

Investigating female shoppers' attitude and purchase intention towards green cosmetics in South Africa

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ABSTRACT

This paper investigates female shoppers' attitude and purchase intention towards green cosmetics. Underpinned with an extended theory of planned behaviour model, the research framework examines consumers' attitude and purchase intention. In addition, the moderating influence of consumer involvement is tested. Data (n = 408) were collected from South Africa and analysed through structural equation modelling. The results show that subjective norm has a significant positive impact on the consumers' purchase intention for green cosmetics. Also, ecological motive and environmental knowledge impact the consumers' attitude towards green cosmetics. In addition, consumers' involvement strengthens the positive relationship between attitude and purchase intention. However, the role of perceived behavioural control and health consciousness were non-significant. The findings suggest that practitioners should try to enhance the consumers' knowledge and involvement about green cosmetics. They should inform and educate the consumers through an integrated marketing communication approach by means of campaigns, advertisements, and public relations. Thus, through relevant environmental information or knowledge, consumers will be more educated aiming to impact positive attitude and purchase intention.

Keywords: Theory of planned behaviour, Environmental knowledge, Ecological motive, Involvement, Green cosmetics, South Africa.

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1. Introduction

Natural 'green' cosmetics is moving from an option to a must as an industry standard to regulate modern production of these beauty products. According to Future Market Insight (2019), the global natural and organic cosmetic industry is anticipated to rise at a compound annual growth rate (CAGR) of 5.2% during 2018 – 2027, expecting to reach US\$ 54.5 billion by 2027 from estimated market size of US\$ 34.5 billion in 2018. This industry comprises of product categories namely skincare (34.8%), colour cosmetics (make-up) (27.6%), hair care (19.9%) and other (17.7%) (Oral care, toiletries, feminine hygiene) (IBISWorld, 2019). While many studies have investigated the various aspects of green purchase behaviour (e.g., Shiel et al., 2020; Rustam et al., 2020; Cheah and Phau, 2011; Hansen et al., 2012; Yadav and Pathak, 2016), the market is now experiencing a renewed interest in ecologically oriented issues such as purchasing environmentally friendly or "green" products with a more pervasive focus on the consumer marketplace (Ghazali et al., 2017; Zhang et al., 2019; Dong et al., 2020). Research has shown that consumers today have radically reshaped the beauty and personal care industry (Pop et al., 2020; Singhal and Malik, 2018). In particular, female consumers are noted to have positive attitude towards purchasing green cosmetics and beauty care products. According to literature, women engage heavily in sustainable lifestyles, as natural cosmetics and beauty care products are believed to harmonise their self-image, health risks and feminism which explain the growing demand for eco-friendly cosmetics and beauty care products (e.g., Singhal and Malik, 2018; Pudaruth et al., 2015).

Nowadays, consumer trends suggest that shoppers are seeking natural materials and additives, this is particular notable for cosmetic products (Roberts, 2021). However, to what extent are 'healthy', 'natural', or 'clean' attributes in beauty and personal care of importance to the everyday female shopper? According to a recent global survey on health and wellness (Masory, 2019), these buyers want beauty and personal care products with natural ingredients that are sourced and manufactured following ethical and environmental standards. This attention to healthy and clean products is driven by a number of factors. There is a growing awareness as well as some confusions among the general public regarding many ingredients in beauty and personal care products, such as the apparent negative effects of synthetic materials and chemicals on health and the environment (Patnaik et al., 2021; Hsu et al., 2017; Kim and Seock, 2009). This has created a sense of fear and mistrust among beauty companies regarding production and labelling of beauty and personal care products

(Wischhover, 2018), thus there has been a shift in buyer behaviour from conventional purchase behaviour to green purchase behaviour.

South Africa, as a developing country, has established significantly less groundwork for sustainable behaviour than typical first-world countries (Owusu-Sekyere et al., 2019; Bisschoff and Liebenberg, 2016). As an emerging green economy, there are around 250 players operating in South Africa's formal cosmetics sector, with the growth coming mainly from the SMME sector (Research and Markets, 2019). According to recent statistics, South Africa poses a fairly equitable workforce in terms of gender with women making up 45.3% of the entire labour force (Mordor Intelligence, 2019). This has remained one of the key factors for the increased demand in South Africa for skin care products with herbal, natural and green ingredients. While the skincare market in South Africa is forecasted to have an annual growth rate of 7.4% in the next five years (Mordor Intelligence, 2021), it is also noteworthy that buyers in this market are aware of the long-term effects of harsh chemicals on their skin and prefer natural products and are willing to pay marginally more for premium brands (Scott and Vigar-Ellis, 2014; Anvar and Venter, 2014).

Previous studies have examined the consumer purchase behaviour of natural cosmetic products in the developed and developing countries, such as in the USA (Kim and Seock, 2009), Greece (Tsakiridou et al., 2008), Malaysia (Jaini et al. 2019), Mauritius (Pudaruth et al., 2015), Hong Kong (Lai and Cheng, 2016), and Vietnam (Nguyen et al., 2016), however the outcomes in relation to consumer attitude towards natural 'green' cosmetics and green consumer behaviour as a whole have remained largely inconclusive (Wang et al., 2019). Thus, the attitude – behaviour gap is largely attributed to the impact of social mechanisms such as subjective norms, and perceived behavioural control that tend to differ as they influence consumer purchase behaviour. Furthermore, the country context of the study may suggest that some variability as well as differences in buyer behaviour will exist especially when dealing with consumers in an environmentally conscious setting (Quoquab and Mohammad, 2020). Therefore, the dearth of research in uncovering consumer attitudes and purchase intention towards green products in particular natural or green cosmetics within the context of an emerging market such as South Africa necessitates the need to conduct further studies in this area.

Despite the advances in teasing out the relationships between concerns over sustainability and eco-friendly consumption, several questions remain unanswered. For example, why does concern for the environment not always translate into effective purchase behaviour; why are intentions not converted into environmentally friendly actions or activities (do Paco et al., 2019)? Therefore, this gap in the literature provides an opportunity for further research to expand on these antecedents or ‘drivers’ of consumer attitude and buying behaviours towards green cosmetics (ElHaffar et al., 2020). Another omission from the findings of most studies in the field is the lack of product category specificity, and a failure to address specific types of eco-friendly products (e.g., natural ‘green’ face masks). This has an important implication as currently there is an imbalance in the literature between the growing use of natural cosmetics and the limited research attention focused on this category of product alternatives (ElHaffar et al., 2020; Liobikienė et al, 2016; Paul et al., 2016; Nguyen and Rowley, 2015).

To revisit consumers’ purchase intention of eco-friendly products, in particular ‘green’ cosmetics, this study empirically tests a conceptual model. The research aims are twofold. First, the study utilises the conceptual framework based on Ajzen’s (1991) Theory of Planned Behaviour (TPB) model which is an extension of the Theory of Reasoned Actions (TRA) to investigate and understand the relationships between the constructs in explaining the acceptance and engagement towards green cosmetics. Other antecedents derived from the literature, and examined, include: (1) health consciousness; (2) ecological motive; and (3) environmental knowledge, against the dependent variable of female consumer attitudes towards green cosmetics. Second, the study investigates the relationship between female consumers’ attitudes towards and purchase intention of green cosmetics. The study’s third objective is to investigate the moderating effect of consumer involvement on the relationship between attitude and purchase intention for green cosmetics. The following sections review the related literature, develop the research hypotheses, describe the methodology of the study to test the hypotheses, report the results and discuss the implications of the findings.

2. Relevant literature and hypotheses

2.1. Definition of green cosmetics

According to Lin et al. (2018, p. 2) green cosmetics are defined as being a “multifaceted construct for the preservation of the environment, minimisation of pollution, responsible use of non-renewable resources, and animal welfare and species preservation”. The term ‘green’

or ‘environmentally-friendly’ in products denotes to attributes that are ‘natural’, ‘organic’, ‘sustainable’, ‘clean,’ ‘eco-friendly’ and ‘non-toxic’ (Patnaik et al., 2021; Hsu et al., 2017). In addition, Csorba and Bogela (2011) indicate that green cosmetics are also considered natural cosmetics that are made out of natural resources such as botanicals and fruit-based formulae and ingredients, without the usage of chemicals, colouring additives, or other non-natural mixtures. It is also important to note that green and organic cosmetics should not be mistaken for each other. There are several underlying differences between the two, however organic is well known to have a stricter definition than green or natural, for instance, the term ‘organic’ is highly regulated by governing bodies and agencies such as the Therapeutic Goods Administration (TGA) in Australia or the Food and Drug Administration (FDA) in the USA, which means that selling them in consumer systems can also be a significant challenge (e.g., storage, expiration etc.) (Amberg and Fogarassy, 2019). Furthermore, the difference in certification between the percentages of natural or organic ingredients needed to fulfil the certification criteria is also another distinguishing factor. Natural cosmetics products may contain ingredients that are not 100% organic. This means that natural products can contain chemicals, while organic products cannot. For instance, an organic product must have between 95-100% chemical-free ingredients, while a natural product usually is 50-70% chemical free (Attitude Organic, 2020). Moreover, a label that reads “certified organic” means 95% of ingredients are organic while “made with organic ingredients” means at least 70% of ingredients are organic.

2.2. The eco-gender gap and buyer behaviour among female shoppers

Past research has explained this ‘eco-gender’ gap in environmental sustainability by exploring differences in personality traits typically observed in women versus men. A number of studies (Tsakiridou et al., 2008; Cervellon et al., 2010; Pudaruth et al. 2015) have suggested that women are more likely than men to be green, and that in the past that gender gap has been attributed to personality differences. For instance, women show a greater tendency to be prosocial, altruistic and empathetic; display a stronger ethic of care; and assume a future-focused perspective (Tsakiridou et al., 2008). Research also shows that women have higher levels of socialisation to care about others and be socially responsible, which then leads them to care about environmental problems and be willing to adopt environmental behaviours (Briscoe et al., 2019; Cervellon et al., 2010). Moreover, other studies have also suggested that femininity and ‘greenness’ have come to be cognitively linked (by men and women), and this

is largely evidence by many green marketing efforts targeting areas in which “women tend to be more involved than men, such as cleaning, food preparation, family health, laundry, and domestic maintenance” (Brough et al. 2016, p. 568), with most eco-friendly products being marketed to women. Past findings have also revealed that female buyers are likely to respond favourably to eco-labels, green claims and environmental branding, in particular towards cosmetics and beauty care products (Thøgersen et al., 2010; Banytè et al., 2010) In addition, several studies have indicated factors such as ‘animal welfare’, ‘environmental concern’, ‘health’ and ‘safety’ are major factors motivating female shoppers to purchase green cosmetics and beauty care products (Singhal and Malik, 2018; Pudaruth et al. 2015; Tsakiridou et al., 2008; Cervellon et al., 2010). Organic beauty products are perceived as possessing higher quality, being good for health and safer due to the avoided risk of pesticide residues often found in cosmetics and beauty products (Pudaruth et al., 2015). Some studies have noted that women do not purchase cosmetics and beauty care products solely because of environmental concerns or personal beliefs but also for health reasons (Bilal et al., 2020; Vermeir and Verbeke, 2006). Finally, from an ecological perspective, female buyers are more likely to choose beauty products and cosmetics that reflect their desired lifestyle, status or self-image in society (Thomas and Peters, 2009). According to Roberts (1996, p. 222), “ecologically conscious consumers are defined as those who purchase products and services which they perceive to have a positive (or less negative) impact on the environment”. However, past literature has noted inconsistent normalities in relation to an attitude-behaviour gap when it comes to consumers “readiness to be green” (Polonsky et al., 2012; Leire and Thidell, 2005). Several studies have subsequently argued that it is essential for policymakers and marketers to have a clear understanding of the antecedents of pro-environmental consumer behaviour for promoting such behaviour (e.g., Roberts and Bacon, 1997; Follows and Jobber, 2000; Taufique and Vaithianathan 2018).

2.3. Theory of planned behaviour (TPB)

The theory of planned behaviour has been widely acknowledged and applied as the theoretical framework to understand and determine the behavioural intentions of consumers by utilising the factors of attitude, subjective norm and perceived behavioural control as the bases of predicting the behaviour (Ajzen, 1991). Extant literature has used the TPB framework in explaining and envisaging consumer intentions in an extensive variety of green and pro-environment areas, such as green hotels (Chen and Tung, 2014), organic personal care products

(Ghazali et al., 2017), organic/sustainable food (Lim et al., 2014; Tarkiainen and Sundqvist, 2005) and green products (Paul et al., 2016); thus, proving the robustness and applicability of the framework.

According to Sun et al. (2018), the ‘readiness to be green’ constitutes important factors such as consumer attitude, conscientiousness, extraversion and openness which ultimately predicts the buyers’ intention to purchase green products. Several studies have also emphasised that using green cosmetics is a lifestyle of treating self and the environment with respect (Kim and Seock, 2009; Hansen et al., 2012; Paul et al., 2016; Liobikienė et al, 2016). Kim and Chung (2011) and Taufique and Vaithianathan (2018) applied the TPB in predicting purchase intentions towards natural personal care products. Their findings demonstrate that TPB predictors were significant in relation to purchase intention; in particular, consumers’ attitude towards the environment influences the behavioural intention directly and positively. Furthermore, the TPB was utilised in a study on organic food products to determine the antecedents of sustainable food consumption among young adults in Belgium where the findings demonstrate that the TPB provided approximately 50% of variance in an explaining consumer purchase intention (Vermeir and Verbeke, 2006). Similarly, several other studies applied the TPB framework in examining the consumer intention to purchase organic food revealing that subject norms and attitude were able to explain variances of purchases intentions (e.g., Sultan et al., 2020; Arvola et al., 2008).

2.4. Extending the theory of planned behaviour

Conner and Armitage (1998) argue that the TPB model is barely a representation of a complete theory, it is rather a description of the processes in where beliefs and attitudes determine behaviour. Ajzen (1991) proposes that in principle the TPB model remains open to change and the inclusion of additional predictors. Hence, various studies in green consumer behaviour followed this suggestion by extending the model in a range of studies such as green skincare products (Hsu et al., 2017), organic food products (Zhou et al., 2013) and general green products (Lai and Cheng, 2016; Yadav and Pathak, 2019).

The frameworks that are developed in the bases of these theories are usually country specific and thus outside the country of context which suggests that it cannot be readily applied (Paul et al., 2016). Furthermore, it is suggested that in view of other cultural settings, additional cognitive factors are to be embraced in predicting green purchase behaviour by utilising a

modified TPB framework (Jaiswal and Kant, 2018; Joshi and Rahman, 2015; Wei et al., 2017). In addition, several research propose the incorporation and inclusion of other cognitive, internal and external factors such as environmental knowledge and health consciousness in the assessing of green purchase intention (Kim and Chung, 2011; Kumar et al., 2017; Mostafa, 2006; 2007). Yadav and Pathak (2016) extended the TPB framework, by including the antecedent of environmental knowledge in predicting young consumers' intention to purchase green product in India. Moreover, it is also reported by previous research that environmental knowledge is an important subjective phenomenon in predicting green consumer intention (Tan, 2011; Joshi and Rahman, 2015). While subjective norms and PBC will provide insights towards green purchase intention, it is important to understand how consumer attitudes towards green purchases are developed, especially for developing countries such as South Africa. Furthermore, past studies (e.g., Wei et al., 2017; Mostafa, 2007) that have examined green consumption in developing countries have confirmed that these factors will contribute to our understanding of how green attitudes are formed and subsequently influence the purchase intention as underpinned by TPB model. Based on the extent literature, the current study extends the TPB model by incorporating the influence of the internal and external factors (i.e., ecological motives, health consciousness and environmental knowledge) on consumer attitude towards green product consumption.

2.5. Subjective norm

Subjective norm relates to the normative guidance or perceived social influence/pressure that an individual obtains from significant relevant persons' such as family, friends and peers, to perform or not to perform in a behaviour, though this influence may vary across consumers given its subjectivity (Ajzen, 1991; Paul et al., 2015). These significant relevant others refer to individuals whose preferences about a person's behaviour in his/her area are important to the individual. For instance, according to Teng and Wang (2015) if a consumer perceives that those relevant persons to them have a positive opinion and attitude on a product, then they tend to have a positive purchase intention to that product. Additionally, Hansen et al. (2012) relate that depending on situational factors this normative guidance may vary for the same person due to the situation and subjectivity.

On the other hand, several previous studies have encompassed subjective norm in green consumption literature, revealing that the relationship between subjective norm and purchase

intention is insignificant and weak towards green products (e.g. Pop et al., 2020; Ghazali et al., 2017; Uddin and Khan, 2018; Nguyen et al., 2016). For example, in a developing country context Kumar et al. (2017) demonstrate that subjective norm has a weak effect towards sustainable products on purchase intention which could be attributed to levels of accessibility to information and resources. Similarly, another study reveals a weak influence of subjective norm on purchase intention towards green products (Nguyen et al., 2016). This is suggested to be due to apparent low levels knowledge and awareness of green consumption.

However, other studies state that an understanding of how social influence promotes green product diffusion and purchase intention is relevant for marketing and scholarly implications (Hansen et al., 2012). Whilst literature also suggests that it positively contribute into acquiring insight into green consumer behaviour (Hansen et al., 2012; Persaud and Schillo 2017). Previous research identifies that subjective norm has a significant positive effect on consumers' purchase intention towards green products such as organic food (Chen, 2007), green hotels (Kun-Shan and Teng, 2011) and organic personal care (Kim and Chung, 2011). It is proposed that in the context of consumer behaviour in relation to beauty and skin care management, that subjective norm will have a significant positive influence on an individual's purchase intentions (Kim and Chung, 2011; Paul et al., 2016). Therefore, the following is hypothesised:

H1. Subjective norm will have a significant positive impact on consumers' purchase intention towards green cosmetics.

2.6. Perceived behavioural control

Ajzen (1991) defines the perceived behavioural control concept as an individual's perception of the extent to which performance of the behaviour is easy or difficult. Moser (2016) finds that in the implementation of green consumption, consumers are faced with complexities or obstacles which inhibit them from behaving accordingly. Moreover, Ajzen (1991) suggests that individuals are likely to have a high degree of perceived behavioural control if they perceive that there are opportunities and have accessibility to the requisite resources in performing the behaviour. For example, it is stated that when it is believed by consumers that they have more resources such as time, money, and skills their perceptions of control are high and hence their behavioural intentions increase (Kim and Chung, 2011). Wang et al. (2014) examine factors which influence sustainable consumption in China and demonstrate that perceived behavioural

control has a positive effect on purchase intention. However, studies show that perceived behavioural control has a positive and significant impact on purchase intentions in various green research contexts, such as organic personal care products (Ghazali et al., 2017; Kim and Chung, 2011), green hotels (Han et al., 2010; Chen and Tung, 2014), organic foods (Tarkiainen and Sundqvist, 2005), and green products in general (Sreen et al., 2020; Moser, 2015).

Research on the effect of perceived behavioural control on green purchase decisions has been mixed. Joshi and Rahman (2012) propose that perceived behavioural control is an important factor in determining consumers' green purchase intentions, particularly those who have a better behavioural control, stronger attitude, perceived sense of responsibility and self-identity towards the environment are more probable to be green (Taufique and Vaithianathan, 2018). Another study reported that perceived behavioural control and green purchase intention of a consumer were unrelated (Arvola et al., 2008). On the other hand, even though perceived behavioural control demonstrates to have a positive link and significant performance, some research suggests a lower importance than other determinants of purchase intention (Ghazali et al., 2017). Kang et al. (2013) indicate perceived behavioural control to have an insignificant influence on purchase intention. These findings are often attributed to different cultures and organic product accessibility. Therefore, based on the afore-discussed theoretical expectations and empirical findings, the following is hypothesised:

H₂. Perceived behavioural control will have a significant positive impact on consumers' purchase intention towards green cosmetics.

2.7. Health consciousness

Health consciousness refers to “the degree of readiness to undertake health actions” (Schifferstein and Ophuis, 1998, p. 122). Liobikienė and Bernatoniė (2017) reveal that an important requirement for green cosmetics is that the ingredients should be organic or natural and eco-friendly (i.e., grown without pesticides or toxic herbicides, chemical free, without synthetic fertilizer). According to Smith and Paladino (2010), typically health is considered to include individual and family health. Padel and Foster's (2005) comparative study between the two suggest that individual health was the stronger motivator for purchasing organic products.

Kim and Seock (2009) report that consumers who are more health conscious might change their consumption patterns as they believe that their actions would impact the health. However, some studies have found that an individual's health consciousness has no significant effect on the organic purchasing behaviour (Lockie et al., 2004). Whereas some research also revealed that health consciousness may not be sufficient in predicting organic product purchases (Grunert and Kristensen, 1991). However, numerous studies have identified health as a strong motivator towards purchasing organic products (Sadiq et al., 2021; Padel and Foster, 2005; Rana and Paul, 2017). For example, Kim and Chung (2011) demonstrate that health consciousness is the most important factor that influences attitude towards organic personal care products.

In an extensive literature study, Rana and Paul (2017) relate that even in emerging countries consumers depict a growing interest towards organic products such as in organic food to improve and protect their health. Similarly, Salleh et al.'s (2010) research on consumer's perception and purchase intentions towards organic food products demonstrates that health consciousness is a significant predictor. Despite the above, health consciousness can be underscored as a factor which contributes to the attitude towards green products. Therefore, the following is hypothesised:

H₃. Health consciousness will have a significant positive impact on consumers' attitude towards green cosmetics.

2.8. Ecological motives

The factor of ecological motives refers to the concerns, rights and welfare towards the environment and animals (Yue et al., 2020; Honkanen et al., 2006). Michaelidou and Hassan (2008) state that environmental and animal welfare motives have been found to influence the demand towards organic produce food. Similarly, Hennigs et al. (2016) reveal that the growth in green cosmetic and beauty care product consumption is highlighted by change in consumer environmental and animal welfare concerns. Consumers are inclined to select product alternatives that abide animal rights and are environmentally friendly when the consumer possess ecological motives in trying not to harm animals or the environment (Harper and Makoutani, 2002; Rustam et al., 2020). In a similar vein, research suggests that organic products such as in the case of organic foods has been perceived as being an eco-friendly

product choice as well as a product that places importance on animals' welfare (Teng and Lu, 2016). Smith and Paladino (2010) found that ecological motive (such as environmental concern) had a positive significant influence on consumer attitude towards organic food, however, consumer attitude did not translate in to purchase intention.

In contrary, past studies examining factors that motivate organic consumption found that environmental concerns and animal welfare motives explained attitude and purchase intention towards organic food products (Honkanen et al., 2006). Teng and Lu (2016) examined the effect of consumption motives on behavioural intention towards organic product demonstrating that ecological motives influences purchase attitude and intention of organically produced products. In addition, these environmental and animal rights motives might lead to empathy and subsequently influence positive attitudes, hence resulting in ecologically sound consumption choices (Michaelidou and Hassan, 2008). Furthermore, few other studies (e.g., van Birgelen et al., 2009; Agrawal and Gupta, 2018) observed that environmentally friendly beverage packaging is preferred by consumer, leading to positive attitude and purchase intention towards green products, which was substantiated by Barber et al. (2010) in a wine tourism context. Therefore, the following is hypothesised:

H4. Ecological motives will have a significant positive impact on consumers' attitude towards green cosmetics.

2.9. Environmental knowledge

Knowledge is the amount of information held in one's memory that affects the way in which consumers interpret and assess the available choices (Blackwell et al., 2001). Environmental knowledge refers to an individual's cognitive abilities in understanding, evaluating and identifying the issues, concepts, symbols and behaviour relating to environment and sustainability (Rustam et al., 2020; Jaiswal and Kant, 2018; Tan 2011). These relate to the environmental issues including air, water, land pollution, waste generation, recycling practices, packaging and its impacts on the physical environment and society (Jaiswal and Kant, 2018). Schahn and Holzer (1990) distinguish two types of knowledge when examining environmental behaviour: abstract and concrete. The former refers to knowledge concerning environmental problems, causes, solutions whereas the latter relates to behavioural, factual or objective knowledge which can be applied and acted upon. Previous researcher demonstrated that

environmental behaviour is more likely to be impacted by abstract environmental knowledge rather than factual knowledge (Sadiq et al., 2021; Mostafa 2006; Schahn and Holzer, 1990). Consistent with these findings, Tanner and Kast (2003) also suggested that the action related knowledge was significant in predicting organic food purchases whereas the factual knowledge was found to be insignificantly related.

A few scholars reported that environmental knowledge may relate with positive attitude towards green products that further influences purchase intention for such green products (Chan, 2001; Yadav and Pathak, 2016; Jaiswal and Kant, 2018). Other studies have acknowledged that environmental knowledge has a minor impact on environmentally friendly purchase behaviour. For instance, Kumar et al. (2017) observed the relationship between environmental knowledge and attitude were inconsistent hence an increased environmental knowledge does not necessarily result in the occurrence of a higher purchasing intentions for green products. Furthermore, Lin and Hsu (2015) found that the effect of knowledge about climate change and mass media was not significant on green purchase decisions.

On the other hand, extant literature demonstrates that environmental knowledge positively influences consumer attitude and purchase intention with regards to green products (e.g. Azizan and Suki, 2013; Fraj-Andrés and Martínez-Salinas, 2007; Jaiswal and Kant, 2017; Padurath et al., 2015). Moreover, it is noted by several studies that consumers' environmental knowledge on green certification is a major driver for adopting green cosmetics and beauty products (e.g., D'Souza et al., 2006; Leire and Thidell, 2005). This reinforces the importance of consumer environmental knowledge and information empowerment as a motivator in shaping attitude and purchase intention towards environmentally friendly products (Cheah and Phau, 2011). Based on the above discussion, it appears that a positive effect of environmental knowledge on attitude prevails. Therefore, the following is hypothesised:

H₅. Environmental knowledge will have a significant positive impact on consumers' attitude towards green cosmetics.

2.10. Purchase intention

Purchase intention refers to the consumers' possibility of planning or requesting to buy a product/service in the future (Wu et al., 2011; Erdil, 2015). Ramayah et al. (2010) state that

attitude comprises of perceived consequences linked with purchase related behaviour. According to Hansen et al. (2017) it also relates to the extent of which a consumer perceives that a behaviour, such as purchasing cosmetics without harmful chemicals, to be favourable or unfavourable. More specifically, if consumers' attitude in regarding specific behaviours is positive, it is more likely that they will engage in that behaviour (Chen and Tung, 2014; Ghazali et al., 2017). Furthermore, this behavioural determinant highlights the consumers' likes and dislikes and favours the willingness towards the purchase of a product (Alzubaidi et al., 2021; Mishal et al., 2017).

However, few studies have reinforced the attitude–intention relationship in the context of green and organic consumption. Though attitude has been identified as a notable factor in green behavioural studies, researchers have met varying levels to which attitudes influences the behavioural intentions. For instance, Teng and Wang (2015) revealed support for a significant but relatively weak effect of attitudes towards organic food purchase intention. However, previous studies, in the context of green behaviour argued that attitude–intention relationship prevails towards green product, which include green hotels (e.g. Chen and Tung, 2014), organic foods (Ha and Janda, 2012) and organic personal care products (Kim and Chung, 2011). Furthermore, past literature suggests that the more favourable the attitude, the higher the purchase intention (Li et al., 2021; Ghazali et al., 2017; Pudaruth et al., 2016; Koklic et al., 2019; Yang, 2017). For example, Koklic et al.'s (2019) research examining pro-environmental behaviour revealed that consumers' attitude plays a visible role in influencing purchase intention, even with the consideration of other moderator's frequency and moral determinants.

In cross-cultural studies conducted across developed and emerging markets, findings demonstrated that attitude is a strong predictor of purchase intention towards green products (Pop et al., 2020; Mostafa, 2006; Nguyen et al. 2016; Kim and Chung, 2011). For instance, Paul et al. (2016) investigated predictors of green product consumption in India, demonstrating that attitude is the strongest predictor of consumer intention to purchase green product. Similarly, Ling (2013) supported this view with a notion that the relationship between attitude and purchase intention to be positively correlated. Furthermore, it was demonstrated that attitude is positively associated with purchase intention, with the relationship being strengthened by moderating variables such as country of origin (Hsu et al., 2017). The discussion reveals the expectation that a positive attitude towards green product purchase would influences purchase intention. Thus, the following is hypothesised:

H₆. Attitude will have a significant positive impact on purchase intention towards green cosmetics.

2.11. Involvement

Involvement is an individual's level of arousal, interest, or drive resulted by a particular stimulus or situation (Mitchell 1979). Zaichkowsky (1986) and Bloch and Richins (1983) in theorizing involvement, observed involvement as having three main antecedents: characteristics of the person, characteristics of the stimulus and characteristics of the situation. They highlight that across these three antecedents, the reference lead to personal cognitive and emotional relevance therefore referring to consumers' personal involvement. Consumer involvement shows an individual's motivation and thoughtfulness towards buying a product whilst also referring to the affect or the emotion associated with views towards a specific phenomenon, in this case green cosmetics (Lee, 2010; Prendergast et al., 2010). According to Petty and Caciopo (1983), involvement determines how motivated an individual is when mentally processing information received therefore it forms an important determinant factor.

Previous research suggests that consumer involvement influences product selection and purchase decisions. For instance, Bang et al. (2000) demonstrate that consumers who are more involved emotionally with environmental issues associated with green products expressed a higher willingness to purchase such products than their less concerned counterparts did. Lee (2010) argues that that an individual's involvement towards environmental issues and concerns that could be linked with the green product may motivate them to adopt green purchase behaviours. Furthermore, Kumar et al. (2016) propose that consumer with a higher level of involvement would lead to a higher cognitive expansion of the product which results in a higher level of logical thinking before deciding towards purchasing.

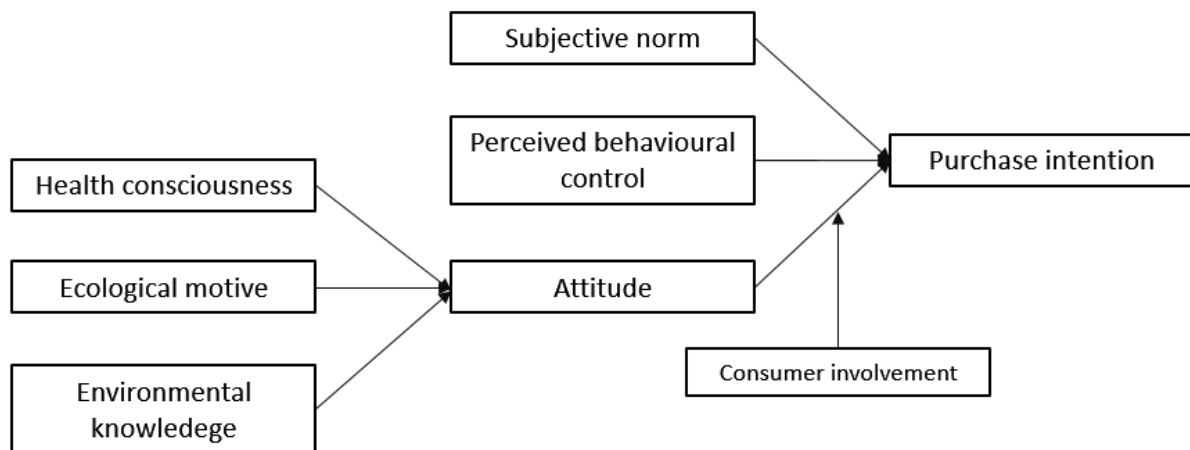
According to Teng and Lu (2016), consumer involvement is considered an influencer in shaping attitude and purchase intention. Hence, the incorporation of the concept may provide an explanation how consumer motivations impact the development of certain behaviour. In addition, a high involvement of consumers illustrates their participation in the purchase process and consideration of the green product characteristics thus in turn favours the relationship between attitude and purchase intention (Agrawal and Rahman, 2014; Vermeir and Verbeke,

2006). Drawing from the above literature, involvement is an important concept in moderating the relationship between attitude and purchase intention. Therefore, the following is hypothesised:

H7. The positive relationship between attitude and purchase intention will be stronger for consumers with high involvement.

The hypothesised relationships are presented in Figure 1.

Figure 1: Research framework



3. Method

Data were collected through a self-administered online survey questionnaire in two cities in South Africa (i.e., Durban and Johannesburg). Prior to data collection period, the questionnaires were pre-tested to eliminate ambiguity or misunderstanding within the wordings. The survey links were distributed across social media platforms such as Instagram, Facebook and messaging platforms namely WhatsApp groups through the researchers' peers and friends, with snowballing encouraged. The measurement items were adapted from established scales (Table 2). The survey questionnaire consisted of six sections. The first section provided the information regarding the research purpose and confidentiality of information. The second section had the filter question which ensured only female are

participating in the survey. Section three included the measurement items for health consciousness (Teng and Lu, 2016), ecological motives (Teng and Lu, 2016), and environmental knowledge (Mostafa, 2007). The next section measured the respondents' subjective norm (Bansal and Taylor, 2010; Nguyen et al., 2016), perceived behavioural control (Ghazali et al., 2011; Chen, 2007), and involvement (Teng and Lu, 2016). The fifth section included measurement items for the respondents' attitude (Kim and Seock, 2009) and purchase intention (Bian and Forsythe, 2012) towards green cosmetics. All items were measured with a seven-point Likert scale with 1 representing "strongly disagree" and 7 representing "strongly agree". The final section enquired the demographic profile of the respondents. A total of 451 completed responses were collected of which 408 deemed valid and useable. The final sample size met the requirement of 10 cases per variable (Nunnally, 1978) and minimum of 200 responses (Kline, 2011). The sample profile is presented in Table 1.

Table 1 Profile of respondents

Characteristics	Percent
Age	
18-24	63.73
25-30	25.25
31-35	5.15
36-40	4.17
Over 40	1.72
Education	
Primary	25.49
High school	15.20
Undergraduate	42.16
Postgraduate	14.95
Others	2.21
Income	
Below 7800	35.29
7800-12999	13.24
13000-20799	7.60
20800-31199	4.66
31200-41599	3.19
41600 and above	1.47
Do not want to specify	34.60

4. Results

This study analysed the data through Structural Equation Modelling in IBM SPSS AMOS 26. The unidimensionality of the measurement scales was tested through an Exploratory Factor Analysis (EFA). There was no cross-loading among the items and the factor loading for all items were greater than 0.50. Each scale had a satisfactory Cronbach alpha score (more than 0.70) to prove a strong reliability (Nunnally, 1978). Next, as recommended by Anderson and Gerbing (1988), a two-step procedure was followed for testing the model. In doing so, the reliability and validity of the constructs were examined through purifying the scale items with a respecified and optimised measurement model. Then, the hypothesised relationships were tested through a structural model.

The measurement model achieved good fit with ($\chi^2 = 532.46$, $df = 276$, $\chi^2/df = 1.93$; RMSEA = 0.05, SRMR = 0.05, CFI = 0.95, and TLI = 0.95). The item loadings in the measurement model is presented in the Table 2. The construct reliabilities were greater than 0.70 (Table 3). The convergent validities were assured as the AVE (Average Variance Extracted) values were greater than 0.50 (Table 3). The discriminant validities of the constructs were achieved (Table 3) as the square root of the AVE values are higher than the pair-wise inter-construct correlations (Fornell and Larcker, 1981).

Further, the common method bias was assessed in two ways. First, Harman's single-factor test was conducted (Podsakoff et al., 2003). In doing so, an exploratory factor analysis was conducted with unrotated solution that reveals the single-factor explains 29.7% of the variance which is less than the recommended threshold (i.e., 50%) (MacKenzie & Podsakoff, 2012). Second, a marker variable namely the respondents' "Intention to visit Italy" was included as an unrelated variable into the survey questionnaire (Lindell and Whitney, 2001). The correlations were less than 0.20 among the marker variable and other variables of the research model (Evans, 1996). Further, the marker variable was included into the measurement model. The results did not show any significant impact of the marker variable on the measurement model. Therefore, the common method bias was not considered problem in this study.

Table 2: Measurement items with factor loading

Measurement constructs and items	Loading
Subjective norm	
People who influence my decisions would approve of me buying green cosmetic products.	0.74
People who are important in my life would support me buying green cosmetic products.	0.80
Most of the people who are important to me think that I should buy green cosmetic products.	0.75
Perceived behavioural control	
I completely have control over the purchase of green cosmetics.	0.65
I have the resources and ability to buy green cosmetics.	0.84
I am confident that if I want green cosmetics, I can buy them.	0.79
Health consciousness	
I'm alert to change in my health.	0.63
I'm usually aware of my health.	0.74
I take responsibility for the state of my health.	0.76
Ecological motive	
It's very important that the green cosmetic products have been produced in a way that animal rights have been respected.	0.77
It's very important that the green cosmetic products have been prepared in an environmentally friendly way.	0.91
It's important that the green cosmetic products are packaged in an environmentally friendly way.	0.96
It's very important that the green cosmetic products have been produced in a way which has not shaken the balance of the nature.	0.86
Environmental knowledge	
I know more about recycling than the average person.	0.69
I know that I buy products and packages that are environmentally safe.	0.79
I know how to select products and packages that reduce the amount of waste ending up in landfills.	0.83
I understand the environmental phrases and symbols on product package.	0.63
I am very knowledgeable about environmental issues.	0.67
Attitude	
I believe green cosmetic products are better for my health.	0.79
I believe that green cosmetic products are more effective than conventional cosmetic products.	0.79
I believe that there are substantial quality differences between green cosmetics and conventional cosmetic products.	0.64
Between green and conventional cosmetic products with the same price, I would prefer the organic.	0.65
Purchase intention	
The probability I would consider buying this green cosmetics is high.	0.82
I would buy this green cosmetics if I happened to see it.	0.91
I would actively seek out this green cosmetics in a place to purchase it.	0.74
If I were going to purchase a similar products, I would buy this green cosmetics.	0.78

Table 3: Construct reliability and validity

	CR	AVE	1	2	3	4	5	6	7
1. Health consciousness	0.754	0.506	0.712						
2. Ecological motives	0.930	0.771	0.314***	0.878					
3. Subjective norm	0.807	0.582	0.298***	0.399***	0.763				
4. Perceived behavioural control	0.807	0.585	0.330***	0.250***	0.417***	0.765			
5. Attitude	0.809	0.517	0.252***	0.485***	0.607***	0.491***	0.719		
6. Environmental knowledge	0.847	0.528	0.282***	0.230***	0.362***	0.327***	0.388***	0.727	
7. Purchase intention	0.888	0.667	0.206***	0.264***	0.432***	0.334***	0.520***	0.361***	0.817

Note: Figures in the diagonal (values given in bold) are the square root of the Average Variance Extracted (AVE); those below the diagonal are the correlations between the constructs. CR = Composite reliability. The significance level: *** $p < 0.001$

The structural models also had strong fit indices: $\chi^2 = 612.00$, $df = 281$, $\chi^2/df = 2.18$; RMSEA = 0.05, SRMR = 0.07, PClose = 0.13 CFI = 0.94, and TLI = 0.93. As presented in Table 4, except for the H₂ and H₃, all the hypothesised relationships were supported. We also ran an alternative model to examine the direct impact of health consciousness, ecological motive and environmental knowledge on purchase intention. The results show that environmental knowledge had a significant direct impact on purchase intention ($\beta = 0.17$, $t = 2.37$, $p = 0.018$), but the impact of both health consciousness ($\beta = 0.02$, $t = 0.19$, $p = 0.85$) and ecological motive ($\beta = -0.04$, $t = -0.47$, $p = 0.64$) on purchase intention were non-significant.

Table 4: Summary of the hypothesis testing

Relationships			β	t -value	p -value
H ₁	Subjective norm	→ Purchase intention	0.24	3.19	0.001
H ₂	Perceived behavioural control	→ Purchase intention	0.14	1.72	0.085
H ₃	Health consciousness	→ Attitude	0.09	1.10	0.270
H ₄	Ecological motive	→ Attitude	0.43	7.03	***
H ₅	Environmental knowledge	→ Attitude	0.31	5.41	***
H ₆	Attitude	→ Purchase intention	0.45	6.62	***

The significance level: *** $p < 0.001$

4.1. Moderating role of involvement

Hayes's (2017) process macro was utilised to test the moderating impact of involvement on the relationship between attitude and purchase intention (H₇). In this process, the simple moderating was examined through 'Model 1'. Specifically, the attitude was entered as the predictor variable, purchase intention as the outcome variable, and the involvement as the

moderator. The interaction was supported with $R^2 = 0.28$, $F = 52.15$, $\beta = 0.08$, $t = 2.66$, $p = 0.008$, indicating that consumers' involvement strengthens the positive relationship between attitude towards and purchase intention for green cosmetics.

5. Discussion

This research expanded the application of the theoretical framework of theory of planned behaviour by the addition of ecological motives, environmental knowledge and health consciousness as predictors of attitude towards green cosmetics products in South Africa.

Subjective norm was found to be a strong predictor of the consumers' purchase intention towards green cosmetic. This result is consistent with previous research that examined the relationship between subjective norm and purchase intention (Sreen et al., 2020; Hsu et al., 2017; Kim and Chung, 2011; Hansen et al., 2011). This finding is explained by the experience of information which relates to the relevant information regarding cosmetics products purchase intentions and possible decision factors. Moreover, this could be attributed to cosmetics product's notion of being socially visible products. Hence, consumers accept and act according to the guidance and opinions received from relatives and peers (Hansen et al., 2011; Cheng and Lam, 2008). This research also demonstrates that perceived behavioural control did not have a significant impact on the consumers' purchase intention. This result reflects that South African consumers' perceived behavioural control in terms volitional control does not influence the purchase intention for green cosmetics products and hence insignificant in impacting their behavioural intentions (Joshi and Rahman, 2012). The plausible explanation of such non-significant finding may also contribute to the notion that consumers do not believe to have more access to resources that enables them to form decisions that would lead to purchasing green cosmetics products (e.g., Kang et al., 2012). This may also relate to the culture, values and socio-economic constraints faced by the consumers in a developing country (i.e., South Africa). This research further confirms that attitude is a significant predictor of purchase intentions for green cosmetics. This result is consistent with the classic attitude-behaviour relationship of the TPB model (Ajzen, 1991) and therefore validates the framework within the context of green cosmetics. Moreover, this finding aligns with the past research that states that consumers' attitude has a positive, significant and relatively strong effect on organic and green purchase intention (Alzubaidi et al., 2021; Ghazali et al., 2017; Kim and Chung, 2011).

Contrary to the expectation, South African consumers' health consciousness did not have a significant positive impact on their attitude towards green cosmetics. The plausible explanation of this result could be that these consumers do not associate green cosmetics as being healthy. In previous research, health consciousness has not been consistently supported as a predictor of attitude towards green products (Lockie et al., 2004; Tarkiainen and Sundqvist, 2005). Although South African consumers may be conscious towards health, they perhaps associate little benefits of green cosmetic towards their physical wellness (Michaelidou and Hassan, 2007). Also, noteworthy that the measurement items of the health consciousness were related more towards the gastronomy and physical fitness. Therefore, the construct possibly did not accurately capture the participants' health consciousness related to the consumption of green cosmetics.

The significant and positive relationship between ecological motives and consumers' attitude towards green cosmetics indicates that consumers' concern towards the welfare and the environment impacts their decision making and purchase of green cosmetics. This result aligns with previous studies where consumer's positive attitude towards green cosmetic products were largely related to securing environmental and animal welfare interests (Li et al., 2021; Pervin et al., 2014; Liobikienė and Bernatoniene, 2017). The positive impact of the consumers' environmental knowledge on their attitude towards green cosmetics is consistent with past research findings as well (Yue et al., 2020; Chan and Lau, 2000; Connell, 2010; Padel and Foster, 2005). The finding suggests that elementary information or understanding of environmental issues are sufficient to motivate consumers to adjust towards sustainable and environmentally friendly attitude and purchase intentions (Yadav and Pathak, 2016). Furthermore, additional information on related issues may lead to an increase in environmental knowledge which in turn might support the consumers' understanding of the product attributes and trust in green products. Therefore, the enhanced knowledge may reinforce a positive attitude and purchase intention to such green products. Conversely, an absence of environmental knowledge may prevent consumers from translating their concerns to influence a positive attitude and purchase intention towards ecologically sound products (Tanner and Kast, 2003; Vermeir and Verbeke's, 2006).

This research also addressed the gap in literature in green product research by examining the moderating effect of involvement on the relationship between attitude and purchase intention towards green cosmetics. The findings of the research reveal that higher the consumer's

involvement with green cosmetics, stronger the relationship between attitude and purchase intention. A higher level of involvement will encourage consumers to engage in an extensive information searching and processing that will subsequently reduce the perceived risks and uncertainties related to the green cosmetics consumption. In particular, consumers' intention to buy green cosmetics can be amplified when their positive attitude is conditioned with relevant information and appeals (Lee, 2011). Overall, the consumers with a higher involvement will psychologically consider and evaluate the traits and benefits of green cosmetics which in turn will strengthen the purchase intention.

6. Implications

6.1. Theoretical implications

The findings of this research contribute to the theoretical understanding of green consumption in several ways. First, this research validates the theory of planned behaviour within the context of purchasing green cosmetics among South African female consumers. Thus, this paper fulfils an existing gap within the domain of eco-gender gap and behavioural intention. Second, there is a growing consensus that consumers' understanding of personal well-being and environmental concerns influences the phenomenon of green consumption (Yue et al., 2020; Mutum et al., 2020). Therefore, from a conceptual standpoint, the inclusion of health consciousness, ecological motive and environmental knowledge provides a more robust understanding of green purchase behaviour. Third, the extant literature often refers to the multiplicity of the attitude-intention relationship due to the external variables (e.g., ElHaffar et al., 2020). Hence, this research provides empirical evidence that consumers' level of involvement is a critical driver in enhancing the relationship between attitude and purchase intention.

6.2. Managerial implications

Managerially, the results of this research would benefit the practitioners within the South Africa's green cosmetic and beauty industry in several ways. More specifically, this study will aid a marketer in (a) identifying, segmenting and profiling female shoppers and consumers in terms of their motivation to purchase green cosmetics, as well as to inform marketers of (b) how to best promote their green cosmetics products to their prospective target audience. The key implications are threefold. Firstly, the results have highlighted the importance of

environmental benefits and adherence to animal welfare when promoting green cosmetics to consumers (Chen, 2011; Teng and Lu, 2012). Marketers of green cosmetics and similar products will therefore need to be aware that the environmental benefits of their products should not be ‘implied’ rather it should be visible and communicated ostentatiously. For example, this awareness could be created through labelling the green cosmetic products with environmental claims and eco-certifications. Other forms of novel eco-friendly packaging is also a good way to cultivate awareness around the matter. Secondly, the results have shown us that interpersonal influence (i.e., subjective norms) is interesting and that it acknowledges that individuals do not make decisions in a bubble. It is likely that the environmental learnings or leanings of friends and family will influence how individuals feel about green cosmetics products. Therefore, it is important that marketers set up promotion initiatives that emphasises the ‘collective’ as well as promote social value (Smith and Paladino, 2010), whether it is through social media marketing, promotion activities (e.g., *family & friends discounts*) (Hansen et al., 20120) or the actual buying process (e.g., online group buying). Thirdly, environmental knowledge or eco-literacy as an antecedent towards attitude contributes to one’s purchase intention. This means that empowering consumers through education and learning is critical if they are to be motivated or convince of their green purchases (as oppose to alternatives). This can be done with an integrated marketing communication campaign to educate consumers about the benefits and risks of their purchases. Thus, encouraging the consumption behaviour would be a first step to eradicate consumer concerns as well as informing consumer decision making when it comes to building sustainable attitudes and purchase intention towards green cosmetics.

6.3. Limitations and future research

There are several limitations of this research that might addressed in future research. First, this research did not examine the psychological and personality traits that might potentially have influence on the consumers’ attitude and intention towards green cosmetics. This can be investigated in future studies. Second, the generalisability of the findings can be tested in future research with samples (e.g., male consumers) from different market with another green product category. Third, it would be insightful to explore the moderating role of governmental influence (Sreen et al., 2020), generativity (Shiel et al., 2020), self-concept (Sharma et al., 2020), and country of origin (Cheah et al., 2020; Cheah and Shimul, 2018) in relation to determining attitude and buyer behaviour within the context of green product purchase. Also, to provide rigour to the findings of this research, future research may undertake experimental design to

test the interplay of consumers' knowledge, involvement, and attitude and purchase intention. Future studies may examine the mediating effect of attitude within the TPB framework, which could also warrant insights as to whether a "halo effect" or direct effects of the proposed antecedents towards purchase behaviour would exist. Another avenue that could be explored is the impact of consumers' morality. Further research is warranted if advertising appeals (e.g., pride vs. guilt) would have any differential effect on consumers' evaluation of green cosmetics.

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