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Green beauty: examining factors shaping millennials' attitudes toward organic personal care products in South Africa

Mongezi Lupindo
University of Cape Town, Cape Town, South Africa
Nkosivile Welcome Madinga
School of Management Studies, University of Cape Town, Cape Town, South Africa, and
Siphiwe Dlamini
University of Cape Town, Cape Town, South Africa

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Abstract

Purpose – This study aims to explore the factors that influence millennials' attitudes toward organic personal care products, focusing on the role of health consciousness, environmental concerns and quality perceptions.
Design/methodology/approach – An electronic, self-administered survey was used to collect 377 responses. The data analysis utilized partial least squares structural equation modeling (PLS-SEM).
Findings – The findings reveal that environmental concerns, health consciousness and perceived behavioral control play a significant role in shaping millennials' attitudes toward organic personal care products, while the perceived quality of organic personal care products significantly influences their purchase intentions.
Practical implications – The results of this study provide valuable insights for personal care product manufacturers, retailers and marketers looking to target millennial consumers. By understanding the key factors that influence millennials' attitudes and purchase intentions, marketers in the personal care product industry can tailor their strategies effectively.
Social implications – The study's findings inform strategies that promote healthier and more environmentally conscious consumer behavior. This aligns with broader societal goals of promoting sustainability and health consciousness, contributing to a more environmentally and socially responsible consumer culture.
Originality/value – The study's contribution lies in its focused exploration of the interplay between health consciousness, environmental concerns and quality perceptions on millennials' attitudes toward organic personal care products.

Keywords Organic products, Environmental concern, Health consciousness, Millennials, Theory of planned behavior, Purchase intention
Paper type Research paper

1. Background of the study

Consumers today have a growing global consciousness and care for social and environmental responsibility, recognizing that their purchasing behavior affects the environment and their health directly and indirectly (Taghikhah *et al.*, 2021). Studies have

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shown that consumers are increasingly concerned about the environmental and health impacts of their purchasing decisions, and are willing to pay more for products that are sustainable and natural (Dangi *et al.*, 2020; Rana and Paul, 2017). Furthermore, consumers who care about sustainability favor businesses that incorporate environmental sustainability into their business strategies (Lago *et al.*, 2020). This has led to the creation of green-alternative solutions that could boost the company's competitiveness because of changing consumer preferences (Kahupi *et al.*, 2021), and has led to a growing demand for environmentally friendly products, and as a result, research has focused on understanding consumer behavior in this pro-environmental marketplace (Nimri *et al.*, 2020). However, while research has explored various factors that influence pro-environmental consumption in general (Wang *et al.*, 2019), there is a lack of studies specifically examining the factors that influence the purchase of organic personal care products. Specifically, while research has investigated the factors that influence the purchase of organic food (Apaolaza *et al.*, 2018) and organic apparel (Kumagai, 2020; Rausch and Kopplin, 2021), there is limited research on the factors that influence the purchase of organic personal care products.

This is an important area of study, as personal care products are an essential part of our daily routine, and consumers are increasingly seeking out organic and natural alternatives to traditional products. According to MordorIntelligence (2023), the market for organic personal care products is projected to expand from $18.45bn in 2023 to $26.20bn by 2028, with a growth rate of 7.27% during the forecast period (2023–2028). The demand for organic personal care products has a higher growth opportunity in developing economies compared to the non-green personal care sector (Kim and Chung, 2011; Zollo *et al.*, 2021). As a result, it becomes critical to study the factors that influence consumer purchase decisions with regards to organic personal care products in a developing economy such as South Africa. South African consumers have developed a heightened awareness of the ingredients contained in beauty products and their possible effects on both personal well-being and the natural surroundings. Consequently, there has been an increased demand for natural and sustainable alternatives (International Trade Administration, 2023). Cosmetic businesses are meeting this desire by integrating organic and natural ingredients obtained from the diverse and abundant biodiversity of South Africa, including extracts and oils derived from local plants (International Trade Administration, 2023). In Africa, South Africa has the largest cosmetic market (Statista, 2024). As a result, international cosmetics companies are interested in understanding consumer behavior toward organic personal products in South Africa as the country is considered the gate way to the African market (Miti and Kilambo, 2012). Furthermore, there is a scarcity of studies that integrate sound theoretical foundations in the marketing field to examine attitudes toward organic personal care products. As a result, in order to analyze pro-environmental consumer behavior, it is essential to incorporate theoretical perspectives in this line of research.

The theory of planned behavior (TPB) is one of the few theories that has been used to analyze consumers' environmentally friendly actions (Caliskan *et al.*, 2020; Canio and Martinelli, 2021; Liang, 2014; Nimri *et al.*, 2020; Sultan *et al.*, 2020; Wang, 2020; Wang *et al.*, 2019). Earlier studies have used the TPB model to examine the factors that influence purchase intention for green products without factoring in the impact of environmental concerns, health consciousness (Anvar and Venter, 2014; Puh, 2016) and quality perceptions (Hidalgo-Baz *et al.*, 2017). Despite the increasing popularity of organic personal care products (Apaolaza *et al.*, 2018; Canio and Martinelli, 2021; Kahupi *et al.*, 2021; Kushwah *et al.*, 2019; Lago *et al.*, 2020; Taghikhah *et al.*, 2021; Tandon *et al.*, 2020), there is limited research on the factors that influence consumer purchasing decisions, particularly among the millennials.

Earlier research suggests that millennial consumers spend a significant portion of their income on organic and green products (Smith, 2010). Millennials, in fact, are one of the most fascinating generations in the organic products industry (Molinillo, Vidal-branco and

Japutra, 2020). This generation is known for being socially conscious, concerned about environmental protection, has higher income (Ivanova *et al.*, 2019) and consumes more organic products than other generations (Molinillo *et al.*, 2020). The millennial cohort is considered important because they will play an active role in the future global economy (Anvar and Venter, 2014). Additionally, millennials are a growing segment purchasing organic products (Nicolau, Guix, Hernandez-maskivker and Molenkamp, 2020). Despite their significance in the organic products market, few studies have looked into their attitudes and buying motives. Understanding this generational cohort's attitude toward organic product will help organic product retailers better target and market their products. As a result, this study examines the factors that influence the purchase of organic personal care products among millennials.

This study contributes to the existing literature by specifically focusing on millennials and their attitudes and purchase behavior toward organic personal care products. It addresses the gap in research on this topic and provides insights into the factors that influence millennials decision-making process when it comes to purchasing organic personal care products. The findings of this study will be valuable for organic product retailers in better targeting and marketing their products to the millennial consumer segment.

The following section begins with a literature review section that provides an in-depth analysis of previous research on the topic, including the TPB and its relevance to organic product consumption. The research methodology section describes the methods used to gather data for the study, including surveys with consumers. The results section presents the findings of the study, including the factors that are most strongly associated with organic product consumption. The managerial implications section discusses the practical applications of the findings for businesses. The limitations section acknowledges the limitations of the study and suggests areas for future research.

2. Literature review

2.1 Organic product consumption

Sustainability and its impact on consumption have long been a focus of marketing research (Anvar and Venter, 2014; Kamenidou *et al.*, 2020; Taghikhah *et al.*, 2021; Tandon *et al.*, 2020; Zollo *et al.*, 2021). Some scholars suggest that the current consumption behavior is unsustainable, and they call for a shift in consumer behavior (Saraiva *et al.*, 2020). Furthermore, consumers realize that their current consumption behavior affects future generations (Scalvedi and Saba, 2018). Consumer appetite for organic products such as organic personal care products has prompted a lot of research into consumer motivations and decision-making processes (Pham *et al.*, 2019; Ranjbarshamsi *et al.*, 2016). Organic personal care products have become increasingly popular in recent years, as consumers are becoming more aware of the potential harmful effects of synthetic chemicals and pesticides on their health and the environment (Kim and Chung, 2011; Zollo *et al.*, 2021). Organic personal care products are made from natural and organic ingredients, and are often marketed as being more environmentally friendly and safer for consumers (Canio and Martinelli, 2021). The growth in demand for organic products has been observed in various industries, including food (Apaolaza, Hartmann, D'Souza and López, 2018), apparel (Kumagai, 2020; Rausch and Kopplin, 2021) and cosmetics (Ghazali *et al.*, 2017; Kim and Chung, 2011; Zollo *et al.*, 2021). The interest in organic cosmetics has been on the rise as consumers become more health-conscious and seek out natural products (Puh, 2016). Studies have demonstrated that health concerns impact attitude toward intentions to buy organic products (Apaolaza *et al.*, 2018; Ghazali *et al.*, 2017; Nagaraj, 2021). The cosmetics industry is particularly important, and the use of personal care products and cosmetics has always been an essential part of everyday hygiene (Puh, 2016).

Several comparisons exist between customers purchasing organic foods and organic personal care products (Cervellon and Carey, 2012; Ghazali *et al.*, 2017; Kim and Chung, 2011; Mohammad and Baharun, 2017). The food market is rapidly impacting the personal beauty industry as people are extending their knowledge of what they eat to what they put on their skin to ensure a healthy lifestyle (Lin *et al.*, 2018). According to Kline Group (2016), the market for organic personal care products has higher growth potential in developing economies compared to the non-green personal care sector. In the South African context, the Department of Trade (2019) also reported strong demand for organic cosmetics. The Global Natural and Organic Market (2018) reports that South Africa's organic skincare segment is expected to grow at a CAGR of 7.4% over the forecast period (2019–2024). The Grand View Research (2019) predicts that the shift in consumer preference toward natural and organic goods coupled with the increasing use of environmentally friendly products would drive market development.

2.2 Theory of planned behavior

TPB has been applied to understand consumer behavior (Ahmmadi *et al.*, 2021; Amit Kumar, 2021). The current study uses the TPB to determine the factors influencing consumers' willingness to pay for organic personal care products. The TPB's extended model includes additional consumer variables of environmental concern, health consciousness and quality perceptions to predict the purchase intention of organic products. TPB is an extension of the theory of reasoned action (TRA) (Ajzen, 1991). According to TPB, one's actions can be influenced by behavioral intentions that can be predicted by certain socio-cognitive variables, such as attitudes, social norms and perceived behavior regulation (Ajzen, 1991; Caliskan *et al.*, 2020). As such, for TPB, attitude toward target behavior, subjective behavioral norms and perceived behavioral control are thought to influence intentional and organic product-buying behavior (Ashraf *et al.*, 2019). Earlier studies have used the TPB and the extended TPB model successfully in various contexts (Lim and An, 2021; Sultan *et al.*, 2020). The TPB in its various forms has been used to predict green purchase behavior, such as green hotels (Nimri *et al.*, 2020; Wang, 2020; Wang *et al.*, 2019), organic food (Dangi *et al.*, 2020; Liang, 2014; Sultan *et al.*, 2020), organic coffee (Lee *et al.*, 2015), organic wine (Caliskan *et al.*, 2020) as well as general organic products (Canio and Martinelli, 2021). Therefore, the TPB was considered suitable for assessing the factors influencing the purchasing intention of organic products as it was successfully applied to different green product contexts.

While TPB is deemed suitable for this study, there have been other frameworks and theories that have been proposed for the understanding of green products and purchase behavior. More recent work of Khan *et al.* (2023) and Sharma *et al.* (2023) acknowledge that studies employed in green purchase behavior and green purchase intention include the consumption value theory, TRA, cognition–affect–behavior, value orientation model, values–lifestyle–behavior hierarchy, norm activation theory, choice behavior model, the Hunt–Vitell model and diffusion of innovations theory. Of these various theories, many studies employ TPB for its strong predictability on purchase intention and behavior. Sharma *et al.* (2023) note that TPB has a good estimation for pro-environmental behavior contexts such as organic products. Other emerging theories, such as alphabet theory, have come to the fore for being able to combine theories, such as the attitude-behavior-context theory and value-belief-norm theory, to better explain the attitude behavior inconsistency in green product research (Dlamini and Mahowa, 2024). Unlike other theories, TPB improves the predictability of purchase intention for green products (Paul *et al.*, 2016), and successfully predicts green purchase behavior in varied contexts (Bhardwaj *et al.*, 2023).

2.2.1 Environmental concern. The increased interest in pro-environmental actions (Pham *et al.*, 2019; Ranjbarshamsi *et al.*, 2016) can be attributed to consumers' growing

environmental concerns. Environmental concern is described as "the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate the willingness to contribute personally to their solution" (Hu *et al.*, 2010:5). Hartmann and Apaolaza-Ibáñez (2012) argue that consumers engage in environmental behavior because they are concerned about the environment and society. Studies have shown that environmental concern has a strong positive correlation with attitudes toward organic products (Kim and Chung, 2011; Paul *et al.*, 2016). Moreover, Hartmann and Apaolaza-Ibáñez (2012) found that consumers view energy conservation more favorably as their intrinsic environmental concern increases, and they develop a positive attitude toward green energy and are willing to pay a premium for green energy. Thus, environmental concern is considered a significant antecedent of attitude and a clear motivator for organic products purchase intention (Maichum *et al.*, 2016). Thus, we hypothesize the following hypothesis:

H1a. Environmental concern positively influences consumer's willingness to pay premium for organic personal care products.

H1b. Environmental concern positively influences attitude toward organic personal care products.

H1c. Environmental concern positively influences purchase intentions of organic personal care products.

2.2.2 Health consciousness. Health consciousness refers to the degree to which individuals prioritize their health and well-being in their daily lives. With growing awareness of the potential health risks associated with conventional products, more consumers are seeking out healthier alternatives. Exposure to harmful chemicals in personal care products, such as cosmetics and skincare products, can have long-term health consequences, including headaches, eye damage, acne, hormonal imbalances and premature aging (Amberg and Fogarassy, 2019; Trasande *et al.*, 2013). Consumers who choose organic personal care products are investing in their long-term health and beauty, as these products are free from harmful chemicals and artificial ingredients (Wang *et al.*, 2020). Studies have shown that health consciousness is positively associated with a range of healthy behaviors, including healthy attitudes and purchasing intentions toward organic food (Wang *et al.*, 2019, 2020; Wang, 2020). Given the increasing demand for health and safety products, it is reasonable to assume that consumers who are health conscious and prioritize their well-being would also choose organic personal care products over conventional alternatives. Therefore the following hypothesis is developed:

H2a. Health consciousness positively influences willingness to pay premium price for organic personal care products

H2b. Health consciousness positively influences attitude toward organic personal products.

H2c. Health consciousness positively influences purchase intentions of organic personal care products.

2.2.3 Perceived behavioral control. In recent years, the demand for organic personal care products has increased, and researchers have explored various factors that influence consumer behavior toward these products. One such factor is perceived behavioral control, which refers to an individual's perception of the ease or difficulty of performing a behavior. According to Ajzen (1991), those who perceive a higher degree of personal control are more likely to have a stronger behavioral intention to engage in a behavior. Researchers have found a positive relationship between perceived behavioral control and purchase intention. For instance, Baker *et al.* (2010) concluded that confidence in an individual's ability to control

their behavior is positively associated with purchase intention. Similarly, Olsen (2004) also found that perceived behavioral control has a positive relationship with purchase intention in green products. These findings suggest that an individual's perception of their ability to control their personal care choices, such as the use of organic personal care products, may play a significant role in their decision to purchase these products. Further research is needed to fully understand the extent to which perceived behavioral control influences attitudes toward organic personal care products. Thus, the following hypothesis is developed:

H3. The perceived behavioral control positively influences attitude toward organic personal care products

2.2.4 Subjective norms. Subjective norms, a key component of the TPB, refer to the perceived social pressure to engage in a behavior or not. This pressure can be influenced by how much an individual thinks the behavior is accepted by others, as well as their perception of others' approval or disapproval of the behavior (Ajzen, 1991; Dondolo and Madinga, 2017; Maziriri *et al.*, 2020). Research has shown that subjective norms are shaped by both personal and societal references, including family and friends, as well as mass media and social media (Sanne and Wiese, 2018; Caliskan *et al.*, 2020; Madinga *et al.*, 2020). It has also been established that individuals with stronger subjective norms tend to have higher intentions to engage in behaviors, such as purchasing organic personal care products (Kim and Chung, 2011), and leaving green hotel reviews (Chen and Tung, 2014). Additionally, research has found that if consumers perceive their significant others to exhibit green purchasing behavior, they are more likely to adopt these behaviors themselves (Canio and Martinelli, 2021). Thus, the following hypothesis can be developed:

H4a. Subjective norms have a positive influence on consumer's attitudes toward organic personal care products.

H4b. Subjective norms have a positive influence on consumer's intention to purchase organic personal care products.

2.2.5 Attitude. According to TPB, attitude is a "degree in which a person has a positive or negative judgment of acting a behavior" (Caliskan *et al.*, 2020). Furthermore, attitude includes judgment on whether the behavior under consideration is good or bad, and whether the actor wants to do the behavior (Paul *et al.*, 2016). Chen and Tung (2014) argue that attitude is the psychological emotion transmitted by customer assessments, and when positive, behavioral motives are more favorable. Attitudes also inform behavior (Nicolau *et al.*, 2020). Several studies reported a positive association between attitude and willingness to buy organic products (Canio and Martinelli, 2021; Nicolau *et al.*, 2020; Taghikhah *et al.*, 2021). Consumers' attitude toward organic products has been determined as an important antecedent of organic product consumption intentions (Caliskan *et al.*, 2020). Scholars determined that the effect of attitude on buying behavior toward organic products was also positive among South African millennials (Anvar and Venter, 2014). In addition, the association between attitude and behavioral intentions has been established across diverse cultures (Mostafa, 2009). Some studies show that consumers are willing to pay more for organic products (Nicolau *et al.*, 2020; Taghikhah *et al.*, 2021). Sriwaranun *et al.* (2015) claim that consumers are generally willing to pay a premium of 10%–40% for organic products. Similarly, D'Souza *et al.* (2007) found that strong environmental motivations may result in a greater willingness to pay a price premium of up to 10%.

Hence, the following hypothesis has been developed:

H5a. Consumers' attitudes toward organic personal care products influence purchase intentions.

H5b. Consumers' attitudes toward organic personal care products influence willingness to pay premium price for organic personal care products

2.2.6 Perceived quality. Perceived quality is a crucial aspect of consumers' evaluation of a product or service. It is defined as the consumers' subjective judgment about an entity's services containing overall excellence or superiority (Marakanon and Panjakajornsak, 2017; Maziriri and Madinga, 2018). Wang *et al.* (2014) argue that consumers use quality indicators to evaluate the value of a product and then use that evaluation to determine its purchase intention. The attributes of perceived consumer quality include performance features, conformance, reliability, durability, serviceability, aesthetics and the customer's perception of quality (Noor, 2019). Product quality is a key determinant of a business's competitiveness and may provide an opportunity for differentiation (Hidalgo-Baz *et al.*, 2017; Maziriri and Madinga, 2018). However, Harbaugh *et al.* (2011) note that ambiguity about what makes a product organic may prevent consumers from recognizing its quality and therefore prevent them from adopting and using such products. This highlights the importance of clear communication and labeling to ensure that consumers can make informed purchasing decisions.

In the context of organic personal care products, perceived quality is likely to be a significant factor influencing purchase intention. The organic personal care products market is growing rapidly, and consumers are increasingly interested in purchasing products that are environmentally friendly and made from natural ingredients (Kwon *et al.*, 2020). In a study investigating consumers' purchase intention of green products in Malaysia, the results showed that willingness of consumers to pay more for organic products was moderating the relationship between environmental attitudes and purchase intention (Ling, 2013). By contrast, other research suggests that while consumers are willing to purchase organic products, this is usually conditional upon price, convenience, accessibility and perceived quality (Vermeir and Verbeke, 2006). Engaged environmentalists, however, ignore price as a factor in determining their behavior (Anvar and Venter, 2014). D'Souza *et al.* (2007) argue that customers are not tolerant of lower quality and higher prices of green products. Therefore, customers expect all products offered to be environmentally safe without compromising quality and paying higher prices for the convenience. Based on this information, we propose the following hypothesis:

H6a. Perceived quality has a positive effect on consumer's willingness to pay premium price for organic personal care products

H6b. Perceived quality has a positive effect on consumer's attitudes toward organic personal care products.

H6c. Perceived quality has a positive effect on purchase intention for organic personal care products.

3. Research methodology

3.1 Measurement instrument

All items in the questionnaire were adapted from existing research. Environmental concerns, purchase intentions, subjective norms and perceived behavioral control was measured by the items adapted from Paul *et al.* (2016) and Ogiemwonyi *et al.* (2023). Health consciousness and willingness to pay more was measured by the items adapted from (Parashar *et al.*, 2023; Konuk, 2018). Perceived quality was measured by items adapted from Khare and Pandey (2017) and Dinh *et al.* (2023). Lastly, attitudes toward organic personal care products were measured by items adapted from Laroche *et al.* (2001) and Fatha and Ayoubi (2023). All the

items were measured by a five-point Likert scale, ranging from "strongly disagree" 1 to "strongly agree" 5. The self-administered questionnaire was made simple and understandable by having only two main sections; the first section is the participant's demographics.

3.2 Data collection

A web-based, self-administered questionnaire was used to collect data. The web-based survey was created using Qualtrics. The researcher used the following procedure for data collecting. Firstly, the researcher created a Facebook group that potential participants were free to join. Using snowball sampling, 40 respondents were asked to complete the questionnaire and pass it on to their Facebook friends. Finally, once the initial contacts used to start chains in the study were exhausted, the researcher faced the problem of initiating new ones. Therefore, it was decided to create a Facebook advert to overcome this challenge. Participants were targeted by their location and age. Facebook users aged 18–25 in South Africa were targeted. The data were collected between January and April 2020. Initial participants were screened for eligibility to participate in the study through filter questions, such as their age and citizenship. Out of the 433 questionnaires that were collected, 377 were included for analysis.

The descriptive statistics demonstrated that the sample's age range was evenly split between 18 and 21 years old (45.6%) and 22- to 25-year-old (44.6%) and most of the participants reside mainly in urban areas (89%) while only 11% reported they lived in rural areas. The virtual snowball sampling resulted in an over sampling of female respondents (92%). More than half of the sample respondents identified themselves as Africans (57%), followed by those who identified themselves as whites (25%), coloreds (9%) and Indian (6%) (see Table 1). With regard to the educational profile of the respondents, Table 1 indicates that

Variable	Category	Frequency	%
Gender	Male	27	7.2%
	Female	345	91.5%
	Other	5	1.3%
	Total	*377*	*100.0%*
Age	18–21 years	172	45.4%
	22–25 years	168	44.6%
	over 25 years	37	10%
	Total	*377*	*100.0%*
Location	Urban	335	88.9%
	Rural	42	11.1%
	Total	*377*	*100.0%*
Ethnicity	African	217	57.6%
	White	95	25.2%
	Indian	21	5.6%
	Colored	33	8.8%
	Other	3	0.8%
	Prefer not to answer	8	2.1%
	Total	*377*	*100.0%*
Highest level of education	High school	102	27.1%
	Some tertiary	142	37.7%
	Bachelor's degree	80	21.2%
	Postgraduate	53	14.1%
	Total	*377*	*100%*

Table 1. Respondents' socio-demographic characteristics

Source(s): Table by authors

most survey participants had some tertiary education (38%), followed by high school (27%), a bachelor's degree (21%) and only 14% of respondents stated they had a postgraduate degree.

4. Results

4.1 Research model analysis

This study employed partial least squares structural equation modeling (PLS-SEM) to analyze measurement and structural models. PLS-SEM stands out when studying complex research models with small samples and non-normalized data (Gefen and Straub, 2005). Sarstedt *et al.* (2014) two stage analytical protocol were followed in this study. In the first stage, the measurement model was evaluated to assess the indicator reliability, internal consistency reliability, convergent validity and discriminant validity. Next, the structural model was evaluated to test the hypotheses. To test the significance of outer loadings and path coefficients, a bootstrapping approach (5,000 resamples) was used (Sarstedt *et al.*, 2014).

4.2 Measurement model assessment

Outer loadings, composite reliability (CR) and average variance extracted (AVE) were used to evaluate convergent validity. Outer loading values indicating reliability should be greater than 0.70 (Leguina, 2015). Table 2 shows outer loading ranging from 0.771 to 0.945, indicating reliability. Item EC1, PBC3, SN3 and WTP4 have been deleted as their loadings were below the threshold. A CR index of more than 0.70, according to Nunnally (1979), suggests a construct's internal consistency. All the values were above the threshold of 0.70 (Nunnally, 1979). The CR values were between 0.869 and 0.936, showing a high degree of internal consistency of the constructs (see Table 2). Furthermore, all of the AVE values were greater than 0.50, ranging from 0.689 to 0.833 (see Table 2), confirming discriminant validity. As a result, the measurement validity was sufficient and satisfactory. In addition, the discriminant validity was tested using the heterotrait-monotrait ration (HTMT) matrix. The results presented in Table 3 indicate satisfactory coefficients, therefore, meeting the required standards. Variance of inflation factor (VIF) was also used in this analysis to identify the degree of multicollinearity. The PLS collinearity statistics show that the inner VIF values range from 1.432 to 3.211, which are below the cut-off threshold of 3.3 (Lee, 2010). Finally, the overall model fit was evaluated using the standardized root mean square residual (SRMR), Chi-Square and NFI. SRMR was 0.097, Chi-square was 1,297.905 and NFI was 0.721, which is contemplated a good fit. The explanatory capacity of the structural model was examined using R^2 (Hair *et al.*, 2019). The R^2 values were 0.486 for attitudes, 0.450 for willingness to pay and 0.662 for purchase intention (see Figure 1). According to Falk and Miller (1992), R^2 should be greater than 0.10 (10%).

4.3 Measurement structure assessment

In this study, 14 direct hypotheses were developed between the constructs. In order to examine the significance level and *t*-statistics for all paths were generated using SmartPLS 4.1 bootstrapping algorithm. The results of the hypothesis testing for this study have been presented in Table 4. Table 4 presents the hypothesis, the relationships between the variables, path coefficients, *t*-statistics and the decision of whether the hypothesis was supported or not supported. *T*-values indicate whether a significant relationship exists between variables in the model and path coefficients, demonstrating the strength of the relationships in the model. Table 4 shows the standardized path coefficients and their corresponding *t*-values. A statistically significant relationship is expected to have a *t*-value

Construct	Indicator	Outer loading	α	C.R	AVE
Attitude	1. I think that Environmental protection is important when making a purchase decision	0.820			
	2. I prefer to buy organic skin care products to non-organic products	0.858	0.791	0.878	0.705
	3. I think that purchasing organic personal care products is safe	0.841			
Subjective norms	4. My family thinks that I should practice environmentally friendly behavior	0.769			
	5. My friends think that I should practice environmentally friendly behavior	0.870	0.781	0.871	0.693
	6. My friends think that I should buy organic personal care products rather than normal products	0.856			
Perceived behavioral control	7. I am confident that I can purchase organic personal care products rather than normal products when I want	0.848			
	8. I see myself as capable of purchasing organic personal care products	0.911	0.713	0.873	0.775
Purchase intention	9. I intend to purchase organic personal care products next time because of their positive environmental contribution	0.883			
	10. I find that organic personal care products are better than no organic alternatives	0.839	0.805	0.885	0.719
	11. I would consider switching to organic personal care brands for environmental reasons	0.821			
Willingness to pay more	12. I intend to pay more for organic personal products	0.772			
	13. Organic personal care products offer value for money	0.854	0.774	0.869	0.689
	14. Organic personal care products are good products for the price	0.862			
Quality perception	15. Organic personal care products have consistent quality	0.904			
	16. Organic personal care products have an acceptable standard of quality	0.920	0.799	0.909	0.833
Environmental concerns	17. I don't buy products that cause potential damage to the environment	0.783			
	18. I have convinced my peers to stop using environmentally harmful products	0.840	0.784	0.872	0.705
	19. Being exposed to two alternatives, I buy the one which is less harmful to the environment	0.875			
Health consciousness	20. I think about my health a lot	0.884			
	21. I'm alert to changes in my health	0.947	0.898	0.936	0.831
	22. I'm usually aware of my health	0.903			

Table 2. Reliability and validity tests

Note(s): Abbreviations: AVE, average variance extracted; CR, composite reliability; α, Cronbach's alpha
Source(s): Table by authors

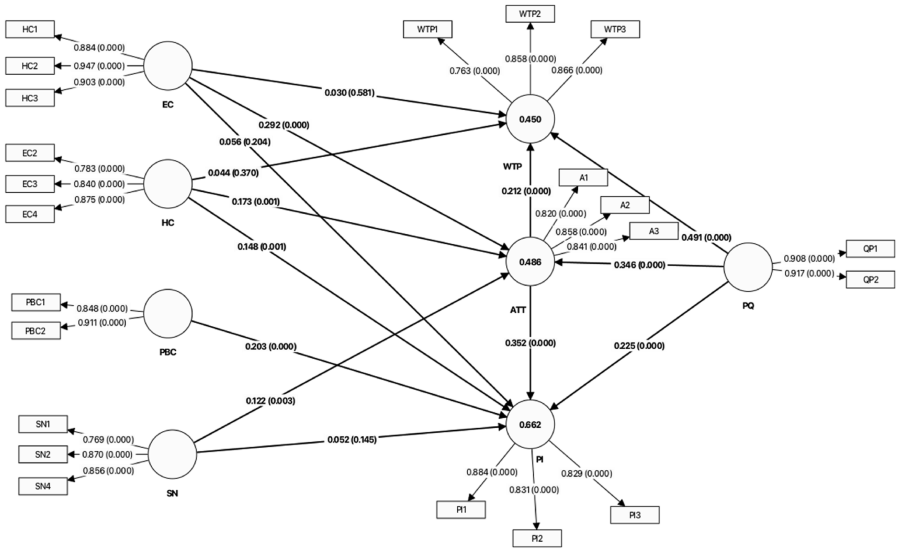
that exceeds 1.96 at a 5% level of significance (Chin, 1998). Chinomona *et al.* (2010) indicate that higher path coefficients demonstrated strong relationships among the variables.

4.3.1 Discussion. As shown in Table 4, the results show that environmental concerns have an effect on attitude toward organic personal care products but do not influence purchase intention and willingness to pay premium for organic personal care products. Our findings

	ATT	EC	HC	PBC	PI	PQ	SN	WTP
ATT								
EC	0.653							
HC	0.578	0.502						
PBC	0.868	0.681	0.459					
PI	0.891	0.628	0.,617	0.865				
PQ	0.705	0.480	0.415	0.725	0.780			
SN	0.506	0.406	0.509	0.469	0.516	0.399		
WTP	0.664	0.437	0.413	0.698	0.768	0.803	0.371	

Note(s): Abbreviations: ATT, attitude; EC, environmental concerns; HC, health consciousness; PBC, perceived behavioral control; QP, quality perception; PI, purchase intention; SN, subjective norms; WTP, willingness to pay more
Source(s): Table by authors

Table 3.
Discriminant validity (HTMT)



Source(s): Figure by authors

Figure 1.
Structural model

are aligned with a study conducted by Hartmann and Apaolaza-Ibáñez (2012) found that when consumers' environmental concern increases, they develop a positive attitude toward sustainable products. Prior studies have shown inconclusive results about the influence of environmental concerns on consumer purchasing intentions and willingness to pay premium. For example, Khaola *et al.* (2014) found that while consumers environmental concerns have an impact on consumer attitudes but does not have any impact on green purchase intentions, which is similar to our findings. A study by Gomes *et al.* (2023), on the other hand, showed that environmental concerns have a significant impact on willingness to pay premium for green products. Our study contributes to the current discussion by providing evidence that the attitude-behavior framework is applicable to organic personal products as well.

	Paths	B-value	*t*-value	*p*-value	Results
H1a	EC → WTP	0.030	0.553	0.581	Not supported
H1b	EC → ATT	0.292	4.630	0.000	Supported
H1c	EC → PI	0.056	1.270	0.204	Not supported
H2a	HC → WTP	0.044	0.897	0.370	Not supported
H2b	HC → ATT	0.173	3.417	0.001	Supported
H2c	HC → PI	0.148	3.303	0.001	Supported
H3	PBC → PI	0.203	3.600	0.000	Supported
H4a	SN → ATT	0.122	2.934	0.003	Supported
H4b	SN → PI	0.052	1.458	0.145	Not supported
H5a	ATT → PI	0.352	5.927	0.000	Supported
H5b	ATT → WTP	0.212	3.567	0.000	Supported
H6a	PQ → WTP	0.391	9.809	0.000	Supported
H6b	PQ → ATT	0.346	7.785	0.000	Supported
H6c	PQ → PI	0.225	4.576	0.000	Supported

Note(s): Abbreviations: ATT, attitude; EC, environmental concerns; HC, health consciousness; PBC, perceived behavioral control; QP, quality perception; PI, purchase intention; SN, subjective norms; WTP, willingness to pay premium
Source(s): Table by authors

Table 4.
Results of hypothesis testing

Health consciousness has been found to impact both attitudes toward organic personal care products and purchase intentions but does not have an impact on willingness to pay premium for organic personal care products. Our findings show congruence with the past studies that have found that health consciousness is positively associated with a range of healthy behaviors, including healthy attitudes and purchasing intentions toward organic food (Wang *et al.*, 2019, 2020; Wang, 2020). In contrast, the study conducted by Ho *et al.* (2022), found that health consciousness have an influence on willingness to pay premium. A plausible reason for this is reflected in our findings indicating that millennials' health consciousness does not influence the willingness to pay premium is that most millennials are young and in their early stages of their careers. Therefore, do not have sufficient money to pay extra for organic products. Hence, they will end up purchasing conventional products despite being environmental conscious and healthy conscious. Ho *et al.* (2022) argue that organic products are slight costly compared to conventional products.

The results show that perceived behavioral control, attitudes and perceived quality has a significant effect on purchase intentions of organic personal care products. This finding aligns with the TPB, which suggests that the perception of having control over one's conduct is a crucial factor in predicting both the intention and actual behavior (Caliskan *et al.*, 2020; Chen and Tung, 2014; Paul *et al.*, 2016). As expected, consumer attitudes toward organic personal care products have a significant impact on purchase intention actions (Caliskan *et al.*, 2020; Canio and Martinelli, 2021; Liang, 2014; Nimri *et al.*, 2020; Sultan *et al.*, 2020; Wang, 2020; Wang *et al.*, 2019). This provides more support for the well-established theory that a good attitude toward products or services increase purchase intentions. Due to this, marketers should try to improve positive attitudes by educating consumers about the advantages of a product or service and addressing any possible concerns raised by consumers can successfully increase the likelihood that consumers will make a purchase. It is interesting to note that subjective norms did not impact purchase intentions. There are some research studies that imply that subjective norms have an effect on consumer behavior (Dondolo and Madinga, 2017; Maziriri *et al.*, 2020), however this contradicts such findings. It is probable that the decision to purchase organic personal care products is more individualistic, motivated by personal views, values and beliefs rather than social forces.

There is a significant correlation between perceived quality and attitudes toward organic personal care products, as well as intentions to make purchases, and willingness to pay premium pricing. Customers are more likely to make a purchase and are more willing to spend more money on products when they consider the quality of the product to be high. The findings of this study are consistent with those of other studies that have highlighted the significance of quality perceptions in the decision-making process of consumers (Marakanon and Panjakajornsk, 2017; Wang *et al.*, 2014). When it comes to the highly competitive market for sustainable goods, consumers are willing to spend a higher price for items that they perceive to be of higher quality (Ling, 2013).

5. Managerial implications

The results of this study provide valuable insights for personal care product manufacturers, retailers and marketers looking to target millennial consumers. The findings suggest that environmental concerns, health awareness and perceived behavioral control are the primary factors influencing millennials' attitudes toward organic personal care products. This means that personal care product manufacturers should prioritize sustainability, health and ethical practices in their marketing and product development strategies. The findings signal that consumers are motivated to improve or maintain their health and quality of life because of their awareness and concern about their well-being (Cervellon and Carey, 2012). To strengthen a positive attitude toward organic personal care products, marketers should emphasize product safety and health benefits in their marketing campaigns. The findings showed that millennials' concern for the environment has a positive influence on their attitude toward organic personal care products. Creating a positive attitude toward buying organic personal care products may be an essential factor for retailers to increase consumers' willingness to pay more for the products. Furthermore, consumers who are knowledgeable about organic products believe that buying organic products benefits the environment due to sustainable consumption. Environmental awareness therefore affects consumer assessments of the environmental benefits and their preference for green products, which positively affects the willingness to pay more for organic products (Paul *et al.*, 2016). Retailers should, therefore, provide product and environmental information to improve customer awareness, thereby increasing consumer attitude and consequently increasing their willingness to pay more for organic personal care products.

In addition, the study highlights the importance of attitude toward organic personal care products, perceived quality and subjective norms in influencing purchase intentions. Therefore, personal care product manufacturers should focus on creating high-quality products that meet the expectations of millennial consumers, and encourage them to share their positive experiences with others to increase the perceived norm of using organic personal care products. The study also reveals that health consciousness and positive attitudes toward the environment have a direct impact on millennials' willingness to pay more for organic personal care products. The more positive consumer attitude toward organic products is, the higher the consumer's willingness to pay for organic products. This suggests that consumers' attitude toward organic personal care can be enhanced by creating green values and sustainability awareness, which in turn may create a positive image of organic personal care products among millennial consumers. Furthermore, the findings highlight the importance of creating a value proposition for organic personal care products explicitly tailored to millennials. A clear communication of green values and the benefits of green products serves as an effective marketing strategy. A green value proposition can also increase the perceived value of organic products and enhance trust among consumers, which may further influence the consumers' green purchasing intention and the willingness to pay more for organic products.

To maximize the impact of these findings, personal care product manufacturers should tailor their marketing and product development strategies to millennial consumers' specific needs and preferences. This could involve using social media and influencer marketing to reach this demographic, as well as partnering with sustainable and ethical brands to build credibility and trust.

More importantly, these findings are relevant to other emerging markets, as the literature highlights growing awareness and consumption of sustainable products in emerging markets (Lavuri, 2022). The positive attitude toward personal care products may signal growth opportunities to provide these products at scale across various emerging markets such as India. According to Paul *et al.* (2016), India is among the largest economies with a large consumer base with high growth rates. On the contrary, some other emerging markets, such as Malaysia, are new to sustainable products (Ewe and Tjiptono, 2023). This creates opportunities to drive awareness and environmental knowledge among different emerging markets to expose consumers and marketers to existing green products, like personal care products. This means more intention and behavior will be evident in different emerging markets. It is key that marketing conducts the necessary research into various emerging markets as they have different consumers, nuances and opportunities.

Lastly, this study suggests that millennials' attitudes toward organic personal care products can have a significant impact on their willingness to pay. Therefore, brands can consider promoting the value of organic personal care products and encourage more millennials to pay a premium for them. For example, a brand may promote the use of organic personal care products in public spaces, in order to increase their perceived value and willingness to pay. Overall, the results of this study provide a roadmap for personal care product manufacturers and marketers looking to tap into the growing market of millennial consumers who prioritize sustainability, health and ethical practices in their personal care choices. By understanding the key factors that influence millennials' attitudes and purchase intentions, personal care product manufacturers can develop effective marketing and product development strategies to meet the needs of this important demographic.

6. Theoretical implications

This study makes several theoretical contributions to the field of consumer behavior and marketing, particularly in the context of organic personal care products. Firstly, this study demonstrated that environmental concerns, health consciousness and attitudes do not translate into sustainable behavior. As a result, we can affirm that the attitude–behavior gap applies to organic personal care products. Secondly, our study shows that perceived quality has a considerable influence on both purchase intentions and willingness to pay premium pricing, which contributes to our theoretical knowledge of consumer decision-making processes. This finding emphasizes the significance of perceived quality as a crucial driver in the adoption of organic products, implying that consumer behavior theories must account for quality perceptions when examining purchase decisions in the context of sustainable products. Finally, the findings indicating that subjective norms had no substantial impact on purchase intentions for organic personal care items implies that the decision to buy these goods is more individualistic and motivated by personal convictions rather than societal influences. This finding adds to the greater discussion over the relevance of individualistic vs collectivistic incentives in consumer behavior, implying that in some product categories, personal values may trump societal norms.

7. Conclusion

Understanding consumer behavior toward organic products in the African market is crucial for international companies looking to expand into this region. Given that millennials are key drivers of environmental change and advocates for environmentally friendly behavior, it is important to understand the factors that shape their attitudes and behaviors toward organic personal care products. This study provides several interesting insights. For example, while millennials exhibit a positive attitude toward organic personal care products, their environmental concerns do not correlate with purchase intentions or willingness to pay a premium, reinforcing the attitude–behavior gap theory in this context. Conversely, millennials are willing to pay more for high-quality organic products. These findings offer valuable implications for marketers aiming to target the millennial demographic in the African market.

8. Limitations and future research

Apart from its many contributions, this study has some limitations that can be addressed in future research. Due to the non-probability sample technique utilized in this study, the generalizability of these results is limited. Although the attempt was to capture a representative sample of the population, the demographics of the sample showed that most respondents who identified as female comprised 92% and those living in urban areas comprised 88.9%. Future research should explore demographic variables comparing gender differences between male and female millennial attitudes toward organic products. Furthermore, this study focused on one generational cohort and did not provide insights into other generational cohorts, such as Generation Z or the "Post-Millennial" generation – those born between 1997–2012.

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Corresponding author
Nkosivile Welcome Madinga can be contacted at: nkosivile.madinga@uct.ac.za