Internal factors influencing customer attitude, purchase intention and purchase behaviour with regard to green personal care products. A literature review

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Purpose: This paper proposes an umbrella term for personal care products with green attributes and contributes a systematised review of the existing research into the factors which influence the attitude, purchase intention and purchase behaviour with regard to this product category.

Study design/methodology/approach: This research literature review uses the most popular databases that compile articles from between 2007 and 2021, published in peer-reviewed scientific journals.

Findings: The findings indicate that the focus of the reviewed studies was predominantly placed on analysing factors that influence either the attitude or purchase intention, and less often on purchase behaviour. Additionally, it was determined that health consciousness and appearance awareness are factors which are in need of further investigation with respect to their direct relation to the attitude and purchase intention towards green personal care products.

Originality/value: This meta-analysis of the literature is the first systematisation of research on the determinants of green consumption with a hierarchical breakdown of the effects on attitude, intention, and purchasing behaviour within a single green product category. It provides valuable insights into the discussion on the attitude-behavioural gap. Addressing this gap will allow communities to transition to sustainable consumption more effectively.

Research limitations/implications: The small number of identified empirical studies within the research field resulted in identifying a promising number of research gaps to be addressed in future.

Practical implications: This study will be of value to marketing practitioners in relation to shaping effective marketing strategies in the green personal care products market.

Keywords: green personal care products, sustainable consumption, attitude, purchase intention, purchase behaviour, hierarchy effect

1. Introduction

Pharmaceuticals and personal care products contain contaminants (micropollutants), which can cause a number of negative environmental effects (Das et al., 2021; Dhodapkar & Gandhi, 2019). Cosmetic product ingredients found in shampoos and hair conditioners, moisturisers, liquid soaps, and sunscreens such as parabens, ammonia, sulfated formaldehyde and polyethylene, triclosan, and siloxane are released daily into aquatic and terrestrial environments (Bom et al., 2020; Jardak et al., 2016). Various studies also indicate health risks to consumers. The use of toxic and hazardous chemicals in manufacturing of personal care products is closely linked to cancer, miscarriages, respiratory and skin sensitisation (Kaličanin & Velimirović, 2016; Mellowship, 2009). The growing consumer awareness of the risks that synthetic chemicals pose to humans as well as the environment has increased the demand for green personal care products which contain natural and safe ingredients and produce less waste. The consumers' desire for safe, healthy, and clean products has increased worldwide, especially since the outbreak of the COVID-19 pandemic (Liu et al., 2021). The market is projected to reach more than $54 billion globally by 2027, with skincare and haircare being two segments registering a boom in demand, accounting for about 70 percent of the natural and organic care market (*Natural and organic cosmetics market worldwide*, 2020). More than 80 percent of consumers either already buy or want to start buying all-natural skin care products (*Natural and organic cosmetics market worldwide*, 2020). In addition to the consumers' desire for more natural ingredients, they are also becoming more environmentally conscious. Therefore, manufacturers are introducing innovative green packaging to complement the sustainability dimension of the product.

'Green consumerism'' (Moisander, 2007) is a concept that was invented as a result of the increased awareness of the progressing environmental degradation and the destruction of natural resources; it is defined as environmentally friendly consumption. Green consumerism is understood as a significant response to purchasing goods in an unplanned manner; it is characterised by the manner of purchasing, designed to minimise its negative effects. It is often an expression of a consciously chosen, sustainable lifestyle based on pro-ecological axiology. One of the ways of performing green consumerism is buying personal care products that include an element of "greenness". However, it remains unclear how to interpret the term a "green personal care product".

The definition of green personal care products is not consistent: there is no umbrella definition for personal care products characterised by environmental friendliness, and there is no systematisation of knowledge about what exactly the environmental friendliness consists in. Both the motives and inhibitors behind the decision to choose and buy that type of products are not widely recognised and systematised. Recently, there have been a number of studies aimed at understanding the motives behind the consumer buying behaviour towards green products in

general. The authors of the publications analysing the determinants of green consumerism in general obtained different results depending on the research context. To fully understand the process of green consumption, it is necessary to look for direct and indirect connections at the level of the factors preceding the purchasing behaviour (PB), including attitude (ATT) and purchase intention (PI) at the level of a single product category, since these influences vary within different categories, but also within different cultural and social conditions.

Liobikienė and Bernatonienė (2017) showed that most of the studies analysed the determinants of GP (Green Products) in general, merging all green products into one term. Therefore, they suggested in an extensive analysis of the literature to focus on a specific product category when analysing determinants of green consumerism, based on the example of green cosmetics. In the meantime, a number of new studies considering this market context appeared. Applying various methodological approaches and scientific theories, they arrived at new interesting findings.

This article therefore aims in its first part to define green personal care products (GPCP) as an umbrella term under which the author identifies it in the literature. Next, the research method used to collect the materials for analysis is presented. This is followed by a critical analysis and summary of the theories underpinning the research which tested the determinants affecting the consumption of green personal care products; it also indicates the leading theory used in empirical research.

A key part of the article includes the identification of the factors that influence the GPCP purchase attitude (ATT), purchase intention (PI) and purchase behaviour (PB). Additionally, moderators and mediators which shape the relationship between the various factors are identified. Finally, a discussion follows, along with future research directions on the topic.

2. Literature review

2.1. Green personal care products – an umbrella term

Personal care products are among fast-moving consumer goods which cover the demand for the basic needs of hygiene and cleanliness (shampoos, deodorants, soaps, toothpastes and toothbrushes), but also respond to needs related to taking care of one's appearance (colour cosmetics, anti-ageing creams, moisturisers) as well as those related to health (anti-acne creams, anti-inflammatory lotions, anti-lice shampoos and healing creams) (Halla et al. 2018). Thus, this product category and the factors determining purchases in this market remain of particular interest to the cosmetics and pharmaceutical industries. As consumers become increasingly aware of the impact of their consumption on the environment and their own health, more and more cosmetic and pharmaceutical companies are incorporating changes with regard to green consumption. Today, personal care products are more often made of natural or organic ingredients, which are safer for the body and the planet. The

packaging design is adapted to the requirements of a circular economy by the application of an innovative eco-friendly design, using glass or embracing minimalism in its form (overpacking avoidance, water-based coatings and vegetable--based inks); such products are certified as green, natural, and are not tested on animals in compliance with international standards (*Environmental Sustainability: the European Cosmetics Industry's Contribution*, 2019). This strategy is already becoming mainstream with retailers and producers, who at the same time try to be more transparent in their green communication.

The term 'green' is very often used as an umbrella term and represents concepts such as natural, sustainable, ecological, environmentally friendly, ethical and organic (Han et al., 2011; Hsu et al., 2017; Joshi & Nulkar, 2016). According to Ottman and Books (1998, p. 89), "green products are the ones that cause less environmental impact than its alternatives", while "green products must have the quality and efficacy that the consumer expects from a 'non-green' alternative" Sahota (2013, p. 289). As these definitions do not offer a clear answer, defining a green product is still a complex challenge (Chen et al., 2006; Hartmann & Ibanez, 2006; Rivera--Camino, 2007).

Across the globe, regulatory bodies legally manage the process of labelling personal care products as green in different ways, whereas the classification of a product as natural or environmentally friendly remains fluid and open to interpretation. Therefore, this leaves room for a high number of greenwashing cases (Peattie & Crane, 2005). However, customers should be confident that they can rely on the information declared by the manufacturers; otherwise, they will not be able to effectively execute their green intentions (Nuttavuthisit & Thøgersen, 2017). Canada is one of the few countries highly adamant about these regulations and advises against the use of words such as 'green', 'natural', and 'eco-friendly', where Canada's Competition Bureau points out that the use of these labels in customer communications does not provide the recipient with enough information about the nature of the claim and it is hard for the customer to judge the authenticity of these claims. Non-compliance with these regulations results in huge financial penalties or even imprisonment (*Cosmetic advertising, labelling and ingredients*, 2021). Policymakers should protect the consumer from false claims by the GPCPs manufacturers by enforcing appropriate penalties in all areas where these issues are not regulated (Grappe et al., 2021). Still, eco-labels certified by third parties are more reliable, especially those certified by a public authority (Janssen & Hamm, 2011). In Europe, currently the only official guarantors of the environmental friendliness of a personal care product are internationally recognised certifying companies, e.g. EcoCert, Cosmebio, the Soil Association, BDIH, NaTrue, ICEA, the Vegan Society (Afonso et al., 2016).

For the purpose of this study the following definition was developed: Personal care products (PCP) is an umbrella product category comprising products of both hygienic and aesthetic nature, applied to external parts of the body and as part of oral

hygiene to cleanse, protect, maintain or improve one's health and to change external appearance. Green personal care products (GPCP) are personal care products with certain pro-environmental attributes that make them more environmentally and human friendly than conventional alternatives. The green credentials should consist of at least one of the following features:

- natural formulation (formulated with plant-based ingredients such as herbs, natural and essential oils, roots, seeds and flowers combined with naturally occurring carrier agents and preservatives),
- organic (formulated with natural plant-based ingredients grown without pesticides and herbicides, synthetic fertilisers, genetically modified organisms or ionising radiation),
- vegan (formulated with ingredients that have not been tested on animals and do not contain animal products in their composition),
- no animal testing and no ingredients of animal origin (cruelty-free),
- no toxicity to humans or the environment,
- manufactured in a responsible and ethical manner without harming society, resources or the environment,
- packaging made from recyclable, compostable or biodegradable materials,
- manufactured/marketed by a socially responsible company,
- received green certification (Afonso et al., 2016; Durif et al., 2010; Hsu et al., 2017; McEachern & McClean, 2002; *Organic and natural cosmetics*, 2022).

Fig. 1. Green personal care products (GPCP): definition and its three pillars

Source: own elaboration.

Nevertheless, methods are being developed to test the level of environmental friendliness of a product or practices, such as the Ecodesign Matrix proposed by Dewberry and Goggin (1996), the Green Option Matrix introduced by Dangelico and Pontrandolfo (2010), which specify the nature of green products and practices with regard to a number of categories, i.e. "environmental, political, fair trade, conservation, non-profit, new consumerism, sustainability and equality" (McDonagh & Prothero, 2014). Thus, they can be used by manufacturers to analyse the level of greenness of their own products and practices, or those of their competitors. However, there is still no consensus in the matter of what a green product is according to the producers, consumers and researchers (Durif et al., 2010).

2.2. Determinants affecting the consumption of green personal care products and the leading theory indicated methods of analysis

This paper uses the review methodology suggested by Seuring and Müller (2008). The primary search for relevant publications from 2007 to 2021 was conducted as a structure keywords search. The main keywords were: "attitude", "purchase intention" and "purchase behaviour". Each of the main keywords was combined with one of the following keywords: "green cosmetics", "organic personal care products", "organic cosmetics", "green personal care products", "eco-friendly cosmetics", "green beauty", "environmentally friendly cosmetics", "ecological personal care products", "green skincare products" and "cruelty-free cosmetics". Major databases (Scopus, Web of Science, Science Direct, Elsevier, Taylor and Francis) were used to search for related papers in peer-reviewed scientific journals in English. In selecting the relevant studies, the following selection criteria were applied:
 (1) publication between 2007 and 2021;
 (2) empirical nature;
 (3) the study should discuss or explain the various factors affecting the attitude (ATT), purchase intention (PI) or purchase behaviour (PB) in regard to GPCP. The relevance of each paper was checked. Taking the stated delimitations into account, a total of 29 papers were reviewed. Studies of a qualitative nature were rejected.

2.3. Content analysis

For the purposes of the study, articles analysing the influence of various factors on ATT, PI, and PB towards GPCP product categories were considered. Table 1 presents a list of articles analysed, with a breakdown of the nomenclature of the product category included in the umbrella GPCP category in this article.

Most of the empirical studies were conducted in Asian countries (21), while far fewer in highly developed European countries (5) and North America (3). None of the papers were completed in a cross-cultural context, four were conducted in two countries culturally related. The interest in analysing the determinants of green con-

Table 1

Research papers published according to category term used and region

| Category (naming)	Region	Author/ Year: Journal	Theory
Eco-friendly cosmetics	South Asia: India/ Delhi	Sadiq et al. (2021)	Innovation resistance theory (IRT)
		Singhal and Malik (2018)	
	Southeast Asia: Indonesia	Situmorang et al. (2021)	
Ecological personal care products	Europe: Portugal, Spain	Afonso et al. (2016)	Theory of consumer's perceived risks
Green beauty products	Southeast Asia: Malaysia	Munerah et al. (2021)	Norm activation theory (NAT)
Green cosmetics	Southeast Asia: Malaysia	Jaini et al. (2020a)	Value-belief-norm theory (VBNT)
	Southeast Asia: Malaysia	Quoquab et al. (2020)	Value-belief-norm theory (VBNT)
	Europe: Hungary	Amberg and Fogarassy (2019)	
	East Asia: Taiwan	Lee and Chen (2019)	
	Western Asia: Saudi Arabia	Khan and Salim (2021)	
	Europe: Romania and Hungary	Pop et al. (2020)	Theory of planned behaviour (TPB)
	Southeast Asia: Indonesia	Askadilla and Krisjanti (2017)	Theory of planned behaviour (TPB)
	Western Asia: Jordan	Al-Haddad et al. (2020)	Theory of consumption values model (TCV)
Green personal care products	South Asia: India	Joshi and Nulkar (2016)	
	Southeast Asia: Jakarta	Aulina and Yuliati (2017)	Theory of planned behaviour (TPB)
	South Asia: India	Jog and Singhal (2019)	
	Southeast Asia: Indonesia	Syadzwina and Astuti (2021)	ABC theory
Green skincare products	East Asia: Taiwan	Hsu et al. (2017)	Theory of planned behaviour (TPB)
	Southeast Asia: Indonesia	Chin et al. (2018)	Pro-environmental reasoned action (PERA)
	Southeast Asia: Vietnam	Bui et al. (2021)	Theory of planned behaviour (TPB)
	Southeast Asia: Malaysia	Al Mamun et al. (2020)	Theory of planned behaviour (TPB)
Natural cosmetics	Europe: Croatia	Matić and Puh (2016)	
Organic cosmetics and toiletries	North America: Mexico	Rajagopal (2007)	
Organic cosmetics	Southeast Asia: Vietnam	Nguyen et al. (2019)	
Organic personal care product	Southeast Asia: Malaysia	Mohammad and Baharun (2017)	
	Europe: Spain, Italy	Zollo et al. (2021)	Social proof theory (SPT)
	North America, US	Yeon Kim and Chung (2011)	Theory of planned behaviour (TPB)
	Southeast Asia: Malaysia	Ghazali et al. (2017)	Theory of planned behaviour (TPB)
Cosmetics not tested on animals	North America: Canada	Grappe et al. (2021)	Theory of planned behaviour (TPB)

Source: own elaboration.
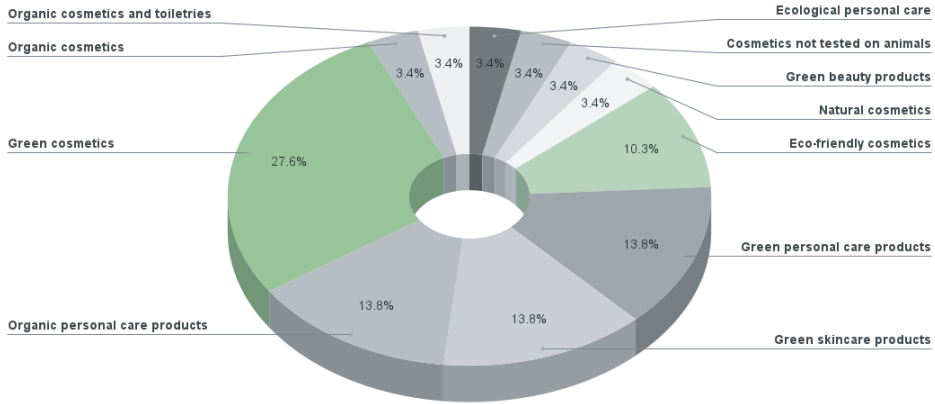
Fig. 2. Number of research papers published according to the category term used (2007-2021)

Source: own elaboration.

sumerism in the GPCPs market started to increase in 2015. When studying consumer behaviour, one should also keep in mind cultural differences and their impact on the social influences on values and consumption trends. Research conducted in developing countries may differ in the results from those in highly developed countries. Obviously, there is not enough research in this aspect as there are hundreds of papers analysing factors affecting the ATT, PI and PB of organic and green food products in comparison to the significantly low number of empirical consumer research within this particular green product category.
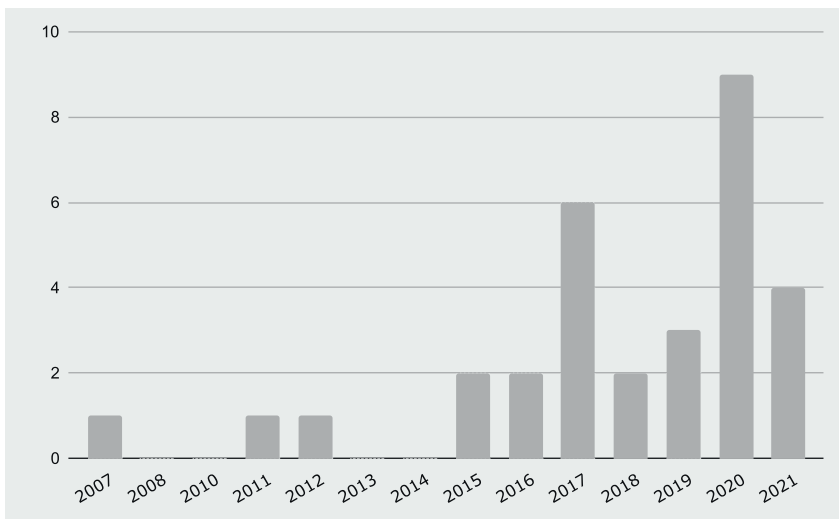

Fig. 3. Annual distribution of reviewed papers

Source: own elaboration.

2.4. Material evaluation

First, the main behavioural theories used by researchers to analyse the factors that directly or indirectly influence the buying behaviour in the GPCP market were summarised and briefly described, followed by a summary of the factors affecting separately (1) ATT, (2) PI, and (3) PB towards GPCP. Later, moderators and mediators that shape the relationship between other factors related to PI, ATT and PB were analysed. Finally, the discussion, conclusions and identification of research gaps for the future research followed.

2.5. Consumer theories used in the study

The researchers used the following theories in the articles reviewed: theory of planned behaviour (TPB) (9), innovation resistance theory (IRT) (1), norm activation theory (NAT) (1), value-belief-norm theory (VBNT) (2), theory of consumption values (TCV) (1), ABC theory (1), pro-environmental reasoned action (PERA) (1), social proof theory (SPT) (1), theory of consumer's perceived risks (TCPR) (1). The theories used in this research are quite often used to analyse consumer behaviour and are derived from different fields, such as psychology and sociology. Consumer behaviour researchers adapt these theories, often adding extensions to them in the form of additional variables that increase the model's predictive power in a given consumer behavioural context.

In the reviewed material, the vast majority of researchers applied the theory of planned behaviour (TBP) (Ajzen, 1991; Ajzen & Kruglanski, 2019), used to predict human behaviour. According to the TPB, "behavioural intentions as direct precursors of behaviour, are determined by ATT toward the behaviour, subjective norm (perceived approval from important people or group of people) with respect to the behaviour, and perceived control over the behaviour (e.g. existence of opportunities and resources: time, money, skills, knowledge or the cooperation of others)" (Ajzen & Kruglanski, 2019). This holds that such variables as "behavioural beliefs", "normative beliefs" and beliefs related to the potential occurrence of factors supporting or interfering with a given action do regulate human behaviour. However, the most powerful determinant of the actual behaviour is the individual's intentions to perform the behaviour. Other variables are being integrated into the TPB model to examine the predictive power of consumer PB. The theory is derived from the theory of reasoned action (TRA) developed by Fishbein and Ajzen (1975). In comparison to TRA, the TPB includes behavioural control as an additional determinant of intentions and behaviour.

Another continuation of the TRA model is the pro-environmental reasoned action (PERA), used in one of the studies, however with the addition of two pro-environmental factors: perceived authority support and perceived environmental concern, as its antecedents (Nadlifatin et al., 2016).

The fourth theory used by the researchers to analyse personal psychological drivers and barriers for environmental behaviour was the Stern's value belief norm (VBN) model, which offers a valuable insight into the causes of general predisposition to pro-environmental behaviour (Stern et al., 1999). This theory focuses on personal values (e.g. altruistic values, egoistic values) and moral norms, according to which , "individuals who accept a movement's basic values believe that valued objects are threatened, and believe that their actions can help restore those values experience an obligation (personal norm) for pro-movement action that creates a predisposition to provide support; the particular type of support that results is dependent on the individual's capabilities and constraints" (Stern et al., 1999, p. 81).

The fifth was the theory of consumption values (TCV), according to which behaviour is determined by five values:
- "functional value (attributes related, utilitarian and physical performance)
- social value (symbolic and group membership)
- emotional value (affective responses)
- epistemic value (curiosity, knowledge, and novelty)
- conditional value (specific situation)" (Al-Haddad et al., 2020).

The norm-activation theory (NAT), as the sixth theory, describes the relationship between personal norms, activators, and behaviour. It suggested that personal norms need activators that will influence pro-social behaviour (Schwartz, 1970; Schwartz, 1977). The process of norm activation consists of four situational factors or activators (awareness of need, situational responsibility, efficacy and ability) and two personality trait activators (awareness of consequences and denial of responsibility) (Schwartz, 1977).

Researchers whose aim was to better understand the resistance toward GPCP, incorporated the innovation resistance theory (IRT) proposed by Ram (1987), then modified by Ram and Sheth (1989). "Innovation resistance can be defined as behaviour resulting from rational thinking and decision-making regarding the adoption and usage of innovation because of the possible changes brought by alterations to the existing status quo and deviations from the existing belief system" (Kaur et al., 2020).

Another theory used was the ABC theory which "accords with the purposive character of almost all behaviour by assuming that behaviour is not determined by the current stimulation, but by the desired or the 'to-be-produced' effects" (Hoffmann, 2009, p. 10).

Finally, the theory of consumer's perceived risks (Bauer, 1969) illustrates the nature of consumer uncertainty and the negative consequences of purchase behaviour. The likeliness of purchase depends on the level of perceived risk; consumers are generally driven by motivations to avoid mistakes rather than utility maximisation, according to (Mitchell, 1999).

The theories used by researchers often stem from psychology and were developed in response to the growing demand for an appropriate intervention in the case of self-

-destructive behaviour, such as addiction, however such behaviour is not often predicted by attitude. One can exhibit a negative attitude towards addiction, consider it wrong, but still continue with the behaviour. Indeed, in many less extreme behaviours our attitude and intention can successfully predict the direction of our behaviour (e.g. healthy eating, exercise, getting married).

These theories can provide an insight into what kind of interventions an individual requires to increase the chances of completing an action. The attitude, intention and behaviours can be influenced by appropriate persuasion.

This can be done by activating personal norms (NAT), minimising barriers (IRT), stimulating perceived behavioural control, and attitude (TPB). However, it is important to look at the effects of such research from a distance in order to capture the contextual and general relationships – only then can the debate on enhancing sustainable consumption have a chance to result in effective intervention.

In regard to consumption of green personal care products, a chain of directly and indirectly dependent links is being studied, but it is still narrow in its scope. This narrowing means that the research model may be missing an important variable, which determines the impact of another one taken into account. Just as when examining the influence of a variable in the form of subjective norms, it might be important to examine simultaneously the level of self-confidence – since people who are confident are less likely to be influenced by others. Thus, what is needed are more holistic views of the findings that researchers provide and a systematization of the knowledge that is currently available.

2.6. Internal factors affecting attitude toward green personal care products

Attitudes (ATT) can be interpreted as an elaborate latent variable shaped by a number of factors. In psychology, ATT is best considered to be a "person's degree of favourableness or unfavourableness with respect to a psychological object" (Ajzen & Fishbein, 2000, p. 2). From the perspective of green consumer buying behaviour, "an object" can be a green product category, a green single product or its green attribute, a green brand, a green advertising appeal as well as the price. ATT may be influenced by internal factors such as mood, emotions and knowledge, psychological factors, e.g. concerns or values, individual motivation or lack of it, but also by external factors, such as peer group pressure and marketing communication (Olsen et al., 2014). People's evaluations of ATT towards an object are determined by their accessible beliefs about the object, where a belief is defined as the subjective probability that the object has a certain attribute (Ajzen & Fishbein, 2000). ATT determines behaviour, helps navigate the social world, and shapes the perceptions of the world (Perloff, 2017). However, unlike intentions, they are not tantamount to an individual's readiness to take action, but only a positive or negative evaluation of the object and a guide in carrying out actions in a manner consistent with the individual's beliefs (Perloff, 2017).

ATT towards a product or product category is widely understood to be one of the most significant factors shaping the buying behaviour. Researchers are trying to understand consumer ATT towards green products in order to be able to effectively stimulate sustainable consumption, as it is considered to be a direct predictor of PI (Summers et al., 2006). In Table 2 the factors affecting ATT toward GPCP have been listed.

Table 2

Factors affecting attitude towards green personal care products

Independent variable	Dependent variable	Direction	No. of studies	Study
Altruistic motivations	ATT	Positive	1	Pop et al. (2020)
Appearance consciousness	ATT	Positive	1	Yeon Kim and Chung (2011)
Egoistic motivations	ATT	Unrelated	1	Pop et al. (2020)
Environmental consciousness	ATT	Positive	1	Yeon Kim and Chung (2011)
Ecological motive	ATT	Positive	1	Shimul et al. (2021)
Environmental knowledge	ATT	Positive	1	Shimul et al. (2021)
Green brand knowledge	ATT	Positive	1	Aulina and Yuliati (2017)
Green brand positioning	ATT	Unrelated	1	Aulina and Yuliati (2017)
Health consciousness	ATT	Partially related	1	Yeon Kim and Chung (2011)
Health consciousness	ATT	Unrelated	1	Shimul et al. (2021)
Perceived behavioural control (level of reading and of comprehension of claims)	ATT	Unrelated	1	Grappe et al. (2021)
Perceived hedonic values	ATT	Positive	1	Ghazali et al. (2017)
Perceived authority support	ATT	Positive	1	Chin et al. (2018)
Perceived environmental concern	ATT	Positive	1	Chin et al. (2018)
Perceived environmental values	ATT	Positive	1	Ghazali et al. (2017)
Perceived health values	ATT	Positive	1	Ghazali et al. (2017)
Perceived social values	ATT	Unrelated	1	Ghazali et al. (2017)
Product knowledge	ATT	Positive	1	Ghazali et al. (2017)
Subjective norm	ATT	Positive	2	Grappe et al. (2021); Yeon Kim and Chung (2011)
Concerns with personal appearance	ATT	Positive	1	Grappe et al. (2021)

Source: own elaboration.

According to the results of the analysis, ATT toward GPCP is affected by altruistic motivation, but not by egoistic motivations (Pop et al., 2020). Altruism reflects a behaviour focused on self-gain, such as concern for animal welfare or the environment, while egoism indicates a concern for one's own health or family (Prakash et al., 2019). People are driven by mixed motives; as a result, selfish values clash with altruistic values in the form of customers' dilemmas (Hu & Liu, 2003).

Furthermore, according to this analysis, the following factors related with altruistic values: environmental consciousness, perceived environmental concern, perceived environmental values, ecological motive, and environmental knowledge are together positively related with ATT.

On the other hand, the following variables strongly related to personal egoistic values such as appearance consciousness and concern with personal appearance were found to affect ATT toward GPCP positively. The other interesting observation is that in the case of another variable, which is derived from egoistic values: health consciousness, a fully positive relation with ATT was not confirmed. Health consciousness describes consumers' awareness of their health, their desire to improve their well-being by engaging in purchasing behaviours that minimise negative health effects, and are promoted as healthy (Espinosa & Kadić-Maglajlić, 2018). GPCP constitute a category of products whose main advantage over conventional products is their natural or organic formulation, therefore theoretically, consumer attitudes towards this product category should clearly stem from health consciousness. In the meantime, this relationship has not yet been fully confirmed.

2.7. Internal factors affecting purchase intention towards green personal care products

Purchase intention (PI) is a decision-making process that explores a consumer's reasons for purchasing a particular product (Shah et al., 2012). PI is considered an essential determinant that influences actual behaviour (Montaño & Kasprzyk, 2015) and as a construct, it appears before the purchase behaviour; it also embodies motivations that influence actual behaviour (Armitage & Conner, 2001). Table 3 lists the factors affecting PI towards GPCP.

Using various methods and theories, many authors stressed the fact that ATT, subjective norm and perceived behavioural control, are positively correlated with the PI of GPCP. However, in the case of perceived behavioural control, two studies out of eight with contradictory findings (Al Mamun et al., 2020; Grappe et al., 2021), indicated a lack of correlation with PI. A high degree of control (PBC) by the individual will lead to a strong PI. If the consumers think they have the resources, knowledge and skills to use GPCP, they will be more willing to purchase it (Ajzen, 1991). The subjective norm is an individual's engagement with a specific behaviour due to perceived behavioural expectations and social pressure (Ajzen, 1991). Researchers often suggest that the tendency to buy green products is affected by the subjective norm. Individuals under stronger social pressure are more open to 'going green', resulting in a greater willingness to spend money on green goods (Arli et al., 2018).

A positive influence on the PI of a researched product category is evoked by factors related to an individual need to protect the environment: environmental concern, environmental knowledge and awareness of the consequences together

Table 3

Factors affecting purchase intention of green personal care products

Independent variable	Dependent variable	Direction	No. of studies	Study
ATT	PI	Positive	10	Askadilla and Krisjanti (2017); Aulina and Yuliati (2017); Bui et al. (2021); Chin et al. (2018); Yeon Kim and Chung (2011) Ghazali et al. (2017); Grappe et al. (2021); Hsu Hsu et al. (2017); Al Mamun et al. (2020); Pop et al. (2020)
Availability	PI	Unrelated	1	Al Mamun et al. (2020)
Awareness of consequences	PI	Positive	1	Munerah et al. (2021)
Brand awareness	PI	Positive	1	Al-Haddad et al. (2020)
Brand loyalty	PI	Positive	1	Al-Haddad et al. (2020)
Concerns with animal welfare	PI	Positive	1	Grappe et al. (2021)
Concerns with personal appearance	PI	Unrelated	1	Grappe et al. (2021)
Tendency toward health consciousness	PI	Unrelated	1	Matić and Puh (2016)
Tendency toward natural cosmetics	PI	Positive	1	Matić and Puh (2016)
Country of origin	PI	Positive	1	Bui et al. (2021)
Efficacy	PI	Positive	1	Munerah et al. (2021)
Environmental concern	PI	Positive	2	Al Mamun et al. (2020); Syadzwina and Astuti (2021)
Environmental corporate social responsibility	PI	Positive	1	Munerah et al. (2021)
Environmental knowledge	PI	Positive	2	Bui et al. (2021); Syadzwina and Astuti (2021)
Green scepticism	PI	Unrelated	1	Syadzwina and Astuti (2021)
Information adoption	PI	Positive	1	Zollo et al. (2021)
Perceived behavioural control	PI	Positive	4	Kim Yeon Kim and Chung (2011) Ghazali et al. (2017); Hsu et al. (2017); Bui et al. (2021)
Perceived behavioural control	PI	Unrelated	1	Al Mamun et al. (2020)
Perceived behavioural control (level of reading and of comprehension of claims)	PI	Unrelated	1	Grappe et al. (2021)
Perceived quality	PI	Unrelated	1	Mohammad and Baharun (2017)
Perceived quality	PI	Positive	1	Al-Haddad et al. (2020)

Perceived safety	PI	Positive	1	Mohammad and Baharun (2017)
Personal norms	PI	Positive	1	Munerah et al. (2021)
Image barrier	PI	Negative	1	Sadiq et al. (2021)
Risk barrier	PI	Negative	1	Sadiq et al. (2021)
Social norm	PI	Positive	1	Munerah et al. (2021)
Subjective norm	PI	Positive	8	Askadilla and Krisjanti (2017); Bui et al. (2021); Chin et al. (2018); Ghazali et al. (2017); Grappe et al. (2021); Pop et al. (2020); Hsu et al. (2017); Shimul et al. (2021)
Subjective norm	PI	Unrelated	1	Al Mamun et al. (2020)
Tradition barrier	PI	Negative	1	Sadiq et al. (2021)
Usage barrier	PI	Negative	1	Sadiq et al. (2020)
Value barrier	PI	Negative	1	Sadiq et al. (2020)

Source: own elaboration.

with the personal norms. Perceived safety value – the degree to which customers feel that the consumption of products is harmless, being free from synthetic chemical residues (Bauer et al., 2013) – positively influences the PI.

Concerns about personal appearance and health consciousness were found to be unrelated to the PI of GPCP, which might be considered unexpected in the given context product category, one used to maintain personal hygiene or physical appearance. A similar conclusion emerged from the absence of an identified effect of health literacy on the PI as conventional personal care products contain ingredients hazardous to health, which, if used intensively, can cause cancer, endocrine disruption, mutations, allergy, and reproductive toxicity (Ray et al., 2020). This may be the result of the still insufficient consumer knowledge about the harmful ingredients in conventional personal care products, as opposed to the food category, around which there has been much public discussion and a number of media campaigns to increase consumer awareness.

The perceived quality was identified in this study as unconfirmed, due to two contradictory findings suggesting a counter effect of this variable on the PI. Therefore, it is suggested to further analyse it in a broader research context.

The role of the factors related to the product and brand communication should also be mentioned. The country of origin, as a product feature, may serve as a quality indicator, depending on the positive or negative perception of a country as the place of production of a given product category (Spillan, 2010; Yunus & Rashid, 2016). In a case study from Vietnam (Bui et al., 2021), the country of origin positively influences the PI. However, in this particular case, the geolocation of the conducted survey and the researched product category is important. This is so because with regard to locally produced green food or specific industries that are perceived as leaders in manufacturing particular product categories, the consumer will identify

the product positively, and hence manifest a strong ATT and PI towards it (Yunus & Rashid, 2016). This is closely related to consumer ethnocentrism, self-image and status (Thøgersen et al., 2017).

Brand awareness, brand loyalty, and the producer's environmental corporate social responsibility are factors which are the outcome of customer evaluation of brand activities, highly related to marketing communication. These factors were also examined and proved to have an influence on the PI of GPCP.

Sadiq et al. (2021) tested the impact of barriers on the purchase of eco-friendly cosmetics, with the application of the innovation resistance theory. The barriers included:

- the usage barrier refers to the perceived changes that a consumer must undergo to adapt to innovation,
- the image barrier is the consumer's perception of this innovation (defining the level of difficulty of transition),
- the value barrier is an assessment of the performance vs. price ratio of the innovation compared to alternative products (level of divergence),
- the risk barrier – when risk appears in the consumer's perception comparing the innovation with an alternative product,
- the tradition barrier – a barrier due to reluctance to change habits (Mani & Chouk, 2018).

According to the latter, tradition and image barriers have the strongest inhibitory force on consumers' PI. A usage, value and risk barrier was also revealed as the reason for consumer resistance towards GPCP.

2.8. Internal factors affecting purchase behaviour towards green personal care products

Among the factors affecting PB in the context of GPCP, surprisingly it was ATT that was found to have a negative correlation with the PB (Singhal & Malik, 2018). In this particular study, the attitude was divided into three factors regarding green cosmetic products: packaging, location, pricing and recommendations. The authors attempted to explain that relationship by indicating that an unidentified barrier might interfere with the process of purchasing (a high price for instance). Therefore, it is crucial to devote more space in research to identify barriers and levers that can overcome them, especially from the field of green product pricing and external factors related to green marketing communication and its nature. A positive ATT often influences the PI, but it only indirectly translates into green purchasing behaviour; many other psychological-socio-economic factors determine the target behaviour, which is in line with the findings of D'Souza et al. (2007) and Gleim et al. (2013). On the other hand, the PI, perceived behavioural control (PBC) and personal norms were positively related to behaviour itself.

Table 4

Factors affecting purchase behaviour towards green personal care products

Independent variable	Dependent variable	Direction	No. of studies	Study
ATT	PB	Negative	1	Singhal and Malik (2018)
Perceived behavioural control	PB	Positive	1	Askadilla and Krisjanti (2017)
Personal norm	PB	Positive	2	Quoquab et al. (2020); Jaini et al. (2020a)
PI	PB	Positive	2	Askadilla and Krisjanti (2017); Al Mamun et al. (2020)
Convenience perceived risks	PB	Positive	1	Afonso et al. (2016)
Financial perceived risks	PB	Positive	1	Afonso et al. (2016)
Performance perceived risks	PB	Negative	1	Afonso et al. (2016)
Physical perceived risks	PB	Negative	1	Afonso et al. (2016)
Psychological perceived risks	PB	Negative	1	Afonso et al. (2016)
Social perceived risks	PB	Negative	1	Afonso et al. (2016)

Source: own elaboration.

In one of the analysed studies, Afonso et al. (2016) tested the relation of financial, performance risk, physical risk, psychological and social risks on the PB and proved that only financial risk (a higher price) and convenience perceived risk (availability and accessibility to the product) are positively related to the PB, which means that they are indeed perceived as risks by customers. The factors affecting PB towards GPCP are listed in Table 4.

2.9. Moderators identified in the research

Moderating variables are very useful in explaining the links between independent and dependent variables, as they allow to understand a fuller picture of green PB. In the context of GPCP, within the analysed studies, a few moderators were found to affect the relationship between ATT-PI: price sensitivity, past experience and product knowledge, as well as country of origin. In the case of price sensitivity and country of origin the moderation effect was observed for all TPB variables: ATT together with SN, PBC.

Sadiq et al. (2021) found that health concern moderates the relationship between traditional barriers and PI, and environmental concern moderates the relationship between value and image barriers.

A few other factors moderate the strength and direction of the relations between the number of variables and PB: electronic word of mouth moderates the relationship between personal norm and PB. The level of greenwashing understanding, as a variable,

Table 5

Moderator variables identified in the study

Moderator variable	Variable/s 1	Variable 2	Mode-ration	No. of studies	Study
Country of origin	ATT, subjective norms, perceived behavioural control	PI	V	1	Hsu et al. (2017)
Country of origin	ATT	PI	-	1	Bui et al. (2021)
Price sensitivity	ATT, subjective norms, perceived behavioural control	PI	V	1	Hsu et al. (2017)
Past experience	ATT	PI	V	1	Yeon Kim and Chung (2011)
Products knowledge	ATT	PI	V	1	Bui et al. (2021)
Health concern	Tradition barrier	PI	V	1	Sadiq et al. (2021)
Health concern	Risk barrier	PI	V	1	Sadiq et al. (2021)
Environmental concern	Value barrier	PI	V	1	Sadiq et al. (2021)
Environmental concern	Image barrier	PI	V	1	Sadiq et al. (2021)
Electronic word of mouth	Personal norm	PB	V	1	Jaini et al. (2020b)
Level of greenwashing understanding	Receptivity to green advertising	PB	V	1	Jog and Singhal (2019)
Income level	Environmental consciousness	PB	V	1	Jog and Singhal (2019)
Consumers' involvement	ATT	PI	V	1	Shimul et al. (2021)
Gender	Altruistic value	Pro-environmental beliefs	V	1	Quoquab et al. (2020)

Source: own elaboration.

moderates the relationship between receptivity to green advertising and PB. Finally, the income level moderates the relationship between environmental consciousness and PB. The moderator variables identified within the study are listed in Table 5.

2.10. Mediators identified in the research

Mediation analysis has become a very popular approach in psychology, as the existence of a mediator variable might explain the relationship between the dependent variable and the independent variable. A number of mediations were identified in the review of the empirical research, see Table 6.

PI was found to mediate between:
(1) environmental concern and ATT
(2) perceived behavioural control and green PB and
(3) environmental concern and green PB.

Finally, personal norm acts as a mediator which links pro-environmental belief with PB.

Table 6

Mediator variables identified in the study

Mediator variable	Variable 1	Variable 2	Mediation effect	No. of studies	Study
ATT	Concerns with personal appearance	PI	v	1	Grappe et al. (2021)
Environmental knowledge	Environmental concern	PI	v	1	Syadzwina and Astuti (2021)
Environmental knowledge	Green scepticism	PI	v	1	Syadzwina and Astuti (2021)
Personal norm	Pro-environmental belief	PB	v	1	Jaini et al. (2020a)
PI	Environmental concern	ATT	v	1	Al Mamun et al. (2020)
PI	Perceived behavioural control	PB	v	1	Askadilla and Krisjanti (2017)
PI	Environmental concern	PB	v	1	Al Mamun et al. (2020)

Source: own elaboration.

3. Discussion

The considerations of this article were intended to summarise the previous research on the interpretation of the term green personal care products (GPCP) and to systematise the internal factors influencing ATT, PI and PB of GPCPs consumers. The study aimed at conducting a detailed analysis of peer-reviewed journal publications and to identify gaps and weaknesses, observed during the analysis.

As a result, an analysis of the definitions of GPCPs was conducted and a definition was proposed. One of the barriers identified when proposing one definition was related to different legal regulations: while in some countries companies are allowed to use the term "green" without following detailed regulations, in others, they are not, and the process itself is rather rigorous. Therefore, it seems extremely important to indicate the strong need for a unified top-down government regulation of the process labelling personal care products as green. A methodology needs to be developed in order to estimate the level of 'greenness' and make it clear for the final users what each level means. Using one international symbol, instead of industry green logos, may also simplify the decision-making processes. Sustainable supply chains are needed to show that this is not a question of one company wanting to offer green products, but of a whole network of ingredient providers whose business models, based on the production of chemicals, are found to be in opposition to the

creation of completely environmentally friendly products. As chemical components are needed to make PPO, the industry is heavily linked to major chemical suppliers (BASF, Dow Chemical, Evonik, Rhodia and Eastman Chemical), whose unethical behaviour has been linked to environmental pollution (Sahota, 2013, p. 4). Manufacturers also depend on suppliers of natural ingredients such as palm oil, and vegetable oil, sourced mainly in Asia. The destruction of rainforests and the endangerment of their inhabitants is a result of the unethical sourcing of palm oil. Its buyers are held publicly accountable for these consequences and often have been forced to change their suppliers to those certified by the Roundtable of Sustainable Palm Oil, as in the case of Unilever (Sahota, 2013, p. 4). Therefore, significant pressure is put on the entire supply chain process as part of the transition to sustainability. Thus, it is crucial for retailers to analyse all the steps in the product life cycle from its design, component selection, packaging, distribution and consumer use and disposal or post-consumer use phase (Born et al., 2019). The environmental life cycle assessment (ELCA) is a structured, internationally standardised framework currently being adopted in the European personal care industry to quantify environmental impacts (i.e. resource use and emissions) at the level of raw material extraction, production, distribution and use, and, finally, recycling and disposal (*Environmental Sustainability: the European Cosmetics Industry's Contribution*, 2019).

The second primary objective of this paper was to distinguish and systematise the factors influencing consumer attitude (ATT), purchase intention (PI), and purchase behaviour (PB) for green personal care products (GPCP). As recently highlighted by Sadiq et al. (2020), the GPCP's market is still in its infancy and requires more research to better investigate the socio-psychological predictors driving consumers to GPCP. In particular, the micro-mechanisms driving the purchase process of GPCP are still unclear and require further research (Zollo et al., 2021). As an example, according to Grappe et al. (2021), the construction of ATT towards cruelty-free cosmetics products greatly differs from the construction of ATT towards conventional ones. To address this challenge, understanding the consumer decision-making process and the factors that influence and interfere with this process is critical. It is necessary to identify the variables that influence separately ATT, PI and PB, focusing on one green product category of interest. It is natural that consumers exhibit different levels of green knowledge, depending on their scale of involvement in the purchase process, even for low-involvement products (Bernard et al., 2015). Indeed, even the most sustainable consumer only selectively examines the level of greenness of products, as in many cases the knowledge required for such test is too complex. Consumers of personal care products, however, are more likely to engage in the process of seeking information due to the nature of the product, increasingly using dedicated mobile apps to examine product formulation and see related information shared on social media platforms and the Internet in general. Despite generally being

a low-involvement product category, this buying process is extremely engaging for a certain group of people, especially women (Cervellon & Carey, 2011).

Figure 4 is a synthesis of all the factors affecting ATT, PI and PB. It includes relations that have been confirmed in at least one study. If there was one study confirming a relationship and another proving the lack of correlation for a particular variable, the variables were not included as it was impossible to draw a definite conclusion.
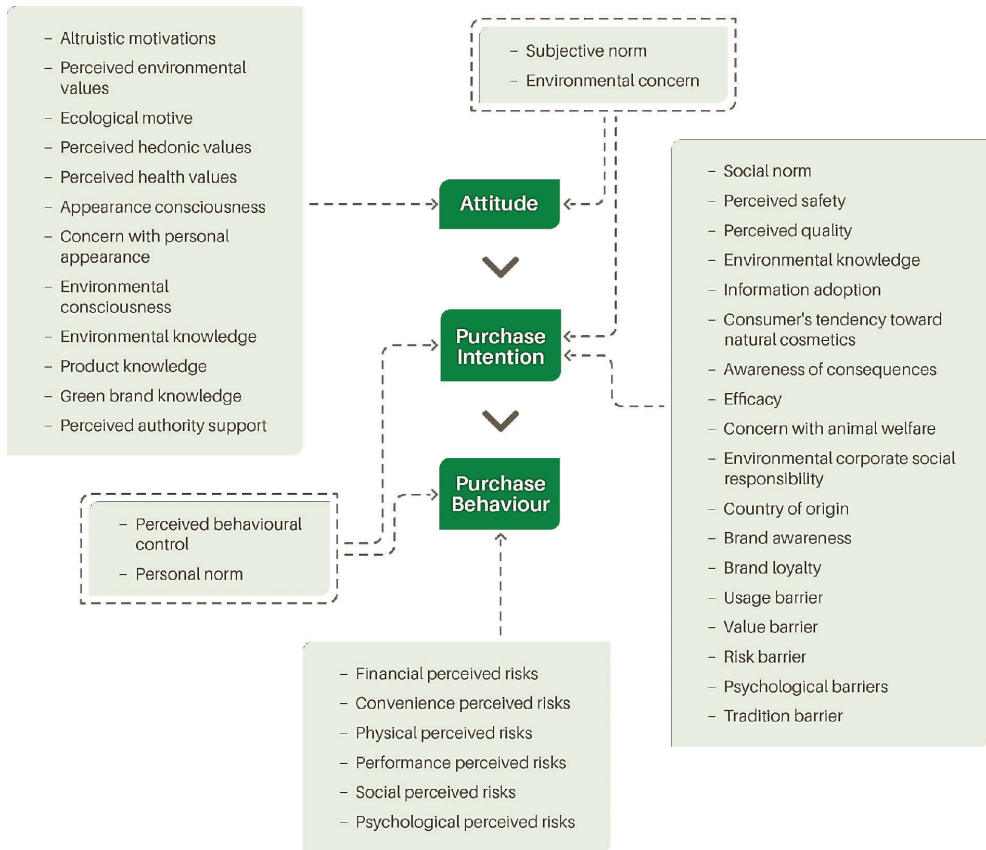

Fig. 4. A synthesis of the factors influencing attitude, purchase intention, and purchase behaviour in the green personal care products market

Source: own elaboration.

Most of the analysed empirical articles based their research on the theory of planned behaviour and proved the effectiveness of this theory in predicting the intention of behaviour. The TPB postulates that the following three components: ATT, subjective norms, and perceived behavioural control, together shape an individual's behavioural intentions (Ajzen, 1991).

The earlier literature review that focused on the analysis of the determinants of GPCPs' consumption treated the factors affecting ATT, PI and PB collectively under the term "green purchase behaviour" (Liobikienė & Bernatonienė, 2017), whereas this review is the first to analyse the factors affecting these three components separately within one product category. Consumers may declare a positive ATT towards a product without expressing the intention to purchase or perform the actually expected behaviour. The results of the study by Singhal & Malik (2018) proved the negative effect of ATT on purchasing behaviour, which only confirms how unexpected this relation might be. Such an in-depth analysis is extremely important, as factors affecting each of the variables should be considered separately in order to fully illustrate the variety and complexity of the antecedents of consumer behaviour. This phenomenon is defined as an 'intention-behaviour gap', 'green purchasing inconsistency' or 'green attitude-behaviour gap' and describes the failure existing in translating the intentions into the actual behaviour (Sheeran, 2002). This meta-analysis of the literature indicates that certain factors influence ATT but no longer have a direct relationship with PI. A prime example is appearance awareness, which, having a positive effect on ATT (Grappe et al., 2021; Yeon Kim & Chung, 2011), was contrasted in this analysis with the lack of such a relationship with PI (Grappe et al., 2021). The absence of these correlations is all the more surprising as previous research showed that personal care products affect consumers' appearance and that consumers use cosmetics to manage their appearance (Marcoux, 2000), unlike food products.

The role of the health consciousness variable is also not entirely clear. According Yeon Kim and Chung (2011), the variable did not influence ATT directly when the effects of the other two predictors: environmental and appearance consciousness, were considered. In the aforementioned study, the hypothesis that health consciousness influences ATT was not fully confirmed. In contrast, Ghazali et al. (2017) showed that consumers value GPCP for perceived health value (benefits), proving the positive relationship of this variable with ATT, whilst Matić and Puh (2016), in their study of the effect of railway-related health consciousness on PI did not find any link, either.

Another important variable is perceived behavioural control, which did not show a relationship with ATT (Grappe et al., 2021). However, when it comes to its relation with PI, four studies found a positive relationship (Bui et al., 2021; Ghazali et al., 2017; Hsu et al., 2017; Yeon Kim & Chung, 2011) and two studies found no such relationship (Al Mamun et al., 2020; Grappe et al., 2021).

This summary also showed how crucial the role of moderators and mediators between ATT, PI and PB is. For example, past experience, product knowledge, consumer involvement, price sensitivity and country of origin in some cultural contexts have been shown to be effective moderators of the relationship between ATT and PI. ATT, in turn, acts as a mediator between appearance consciousness and PI. Through this analysis, a comprehensive picture of the research model emerged, which might help to more effectively predict purchasing behaviour in the context of GPCP.

Importantly, the theories used in the empirical studies are based very often on models whose variables were measured in declarative studies. None of the studies analysed real consumer behaviour. It is also important to note that GPCPs differ in their functional values, health benefits, performance, perceived quality, and point of sale (e.g. pharmacy vs. drugstore). These functional specifications are fundamental to the consumer and ultimately these influences directly shape behaviour in the final purchasing phase.

Conclusions and future research

Further research needs to obtain a greater generalisability with a variety of GPCP's specifications and purchase contexts in order to detect differences between factors affecting ATT-PI-PB separately, and the actual role of particular mediators and moderators depending on the cultural context and ethnicity. It is recommended that factors affecting ATT-PI-PB in developed and developing nations should be analysed separately and then compared, as green behaviour depends on the level of consumer awareness, which is subsequently influenced by national green growth, resulting from the level of the country's development (Al-Swidi & Saleh, 2021). Additionally, by extending the scope of the study and by including respondents from several countries, it will be possible to improve the generalisability of the research findings.

Price sensitivity and other demographic factors used as moderators, such as education, age and income level, could be tested as well. The customers' satisfaction levels used as a mediator could also be considered in future research, together with a post purchase experience. Future studies could incorporate objective knowledge and compare its influence on ATT-PI-PB with self-reported subjective knowledge.

Additionally, it would be interesting to observe the differences in the determinants mentioned above by exploring how they are affected by the consumer's attitude and purchase intention toward the store – the point of sale (convenience store vs. pharmacy), and see whether the health aspect would be a stronger determinant in the latter context. The moderation role of the product category involvement is also important (Petty et al., 1983), as more involved consumers process information differently through either central or peripheral routes.

The consumers' ATTs toward GPCP are indeed disrupted by the greenwashing commonly practised by manufacturers (Jog & Singhal, 2019), hence the issues of exploring the role of trust and the factors that disrupt that trust are also important.

It is also puzzling how the nature of the 'green message' that includes storytelling elements influences consumer perception, and assess the role of consumer mood at the time of GPCP purchase and of emotions evoked by the nature of the advertising communication. It would be also valuable to measure the impact of perceived credibility of green advertising claims on ATT-PI-PB.

In addition, a comparison of non-consumers and consumers of GPCPs could shed more light on differences in the factors that influence ATT, PI, PB and the barriers that determine consumption in this market. It would be equally interesting to observe how the consumer's stage of transition to green consumption (by incorporating the transtheoretical model of behaviour by Prochaska) affects the consumer's perception of barriers, and how the role of the factors affecting the ATT-PI-PB construct differs in shaping consumer behaviour at each stage of behavioural change (Prochaska & DiClemente, 1982; Prochaska & Velicer, 1997).

Additionally, most of the research used a cross sectional survey design to collect data, therefore future research should consider conducting longitudinal studies to chart the process of shaping changes in purchasing behaviour, and answer the question whether feedback following the performance of the behaviour is likely to change some of the behavioural, normative, and control beliefs and thus influence future intentions regarding the green behaviour in question (Ajzen, 2020).

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