“Social norms moderating the attitude-intention relationship in adopting sustainable products”

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SOCIAL NORMS MODERATING THE ATTITUDE-INTENTION RELATIONSHIP IN ADOPTING SUSTAINABLE PRODUCTS

Abstract

Rapid economic growth, global consumption patterns, and prevailing human practices are primary contributors to environmental degradation. This study aims to understand the moderating role played by social norms in shaping consumer attitudes and their intention to buy sustainable personal care products. Psychosocial factors related to the environment, including environmental orientation, environmental knowledge, and perceived environmental responsibility, were taken as independent variables. The research population includes urban educated consumers in the region of Delhi, the capital of India. The survey instrument was shared among 390 participants via e-mail, Google Groups, and other social networking sites. The data from 238 respondents using the convenience sampling technique were collected, and AMOS structural equation modeling (Version 23.0) was used for analysis. The results validate the role of social norms as a moderator in the association between attitude ($\beta = 0.186$, $p < 0.05$) and intentions ($\beta = 0.215$ at $p < 0.05$) to acquire sustainable personal care products. The results also indicated a positive relationship between consumer attitude and purchase intention ($\beta = 0.301$, $p < 0.01$). The findings suggest a positive correlation between an individual's environmental orientation, knowledge and responsibility, and inclination toward sustainable personal care products. The study shows a significant positive impact of environmental orientation on attitude toward sustainable personal care products ($\beta = 0.332$, $p < 0.01$). Also, a positive association between environmental knowledge and attitude ($\beta = 0.291$, $p < 0.01$) and perceived environmental responsibility ($\beta = 0.227$, $p < 0.05$) was observed.

Keywords sustainability, personal care products, consumers' attitude, purchase intention

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INTRODUCTION

A rapid rise in the consumption of goods and services has resulted in significant adverse effects on the environment. Sustainability is crucial in addressing environmental concerns such as increasing pollution, diminishing biodiversity, global warming, and resource shortages. Prioritizing sustainability by practicing responsible environmental behavior is necessary to address these challenges. Recently, the personal care product industry has been shifting toward sustainable practices. This is primarily due to an increasing demand for organic choices. However, due to growing environmental concerns over the last decade, people's behavioral practices are becoming more environmentally sound. The changing trend and demand for skin care and cosmetics is driving corresponding change in the personal care industry. Increased consumer concern for health and well-being fosters the development of innovative and superior products across numerous sectors, including personal care.

Consumers' increasing awareness and recognition of the importance of environmental sustainability amidst the rising environmental dis-

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tress has given recognition to sustainable personal products that do not harm the environment. Indian customers increasingly switch from conventional and basic functional items to more sophisticated and specialized sustainable products. Assessing the change in preference and attitude toward sustainable products in the wake of environmentally friendly buying behaviors of consumers is essential.

Compared to developed and other developing countries where similar studies have been conducted extensively, research on environmental issues and sustainable buying behaviors is still in its infancy in India (Khare, 2015). Additionally, in the prevailing literature, only a limited number of studies have examined purchase intention in the context of personal care products in India (Premi et al., 2019).

1. LITERATURE REVIEW

A product is sustainable when, throughout its entire life cycle and manufacturing phase, it demonstrates superior environmental performance compared to conventional commodities (Durif et al., 2010). The term "green" is equivalent to sustainable, ecologically safe, and environmentally friendly (Kumar et al., 2014). Within the scope of this study, the terms "sustainable products", "eco-friendly products," and "green products" are used interchangeably. Reducing waste and optimizing resource efficiency are essential in assessing environmental sustainability (Sharma et al., 2023). The environmental and biodiversity damage caused by non-sustainable products, composed of hazardous chemical compounds, has come to consumers' attention (Dergachova et al., 2020). As a result, consumers are transitioning toward the selection of sustainable products for daily use, including cosmetics and personal care items (Randiwela & Mihirani, 2015), thus leading to pro-environmental behavior. The two most frequently utilized frameworks for understanding environmentally sustainable behaviors are the theory of reasoned action (TRA), which was proposed by Fishbein and Ajzen (1975), and the theory of planned behavior (TPB) by Ajzen (1985). TRA focuses on behavior as a function of attitude and subjective norms, while the primary objective of TPB was to predict future behavior using three key variables: attitude, subjective norms, and perceived behavioral control. This study uses tenets of TRA and TPB.

The evaluation by which individuals perceive behaviors that produce positive or negative outcomes is called "attitude" (Ajzen, 1985). An attitude is "a psychological inclination represented by appraising a particular object, person, or a phenomenon with some degree of favor or disfavor" (Eagly & Chaiken, 1997). Therefore, attitude is an individual's specific propensities to respond in a particular situation. Attitudes are a function of knowledge, value systems, and beliefs (Gifford, 2013). TRA (theory of reasoned actions) says consumers' conduct is influenced by their intentions, which are influenced by their attitudes and subjective norms (Jaiswal & Bihari, 2020). Consumer purchase intention is significantly and predominantly influenced by their attitude toward sustainable personal care products (Farias et al., 2020). Individuals who possess a favorable perspective toward the advantages of sustainable products and concerns related to the environment are more inclined to participate in pro-environmental behavior (Cheung & To, 2019). Consumers' attitudes will be positive when a product's performance fulfills an individual's interests (Nguyen et al., 2021).

A social norm comprises an individual's perception of the societal constraints that compel them to form a particular opinion, participate in particular activities, or refrain from some activities (Ajzen, 1991). When consumers become aware that a significant portion of their social circle utilizes a particular product due to its environmental benefits, they establish their standards. Social norms significantly shape individuals' intentions to participate in sustainable consumption (Yadav & Pathak, 2016). According to the ABC (attitude-behavior context) theory (Syadzwina & Astuti, 2021), contextual factors, in conjunction with psychosocial and environmental values pertaining to the environment, influence consumers' purchase behavior and attitude toward sustainable products, specifically personal care products. These intentions can be considered surrogates for their actual behaviors (Sun, 2020; Vermeir & Verbeke, 2006). The findings of Harjadi and Gunard (2022)

regarding Indonesian consumers' intentions to purchase sustainable products indicate that social norms moderate the relationship between customer attitude and intention to purchase products. It is crucial to examine how social norms moderate the relationship between intentions and attitudes concerning sustainable personal care products, with a particular focus on the Indian context. This is particularly critical due to the strong and intricate influence of social norms within the Indian environment (Varshneya et al., 2017).

The role of ecological values, concern for ecology, and consumers' responsibility toward nature affect consumer attitudes toward sustainable products (Chen et al., 2021). The concept of environmental orientation pertains to an individual's commitment to preserving and safeguarding the environment. It is a broad mindset that assists customers in evaluating their environmental commitment (Coşkun et al., 2017). Environmental orientation is the complicated characteristics comparable to general environmental attitude and concern (Maichum et al., 2016). Individuals with a stronger environmental orientation are more likely to have a heightened sense of responsibility toward the environment, as viewed from the standpoint of an individual consumer. Individuals who exhibit more significant concern for the environment, as shown by their environmental orientation, are more likely to hold a positive attitude toward sustainable products and express a higher intention to acquire them (Sadiq et al., 2021).

Environmental knowledge refers to the comprehension of information, key variables that influence the environment, and an individual's responsibility toward the environment (Taufique et al., 2017). There are two categories of knowledge: objective and subjective. Objective knowledge explains the "what" component, explaining the level of customer understanding about a particular environmental issue. Meanwhile, subjective knowledge refers to how well a customer feels they understand a topic in terms of its content and problem-solving ability. In this study, knowledge about sustainable personal care products is objective, whereas perceived benefits, problems, and other factors related to their usage are subjective. Thus, capturing consumer environmental knowledge is crucial in understanding their preference and likeability (Sadiq et al., 2021). Prevailing literature in environmentally conscious marketing argues that pre-existing knowledge significantly influences the consumer's choice to purchase a sustainable product (Sahioun et al., 2023). If consumers exhibit a greater understanding of sustainable products, they will firmly believe in the advantages of buying sustainable products for the consumers and the environment (Mishra et al., 2017).

Environmental responsibility pertains to an individual's inclination to proactively address ecological issues by either remedying existing problems or proactively preventing their occurrence (Stone et al., 1995). Perceived environmental responsibility (PER) refers to the extent to which an individual assumes responsibility for environmental harm and focuses only on their efforts to mitigate it. Environmental responsibility is widely recognized as the primary and consequential psychosocial determinant influencing individuals' engagement in pro-environmental actions (Kumar & Ghodeswar, 2015). The theory of norm activation (NAT) by Schwartz (1997) suggests that attributing environmental responsibility gives insight into the formation and motivation of pro-environmental behavior. In addition, Zheng et al. (2021) discovered a significant positive relationship between people with a high degree of environmental responsibility and their positive attitude toward buying sustainable products.

Despite the extensive research in this area, the existing literature lacks on the impact of social norms on individuals' attitudes and intentions to purchase sustainable products. This is an issue that is often overlooked in the field of marketing research. Previous research has either considered only the direct impact created by social norms on purchase intentions, i.e., as an antecedent (Cialdini & Jacobson, 2021; Kim & Chung, 2011) or not considered it as an essential factor influencing attitude and purchase intention relationship (Sadiq et al., 2021). Therefore, based on the literature review, this study aims to address this gap. Prior studies have primarily focused on the direct effects of social norms on purchase intention; however, the probable moderating effects of social norms on the link between consumer attitude and purchase intention regarding sustainable personal care products are rarely addressed (Chuah et al., 2022).

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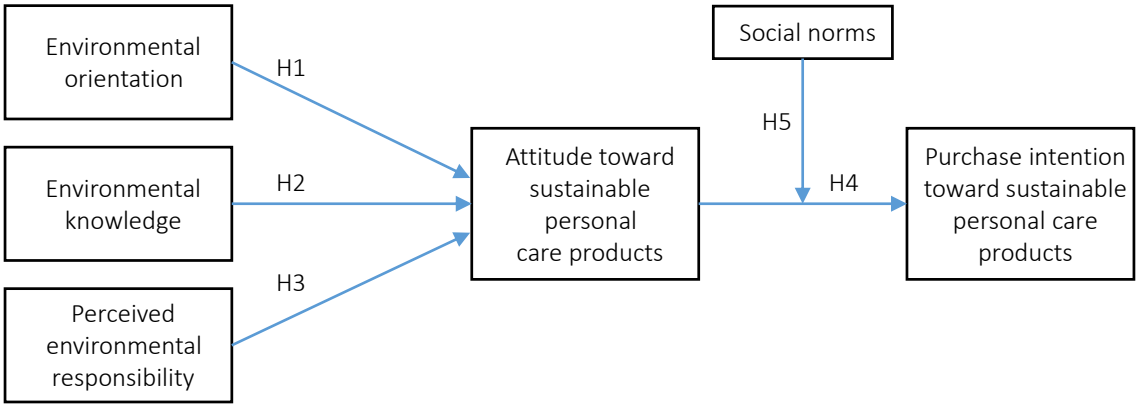

Figure 1. Conceptual model

This study aims to investigate the moderating influence of social norms on the relationship between consumer attitudes toward sustainable personal care products and their purchase intentions. The conceptual model is shown in Figure 1. The following are the proposed hypotheses:

H1: Environmental orientation significantly influences consumer attitude toward sustainable personal care products.

H2: Perceived environmental responsibility significantly influences consumer attitudes toward sustainable personal care products.

H3: Environmental knowledge significantly influences consumer attitudes toward sustainable personal care products.

H4: Attitude toward sustainable personal care products positively influences purchase intention.

H5: Social norms moderate the relationship between attitude toward sustainable personal care products and their purchase intention.

2. METHODOLOGY

A self-administered questionnaire was used to assess the independent and dependent variables of the study. The questionnaire items were anchored on a 5-point Likert scale from "strongly disagree" to "strongly agree." The first was a screening question asking "Whether you engage in a personal care regime?" for collecting data from only those consumers who follow a rigorous personal care routine. Further, a pilot study was undertaken with data collected from 35 respondents to assess the initial reliability of the scales used in the study. Adjustments were made based on the pilot testing, refining the questionnaire before its distribution to the target audience.

The target population for the survey was urban-educated consumers. The choice of sample was to include adults above 18 years of age from Delhi and NCR who have enrolled in or completed higher education. This sample was deemed relevant for several reasons. Firstly, the study aimed to focus on individuals with a certain level of education, assuming that adults with higher education would better understand environmental issues and be more inclined to embrace pro-environmental behavior (Yadav & Pathak, 2017). The choice of an educated sample aligns with the assertion that their buying behaviors and habits could significantly influence the future of the sustainable personal care sector.

Further, adults with lower educational qualifications are complacent in their attitude toward the environment and do not well comprehend environmental issues than those with a greater level of knowledge (Hedlund, 2011). The survey instrument was shared among 390 participants via e-mail, Google Groups, and other social networking media like Instagram and WhatsApp. This sample size was sufficient following Krejcie and Morgan's (1970) approach. The study employed a convenience sample strategy to gather data. Out of 390, 238 questionnaires were received back duly filled and completed in all respects (response rate is 61.02%).

The descriptive statistics provided in Table 1 offer valuable insights into the characteristics of the study's sample. Regarding gender distribution, the sample appears relatively balanced, with 53.36% of respondents identifying as male and 46.63% as female. The study demonstrates a predominant presence of younger participants, with 51.26% falling within the 18-30 age group. A substantial portion, comprising 42.85%, falls within 30-50 years of age, while a smaller percentage, at 5.88%, represents respondents aged above 50 years. Marital status among the sample respondents is evenly distributed, with 49.15% identifying as married and 49.57% as unmarried. A smaller subset, consisting of 5.46% of participants, report being divorced or widowed. Finally, regarding educational attainment, most respondents hold bachelor's degrees, accounting for 52.94% of the sample. Master's degree holders comprised 43.69% of the participants, while those with doctoral degrees constituted 3.36%.

Table 1. Descriptive statistics of the sample

Characteristic		Frequency (N)	Percentage
Gender	Male	127	53.36
	Female	111	46.63
Age	18-30 years	122	51.26
	30-50 years	102	42.85
	above 50 years	14	5.88
Marital Status	Married	117	49.15
	Unmarried	118	49.57
	Divorced/widowed	13	5.46
Education	Bachelor's Degree	126	52.94
	Master's Degree	104	43.69
	Doctoral Degree	8	3.36

Table 2 displays the descriptive data for the variables, giving the mean and standard deviations of each construct. The respondents exhibited high levels of environmental knowledge, environmental orientation, and perceived environmental responsibility. Additionally, their attitude toward purchasing sustainable personal care items was much higher than the average construct values, indicating a strong inclination towards pro-environmental behavior.

The factors included in the analysis are based on validated and established scales. All measures were taken from previously validated studies with slight revisions in terms of the language and number of items to suit the needs of this study. The environmental orientation scale included eight items based on the NEP (new ecological paradigm) scale developed by Dunlap et al. (2000). The construct of environmental knowledge was measured using five items adapted from Biswas and Roy (2015) and Yadav and Pathak (2016). Perceived environmental responsibility was taken from Lee (2009), constituting seven items. A three-item scale was used to measure social norms (Chen & Peng, 2012; Dean et al., 2012). Attitude toward sustainable personal care products was calculated using five items adapted from Paul et al. (2016) and Mostafa (2007). A three-item scale, developed by Lavuri (2022), was used to examine respondents' intentions about buying sustainable personal care products. The pilot study results led to removing one item from the perceived environmental responsibility scale and one from the environmental orientation scale, leaving 29 items in the questionnaire (Table A1, Appendix A).

3. RESULTS

In the field of social sciences, SEM has become an imperative tool. In this study, a regression analysis was conducted using AMOS software (Version 23.0) to investigate the correlation between environmental orientation, environmental knowledge, environmental responsibility, and attitude toward sustainable personal care products. Measurement model analysis was conducted. Measurement model analysis aims to assess the fit of the data with the model hypothesized. It is a process to ex-

Table 2. Descriptive data of the constructs

N	Measures	N	Mean	Standard Deviation
1	Environmental orientation	7	4.041	0.641
2	Environmental knowledge	5	3.807	0.747
3	Perceived environmental responsibility	6	3.245	0.815
4	Social norms	3	4.173	0.639
5	Attitude toward sustainable personal care products	5	3.962	0.847
6	Purchase intention	3	3.946	0.806

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amine the ability of the model to replicate the data. Therefore, a confirmatory factor analysis is conducted, and suitable goodness of fit indices are used. The following fit indices were computed: CMIN/DF = 3.806 (recommended CMIN/DF < 5), GFI = 0.934 (value > 0.90 acceptable), CFI = 0.948 (value > 0.90 acceptable), TLI = 0.938 (value > 0.95 is recommended but > 0.9 is also acceptable), RMSEA = 0.075 (value < 0.08 acceptable) (Shi et al., 2020). The fit indices met their minimum thresholds, as Hu and Bentler (1998) recommended. The factor loading of an item signifies its ability to represent the underlying factor accurately. Following the established minimum criterion, each item's factor loading on its respective variable must attain values equal to or greater than 0.7. In the case of all constructs examined in the study, the factor loadings exceeded the predefined threshold in Table 3.

Table 3. Standardized loadings of items on each of the constructs

Constructs	Standardized regression weights
Environmental orientation	
EO1	0.772
EO2	0.801
EO3	0.851
EO4	0.773
EO5	0.782
EO6	0.820
EO7	0.834
Environmental knowledge	
EK1	0.738
EK2	0.804
EK3	0.748
EK4	0.858
EK5	0.752
Perceived environmental responsibility	
PER1	0.736
PER2	0.714
PER3	0.748
PER4	0.749
PER5	0.783
PER6	0.818
Social norms	
SN1	0.819
SN2	0.722
SN3	0.773
Attitude toward buying sustainable products	
ATT1	0.777
ATT2	0.780
ATT3	0.846
ATT4	0.805
ATT5	0.715
Intention to purchase	
INT1	0.701
INT2	0.765
INT3	0.746

To ensure the model's reliability, Composite Reliability (CR) and Cronbach's Alpha (CA) were calculated in Table 4. A minimum threshold of 0.7 or above is deemed acceptable for Cronbach's Alpha. Measurement model analysis also encompassed estimating construct reliability, discriminant, and convergent validity. To determine the reliability of each construct, Cronbach's α values were computed. Table 4 shows that each of the alpha coefficients for each construct exceeded the minimum value of 0.7 (Thorndike, 1995). To assess construct reliability, Hair et al. (2011) recommend using composite reliability (CR) measures, which ensure that items correspond to the latent construct. Thus, all the standardized factor weights presented in Table 3 ranged between 0.701 and 0.858 and were significant in evidencing composite reliability. Further, convergent validity was investigated at this stage as a function of CR and AVEs (Table 4).

The value of CR for every latent construct should surpass 0.7, and the average variance explained for each construct must be above 0.5 (Bagozzi & Edwards, 1998). Based on the results presented in Table 4, the constructs fulfill the requirements for composite reliability and convergent validity. The methodology developed by Fornell and Larcker (1981) was utilized to determine the discriminant validity of the constructs. According to this criterion, discriminant validity is present when the square root of the average variance extracted (AVE) for each construct is larger than the highest correlation with every other construct. In other words, discriminant validity is present when the AVE is bigger than the highest correlation. Based on the correlations that were found between the different constructs in Table 4 and the square root of the AVEs, it is possible to conclude that discriminant validity was present among the different constructs and that the hypothesized model may be deemed suitable for structural analysis among the different constructs.

The findings of the investigation are shown in Table 5. It was hypothesized in H1 that environ-

Table 4. Measurement model with validity and reliability

Constructs	Composite reliability (CR)	Average Variance Extracted (AVE)	Cronbach's Alpha
Environmental orientation	0.837	0.542	0.857
Environmental knowledge	0.826	0.733	0.884
Perceived environmental responsibility	0.796	0.517	0.811
Social norms	0.805	0.628	0.829
Attitude toward sustainable personal care products	0.792	0.664	0.761
Intention toward sustainable personal care products	0.880	0.660	0.820

mental orientation would favorably influence attitudes toward sustainable personal care products. This hypothesis was supported by the data (β = 0.332, $p < 0.01$). In addition, the results supported H2, which stated that environmental awareness positively predicted attitudes toward sustainable personal care products (β = 0.291, $p < 0.01$). Furthermore, a person's insight into their level of environmental responsibility had a favorable influence on their attitude toward environmentally responsible personal care items, which is consistent with H3 (β = 0.227, $p < 0.05$). The findings imply that strengthening customers' environmental knowledge, orientation, and responsibility would result in a favorable attitude toward sustainable personal care goods. Also, the effects of consumer attitude toward sustainable personal care products were explored, and a positive relationship exists between customer attitude and their intention to make a purchase (β = 0.301). This effect was statistically significant, with $p < 0.01$, supporting H4.

The model incorporates social norms as a moderator between the association of customer attitude and their purchase intention of environmentally friendly personal care items. Before multiplying the moderator variable by the predictor variables, the study calculated the mean-centered values for all three constructs. This was done to examine the moderating effects of social norms on attitudes toward sustainable personal care products and purchase intentions. Then, the interaction term was computed, which was a product of attitude toward sustainable personal care products and social norms was taken into consideration. Ping (1995) verified this technique as a legitimate strategy for analyzing latent interaction models. The findings revealed that social norms significantly positively affected purchase intentions (β = 0.215 at $p < 0.05$). Also, a positive interactive effect was observed for the interaction between attitude toward sustainable personal care products and social norms, indicating that social norms strengthen the positive effects of favorable attitude toward sustainable personal care products and the intention to purchase them (β = 0.186, $p < 0.05$) thus rendering support to H5.

4. DISCUSSION

This study examined the moderating effects of social norms on the relationship between attitude and intention to purchase a product. Thus, in this regard, this study has chosen to explore the role of social norms in influencing consumer intent to purchase sustainable personal care products. In the prevailing literature, limited studies have considered the role of social norms in governing pur-

Table 5. Path coefficients for the direct effects between constructs

Hypothesis	Hypothesized Path	Standardized Path coefficient	Standard Error	T-Value	Results
H1	Environment orientation → Attitude toward sustainable personal care products	0.332	0.041**	8.254	Supported
H2	Environment knowledge → Attitude toward sustainable personal care products	0.291	0.039**	5.112	Supported
H3	Perceived environmental responsibility → Attitude towards sustainable personal care products	0.227	0.026*	4.274	Supported
H4	Attitude toward sustainable personal care products → Intention to purchase sustainable personal care products	0.301	0.033**	5.027	Supported

Note: * means p value is less than 0.05; ** means p value is less than 0.01.

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chase intentions among consumers (Chuah et al., 2022; Suki & Suki, 2019; Mansoor et al., 2022). The results have found that social norms can strengthen the positive relationship between a favorable attitude toward sustainable personal care products and purchase intention regarding sustainable personal care products, supporting H5.

The empirical analysis supported the hypothesized relationship between the three psychosocial constructs related to the environment (environmental orientation, environmental knowledge, and perceived environmental responsibility) and attitude toward sustainable personal care products. The altruistic variables related to the environment and their potential to impact consumer attitudes toward sustainable personal care products in respect of developing nations like India were explored. It can be inferred from the results that the higher the orientation of an individual toward the environment, the more favorable his attitude toward sustainable personal care products, thus lending support to H1. Similar conclusions can be drawn for environmental knowledge and perceived environmental responsibility in influencing attitudes toward sustainable personal care products, supporting H2 and H3. The results corroborate with the studies conducted in other developing nations like Malaysia (Suki & Suki, 2019), Indonesia (Harjadi & Gunard, 2022), and Thailand (Moslehpour et al., 2020).

Environmental constructs of knowledge, orientation, and responsibility affect consumers' purchase intention of sustainable products only by influencing attitudes toward them. This means these altruistic variables require a psychological trigger-like attitude to translate their effects on behavior. For instance, only being aware of environmental problems is not enough to motivate people to buy sustainable items; the process is more effective if it first shifts consumer attitude, which modifies purchase intentions. This path flow between independent variables related to the environment and purchase intention through attitude toward them has been supported in the literature (Nguyen et al., 2021; Vermeir & Verbeke, 2006; Chan, 2001). However, this result is in contrast to Coşkun et al. (2017), Sadiq et al. (2021), and Jaiswal and Bihari (2020), who have shown that a construct like environmental orientation and knowledge has a direct effect on consumer purchase intentions of sustainable products. Following the theory of planned behavior, the hypothesized model in the current study also suggests that attitude toward sustainable products shapes intention to purchase them, supporting H4.

This study is primarily centered on understanding the purchasing intentions of Indian consumers concerning sustainable personal care products, which, in turn, imposes certain geographical limitations on the study's scope. While the sample was well-representative, it is necessary to note that further investigations may be required to broaden the research's applicability. Due to the study's scale, the results may have limited generalizability. Additionally, data collection in a cross-sectional manner presents another constraint, suggesting the need for longitudinal studies to gain a more comprehensive understanding of the relationships among the psychosocial constructs related to the environment. Also, the research on sustainable purchasing behaviors related to personal hygiene is still in its early stages in India, where discussions about personal hygiene are often considered highly individualistic and are less openly discussed. Given the increasing demand for these products, the potential environmental impact of consumer choices in this domain is significant (Kaur et al., 2022). Thus, researchers need to shift their focus toward investigating the various psychological, cognitive, and social factors that may influence consumers' attitudes and intentions when purchasing these products in the Indian context.

CONCLUSION

This study aimed to explore the moderating role of social norms in the relationship between attitudes and intentions, specifically in adopting sustainable personal care products. The findings highlighted the pivotal role of social norms in reinforcing the positive connection between favorable attitudes toward sustainable products and actual purchase intentions. This underscores the critical influence of societal expectations on consumers' decision-making processes.

The impact of perceived environmental responsibility, environmental orientation, and environmental knowledge on consumer attitudes toward sustainable personal care products was also explored. Notably, young consumers' environmental orientation emerged as a critical determinant of their inclination to make environmentally conscious purchases. Individuals with a high orientation toward the environment exhibited a more favorable attitude toward sustainable products than those with a non-preferential attitude. While emphasizing the significance of environmental knowledge in shaping consumer attitudes, campaigns and advertisements portraying the environmental consequences of reckless buying behavior can enhance this knowledge. Additionally, a sense of environmental responsibility among consumers is a crucial factor influencing attitudes toward buying sustainable products.

The implications of these findings extend to the development of effective marketing strategies for promoting sustainable personal care products, particularly in developing nations like India. By understanding the interplay of social norms, individual preferences, and environmental awareness, marketers can adapt their approaches to suit the needs of diverse consumer segments and contribute to the broader adoption of sustainable practices in the personal care industry.

AUTHOR CONTRIBUTIONS

Conceptualization: Aastha Anand, Meghna Sharma.
Data curation: Aastha Anand.
Formal analysis: Aastha Anand.
Investigation: Aastha Anand, Meghna Sharma.
Methodology: Aastha Anand, Meghna Sharma.
Project administration: Aastha Anand, Meghna Sharma.
Resources: Aastha Anand.
Software: Aastha Anand.
Supervision: Meghna Sharma.
Validation: Aastha Anand, Meghna Sharma.
Visualization: Aastha Anand.
Writing – original draft: Aastha Anand.
Writing – review & editing: Aastha Anand, Meghna Sharma.

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APPENDIX A

Table A1. Study constructs

Construct	Item
Environmental orientation	We are approaching the limit of the number of people the Earth can support. When humans interfere with nature, it often produces disastrous consequences. Humans are severely abusing the environment. Plants and animals have as much right as humans to exist. The balance of nature is very delicate and easily upset. If things continue on their present course, we will soon experience a major ecological catastrophe. ***The Earth is like a spaceship with very limited room and resources.*** Despite special abilities, humans are still subject to the laws of nature.
Environmental knowledge	Before purchasing, I prefer to check the eco-labels and certifications on sustainable personal care products. Before purchasing, I want to have a deeper insight into the inputs, processes, and impacts of sustainable personal care products. More information about personal care products could help me make decisions about them. I prefer to gain substantial information on sustainable personal care products before purchasing them. Before buying, I want more information about the personal care products available at the point of sale.
Perceived environmental responsibility	I want to learn how to improve the environment. Environmental protection is the responsibility of the government, not mine.* Environmental protection is the responsibility of environmental organizations, not mine. * I am willing to take up the responsibility to protect the environment. The customer is partly responsible for the environmental problems caused by buying non-sustainable personal care products. ***Every customer is responsible for the environmental deterioration caused by buying non-sustainable personal care products.*** Every customer must take responsibility for the environmental problems caused by buying non-sustainable personal care products.
Social norms	Most people who are important to me think I should purchase sustainable personal care products than normal products. Most people who are important to me would want me to purchase sustainable personal care products than normal products. Most people whose opinions I value would prefer buying sustainable personal care products over normal products.
Attitude toward sustainable personal care products	Purchasing sustainable personal care products is favorable. Purchasing sustainable personal care products is a good idea. Purchasing sustainable personal care products is safe. Purchasing sustainable personal care products is wise. Purchasing sustainable personal care products is beneficial.
Purchase intention	I will consider buying sustainable personal care products since they will be less polluting in the future. I will explore switching to sustainable personal care products due to environmental concerns. I like spending more than usual on sustainable personal care products.

Note: * means that the statements are reverse coded.

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