−0.713	1.683	0.411	0.675						
3.Green personal care product awareness	3.384	0.651	−0.381	0.520	0.507	0.302	0.713					
4. Green personal care product purchase intention	3.526	0.637	−0.417	0.724	0.706	0.383	0.496	0.715				
5. Health Consciousness	3.532	0.754	−0.714	1.572	0.438	0.483	0.389	0.388	0.731			
6. Perceived behavioral control	3.447	0.817	−0.685	1.296	0.712	0.312	0.560	0.633	0.358	0.726		
7. Social media influence	3.373	0.713	−0.352	0.590	0.456	0.297	0.542	0.418	0.370	0.455	0.694	
8. Subjective norms	3.458	0.604	−0.533	1.122	0.607	0.295	0.656	0.609	0.379	0.616	0.512	0.673

Table 3. Path analysis. Source: The authors.

Hypotheses	Relationship	Beta Value	Mean	Standard Deviation	t-Value	*p* Value	Result
H1	Subjective norms → Attitude	0.176	0.176	0.063	2.778	0.005	Supported
H2	PBC →Attitude towards GPCPs	0.532	0.532	0.062	8.632	0.000	Supported
H3	Social media influence →Attitude towards GPCPs	0.132	0.134	0.047	2.817	0.005	Supported
H4	Attitude towards GPCPs →GPCP awareness	0.417	0.417	0.060	6.920	0.000	Supported
H5	Health consciousness → GPCP awareness	0.207	0.212	0.053	3.928	0.000	Supported
H6	GPCP awareness → GPCP purchase intention	0.418	0.419	0.049	8.542	0.000	Supported
H7	Environmental consciousness → GPCP purchase intention	0.268	0.273	0.047	5.712	0.000	Supported

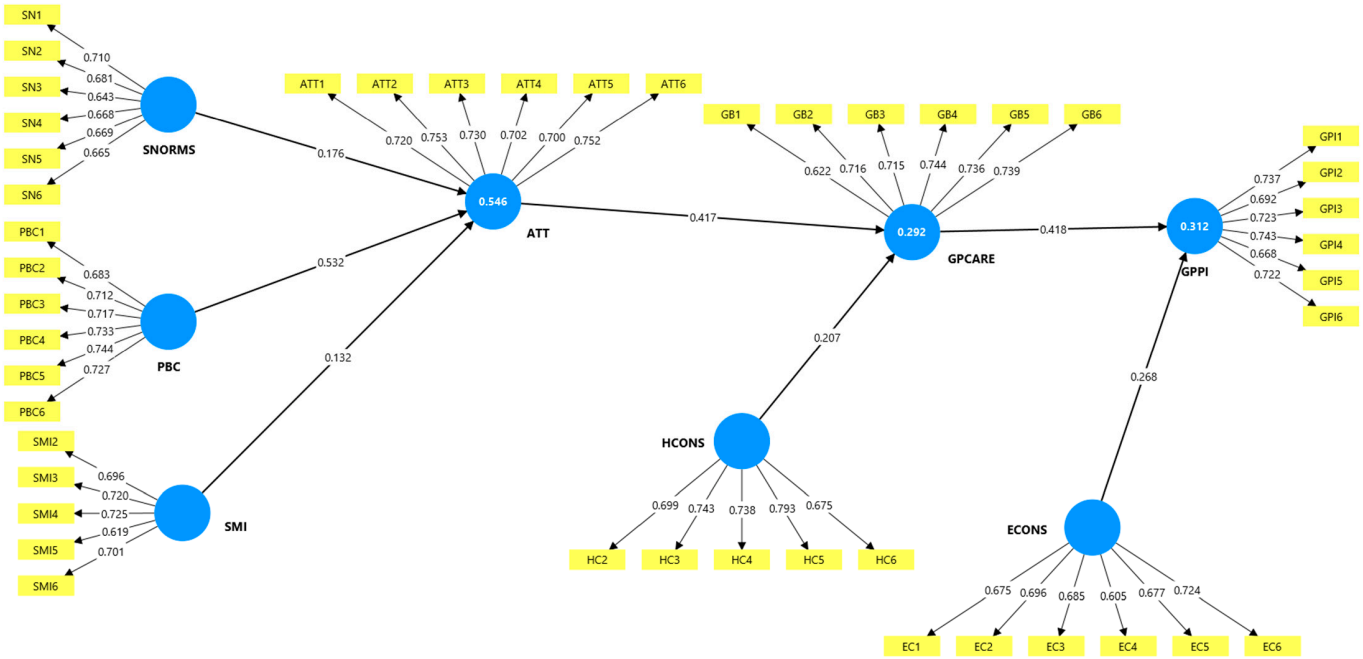

Figure 2. Path diagram (path coefficients). Source: The authors.

Path analysis reveals that the path coefficients of subjective norms on attitude towards GPCPs (H1: β = 0.176, $p < 0.01$), PBC on attitude towards GPCPs (H2: β = 0.532; $p < 0.001$), and social media influence on attitude towards GPCPs (H3: β = 0.132; $p < 0.01$) were positive and significant, thus providing strong support for H1, H2, and H3.

The path coefficient of attitude towards GPCPs on awareness of GPCPs was positive and significant (H4: β = 0.417; $p < 0.001$), thus supporting H4. Further, the effect of health consciousness on GPCP awareness (H5: β = 0.207; $p < 0.001$) was positive and significant, thus supporting H5.

The path analysis supported the positive influence of GPCP awareness on GPCP purchase intention (H6: β = 0.418; $p < 0.001$). The results also revealed a positive effect of environmental consciousness on GPCP purchase intention (H7: β = 0.268; $p < 0.001$).

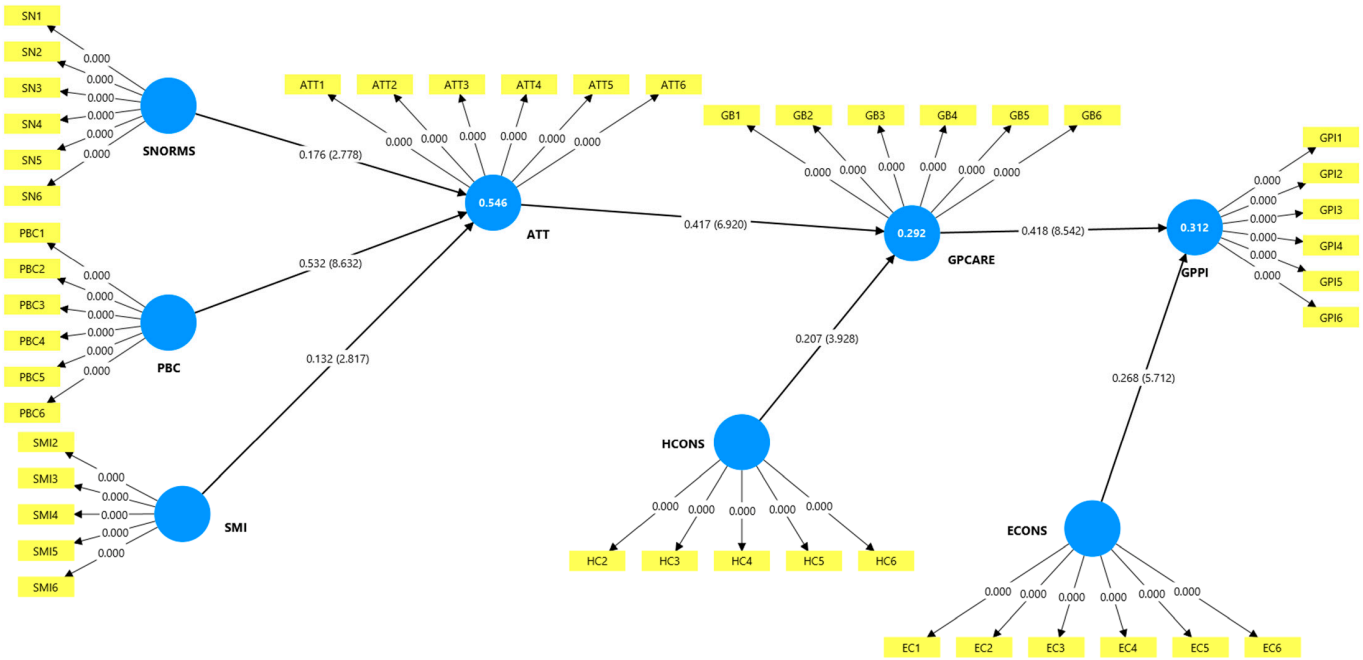

Figure 3. Path coefficients with t-values. Source: The authors.

Overall, the results supported all hypotheses mentioned in the conceptual model (Figure 1).

5.4. Model Predictive Accuracy and Effect Sizes

We assessed the model's explanatory power by examining R2 values. We also examined predictive relevance using Q^2 values and effect sizes using f^2 values. As can be seen from Table 4, attitude (R^2 = 0.546), awareness (R^2 = 0.292), and purchase intention (R^2 = 0.312) have 'large' explanatory power (R^2 > 0.25 = large explanatory power) (J. Cohen, 1988). These statistics indicate the robustness of the model's explanatory power in assessing the outcomes—attitude, awareness, and purchase intention.

Table 4. R^2 and Adjusted R^2; Q^2 and effect size. Source: The Authors.

Variables	R^2	Adjusted R^2	Q^2 Predict	RMSE	MAE	Effect Size
Attitude towards GPCPs	0.546	0.543	0.530	0.691	0.504	Large
GPCP awareness	0.292	0.289	0.366	0.802	0.613	Large
GPCP purchase intention	0.312	0.309	0.288	0.851	0.678	Large

We can assess predictive accuracy by examining Q2 values. We found that the Q2 values are 0.530, 0.366, and 0.309, respectively, for attitude, awareness, and purchase intention, and these results reinforce the predictability of the model.

Effect sizes (f^2) were also calculated to determine the relative contribution of each exogenous construct to the endogenous variables. The results (Table 5) show large effect sizes for the path from PBC to attitude (f^2 = 0.322), attitude to awareness (f^2 = 0.198), and awareness to purchase intention (f^2 = 0.233), whereas subjective norms to attitude (f^2 = 0.033), social media influence to attitude (f^2 = 0.028), health consciousness to awareness (f^2 = 0.049), and environmental consciousness to purchase intention (f^2 = 0.096) have low effect sizes. These findings underscore the importance of (i) PBC in influencing attitude, (ii) attitude to green personal care product awareness, and (iii) green personal care product awareness to green personal care product purchase intention.

Table 5. f^2 values. Source: The authors.

Relationships	f^2
Subjective norms → Attitude towards GPCPs	0.033
PBC → Attitude towards GPCPs	0.322
Social media influence → Attitude towards GPCOs	0.028
Attitude towards GPCPs → GPCP awareness	0.198
Health consciousness → GPCP awareness	0.049
GPCP awareness → GPCP purchase intention	0.233
Environmental consciousness → GPCP purchase intention	0.096

Additionally, we conducted a cross-validated predictive ability test (CVPAT) for each latent variable (LV). The summary of PLS-SEM versus indicator-average (IV) is presented in Table 6. When the PLS-SEM predictive model shows a significantly negative difference, indicating a lower average loss than the indicator average, the results indicate better prediction. The average loss difference is negative and significant for all the variables and hence there is strong support for predictive ability when we consider out-of-sample data.

Table 6. CVPAT LV summary: PLS-SEM vs. Indicator average.

	PLS Loss	IA Loss	Average Loss Difference	t-Value	*p* Value
Attitude towards GPCPs	0.597	0.828	−0.231	6.690	0.000
GPCP awareness	0.697	0.857	−0.160	7.676	0.000
GPCP purchase intention	0.685	0.802	−0.117	6.302	0.000
Overall	0.660	0.829	−0.169	8.146	0.000

Finally, we present the importance–performance map analyses for the three dependent variables—attitude, awareness, and purchase intention—in Figures 4–6, respectively. These figures clarify the relative importance of the constructs and provide useful managerial insights into the key drivers of attitude, awareness, and purchase intention of GPCPs.

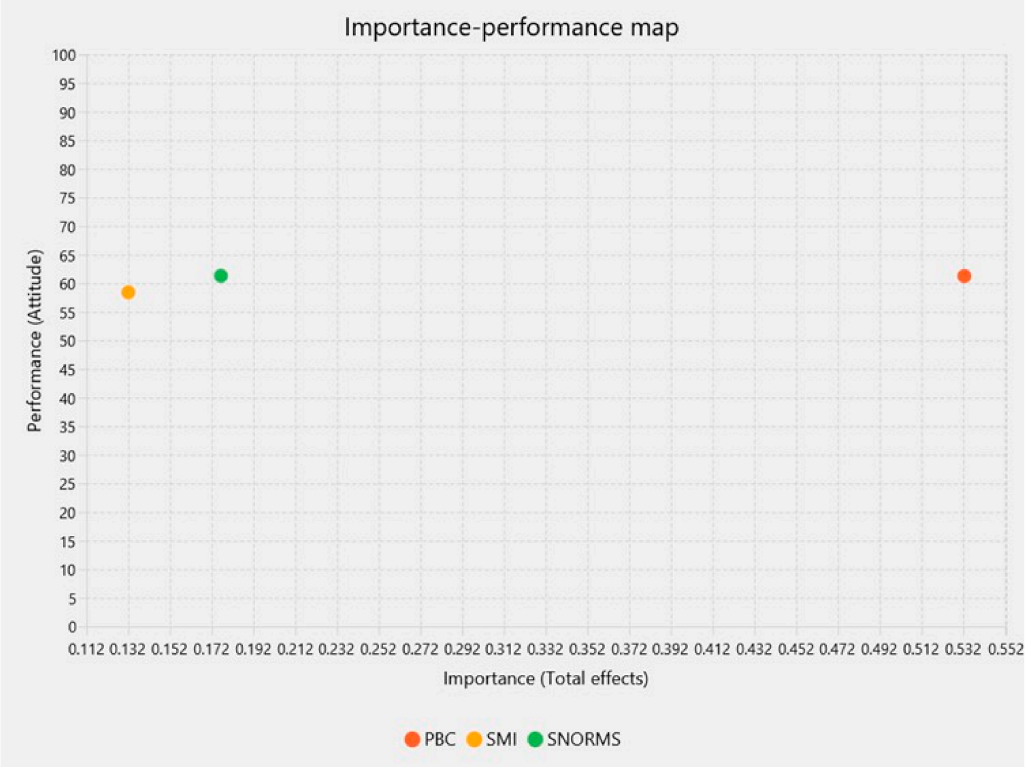

Figure 4. Importance–performance map (attitude). Source: The authors.

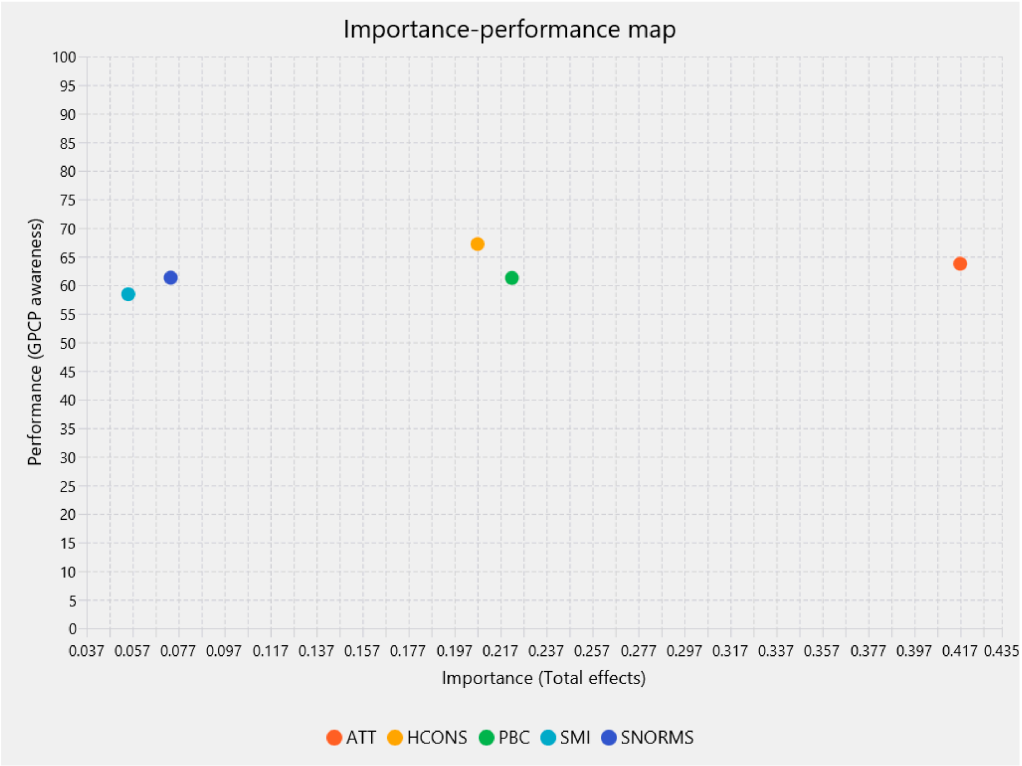

Figure 5. Importance–performance map (GPCP awareness). Source: The authors.

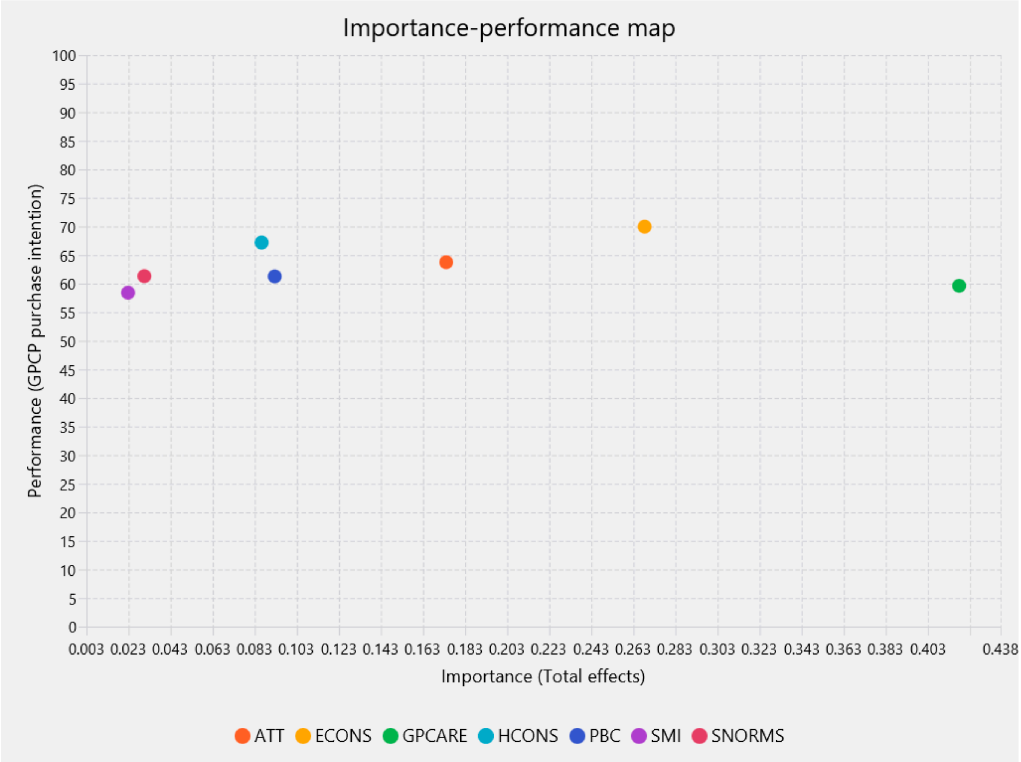

Figure 6. Importance–performance (GPCP purchase intention). Source: The authors.

6. Discussion

To investigate the relationship between individuals' attitudes and awareness of green personal products and their effects on purchase intention, a conceptual model is developed, and the hypothesized relationships are tested. The findings validated the conceptual model.

The results support a positive association between subjective norms and individuals' attitudes towards GPCPs (Hypothesis 1), aligning with other studies (Bevan-Dye & Synodinos, 2025; Mancha & Yoder, 2015; Shalender & Sharma, 2021; Shimul et al., 2022). Following TPB, subjective norms play a vital role in influencing individuals' attitudes towards GPCPs. The findings also indicate that PBC significantly and positively affects individuals' attitudes towards GPCPs (Hypothesis 2). Extant research supports this finding (Ali et al., 2023; Arifin et al., 2026; T. T. T. Nguyen et al., 2024; Khan et al., 2026; Lupindo et al., 2024; Ngo-Thi-Ngoc et al., 2024). The results of this study indicate that social media positively influenced attitudes towards GPCPs (Hypothesis 3), corroborating findings from several previous studies. In the present-day world, social media plays a vital role in influencing individuals, shaping their attitude to prefer green products (Gupta & Katarya, 2020; Muk & Chung, 2026; Ng et al., 2025; Pop et al., 2020; C. Wang et al., 2020; Yang et al., 2021; Zhao et al., 2018). As a major departure from the initial conceptualization of TPB, which posits that attitude, PBC, and subjective control influence behavioral intention, this research documented that PBC and subjective control are precursors to attitude. Additionally, social media influence motivates individuals to change their attitude towards the consumption of GPCPs.

The findings from this research supported a positive association of attitude with awareness of GPCPs (Hypothesis 4). Attitude drives individuals to seek information about eco-friendly products and their benefits, thereby enhancing their awareness (Alamsyah & Febriani, 2020; Asif et al., 2023; Tan et al., 2021; Baltaci et al., 2024; Pilelienė et al., 2022). The awareness enables them to identify organic personal care products and the companies that manufacture them.

The positive relationship between health consciousness and GPCP awareness is supported in this study (Hypothesis 5); the findings align with other studies (Li & Shan, 2025; Mai & Hoffmann, 2015; Ritter et al., 2015; J. Wang et al., 2023). As consumers become increasingly health-conscious, they are more likely to search for information about green products. The findings from this study indicate that GPCP awareness is a precursor to purchase intention of such products (Hypothesis 6). Available empirical evidence vouches for this relationship (Baltaci et al., 2024; Chaihanchanchai & Anantachart, 2023; Pancić et al., 2023; Rahmadhani & Widodo, 2023; Siyal et al., 2021; Zhou et al., 2021). Following sustainable consumption theory, this study found a positive effect of environmental consciousness on purchase intention of GPCPs (Hypothesis 7), adding to results from the existing studies (Bulut et al., 2021; Demir et al., 2021; Duong et al., 2026; A. Kumar et al., 2021; Zheng et al., 2020). In summary, the empirical model validated all the hypothesized relationships.

6.1. Theoretical Contributions

This research makes several contributions to the growing literature on green purchase behavior. First, the conceptual model extends TPB to green personal care product attitudes and behaviors. The results confirm the links between subjective norms, PBC, and attitude towards GPCPs, aligning with the fundamental propositions of TPB (Ajzen, 1991). This research advances sustainability theory by demonstrating that health consciousness drives consumers to increase their awareness of health-promoting personal care products. Further, this study underscores the importance of environmental consciousness in engaging in green personal product care purchase intention. By empirically validating the relationships between antecedents to green personal care product awareness (Arifin et al., 2026; Bevan-Dye & Synodinos, 2025; T. T. T. Nguyen et al., 2024) and consequences of both health and environmental consciousness in terms of exhibiting purchase intention (Muk & Chung, 2026; Ng et al., 2025), this research offers a more integrated application of both TPB and sustainability theory in a comprehensive model. In summary, this study combines twin theories into a single model whereas previous researchers examined the relationships among the study variables in isolation. A significant addition to TPB is that 'attitude' is a stand-alone construct which is influenced by PBC, subjective norms, and social media influence.

6.2. Practical Implications

The findings from this study have implications for stakeholders—marketers, consumers, and policy makers. First, this study explains how subjective norms and PBC influence consumers' attitudes towards GPCPs. Marketers can advertise their products by specifically explaining their health benefits (e.g., organic products) and their environmentally friendly nature. Given the importance of protecting the environment, policymakers and governments can offer tax incentives to encourage organizations to promote environmentally friendly and healthy products. As documented in this study, health-conscious consumers tend to prefer purchasing and using GPCPs; organizations are advised to invest substantial resources in green product innovation. Furthermore, as social media plays an important role in shaping consumer attitudes, marketers can communicate the benefits of green products across various platforms (e.g., Facebook). Governments are suggested to promote eco-friendly product innovation by offering incentives, such as sanctioning bank loans at lower interest rates, and by helping market green products. Additionally, because PBC is related to product accessibility and financial ability, consumers are constrained by product prices and availability. Therefore, policymakers and marketers suggest that GPCPs are available at affordable prices. In summary, the findings from this study provide

useful insights to the practicing managers, policymakers, consumers, and government in promoting sustainability and healthy consumption of products.

7. Conclusions

Based on the theoretical underpinnings of TPB and sustainable consumption, the conceptual model developed and tested in this study provides fresh insights into the antecedents and consequences of green personal care product purchase attitude and behavior. At the foundation level, this research corroborates the praxeological notion that an individual's behavior is purposefully oriented toward organic consumption, thereby contributing to personal health and a healthy environment. With rising concerns about human-induced climate change and environmental degradation, it is essential to drive a radical transformation in individual consumption patterns and protect the environment. Further, given growing health concerns, this study affirms the importance of health consciousness in shaping individuals' green purchase attitudes and behavior. Overall, this study contributes to the scholarly literature on green purchase behavior and recommends further research to identify and investigate additional variables that foster sustainable consumption and pro-environmental behavior.

Limitations and Suggestions for Future Research

This study is not without limitations. First, this cross-sectional study is based on data collected at a single point in time, which inherently limits its ability to establish causal relationships. Second, though the sample size is large enough, the sampling method (convenience and non-probability-based) may introduce some sampling bias. However, considering that studies conducted in the literature use snowball and convenience sampling, our study is not an exception. Third, as with any cross-sectional study, this research is limited by CMB and social desirability biases, despite our efforts to minimize them. Fourth, this study considered only some constructs from TPB and sustainability, and this type of research may be subject to omitted-variable bias. Fifth, since we collected data from HEIs from the southern part of India, the study has inherent limitations of generalizability across different parts of the country. It may also be an exaggeration to consider that the sample selected from one region represents the behavior of Gen Z population countrywide.

The present study offers several avenues for future research. First, future researchers may collect data in two or three waves to establish causal relationships between variables. Secondly, a larger sample size is desirable to enhance generalizability. Third, future researchers may engage in cross-country comparisons and comparisons between developed and developing countries to determine whether cultural differences influence the relationships. Fourth, future studies may include some personality variables (e.g., Big Five personality traits) that may influence individuals' attitudes, awareness, and purchase behavior towards GPCPs. Fifth, researchers may identify moderator variables (e.g., emotional intelligence, psychological capital, social currency) that may have a profound effect on individuals' consumption patterns.

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Data Availability Statement: Dataset available on request from the authors. The raw data supporting the conclusions of this article will be made available by the authors on request.

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