

Consumers' attitude and purchase intention towards organic personal care products. An application of the S-O-R model¹

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Abstract

Purpose of the paper: Guided by the Stimulus-Organism-Response (S-O-R) model, the study investigated whether and how six environmental stimuli related to the consumers' experience with organic personal care products influenced their attitudinal responses (hedonic and utilitarian) which, in turn, affected their buying behaviour.

Methodology: The empirical research builds on an online survey with a sample of 209 consumers. A structural equation model was performed to analyse the data.

Findings: Results showed that knowledge about organic PCP and sensory appeal significantly improved the utilitarian and hedonic attitude towards these products. Contextually, natural content attributes and quality perception positively influence utilitarian attitude. Finally, both the affective and functional attitudinal dimensions significantly increased the purchase intention.

Research limits: Further research is recommended in order to measure the actual purchase behaviour and to extend the investigation to a larger sample that is representative of the general population. Moreover, longitudinal studies are required to examine whether changes in consumer attitude, perception and buying with regard to organic PCP happen in time.

Practical implications: Highlighting the determinants of consumers' attitude and purchase intention, the paper provides valuable insight to manufacturers and retailers for the increase in organic PCP market share.

Originality of the paper: The study showed that the S-O-R model is an adequate theoretical framework to investigate the decision-making process in the context of organic PCP. Furthermore, the proposed theoretical model sheds light on the role of new relevant variables which affect the consumers' evaluation towards these products and that have been neglected in past research.

Key words: organic cosmetic product; utilitarian attitude; hedonic attitude; purchase intention; Stimulus-Organism-Response model; structural equation modelling

¹ Authors' contributions: Beatrice Luceri wrote the introduction and limitations. Donata Tania Vergura is responsible for the theoretical framework, results and discussion and conclusion. Cristina Zerbini contributed to the hypotheses development and method.

1. Introduction

In recent years, the rising consumer interest in health issues has fuelled the attention for healthier habits and lifestyles that benefit the physical, mental and emotional well-being. In particular, the awareness of the hazards of synthetic chemicals has increased the demand for organic personal care products (Ghazali *et al.*, 2017). Different studies, in fact, indicate that using types of toxic and dangerous chemicals in cosmetics production is closely related to cancers, proliferation deficiencies, abortion and respiratory and skin sensitivities (e.g., Borowska and Brzóška, 2015; Darbre, 2001; Darbre, 2003; Harvey and Darbre, 2004; Kaličanin and Velimirović, 2016; Mellowship, 2009; Si and Praveena, 2015). As a consequence, the market for natural and organic cosmetics is expanding globally and it is projected to reach USD 25 billion by 2025 (Grand View Research Inc., 2016).

Organic personal care products (PCP) comprise skin care, hair care, oral care, colour cosmetics, deodorants, toiletries and hygiene products which originate from organic farming without direct contact with synthetic fertilizers and pesticides. Moreover, in the production it is not possible to use derivatives from petroleum (paraffin, formaldehyde and colorants of synthetic origin) sewage sludge, genetically modified organisms or ionizing radiation (CCPB.it, 2019; Organic.org, 2019). Those ingredients are substituted by vegetal derivatives, safer for the human health and with more attention to the safeguard of the environment. This makes the organic PCP desirable among both health and environmentally conscious consumers.

As a consequence of both public debate and consumer demand for organic PCP, many cosmetic companies are gradually switching to organic ingredients and ecological standards. Similarly, some retailers have started to remove non-organic cosmetics/hygiene products from their shelves (Hansen *et al.*, 2012). To address this challenge, understanding the consumer decision-making process is paramount as it allows to determine the variables that influence the interest in organic PCP and the willingness to buy them.

Consumers' attitude and behaviour towards organic foods have been deeply explored in literature (e.g., Al-Swidi *et al.*, 2014; Cabuk *et al.*, 2014; Chen, 2007; de Magistris and Gracia, 2008; Lee and Goudeau, 2014; Lee and Yun, 2015; Paul and Rana, 2012; Teng and Wang, 2015). On the contrary, although the personal care market is one of the most growing consumer markets, only few research studies emerge that have investigated the consumer behaviour towards organic PCP (Ghazali *et al.*, 2017; Hansen *et al.*, 2012; Matic and Puh, 2016; Mombeini *et al.*, 2015; Yeon and Chung, 2011). Among these, most focused on the effect of personal values (like health consciousness, environmental consciousness and social consciousness) on behavioural intention, neglecting to consider other relevant variables that could affect the decision-making process.

That being stated, the present study provides a more grounded exploration of consumer attitude and purchase intention towards organic PCP, using recent theoretical advances related to the Stimulus-Organism-Response (S-O-R) framework (Mehrabian and Russell, 1974). The first

objective is to investigate the relationships between the environmental stimuli related to the consumers' experience with organic PCP (i.e., knowledge, natural content, ecological welfare, sensory appeal, quality and price) and the utilitarian and hedonic attitudes towards these products. The second aim is to examine whether and how such cognitive and affective responses influence buying intention.

As a result, the paper contributes both theoretically and empirically to the understanding of organic PCP. At the theoretical level, it demonstrates that the S-O-R model is an adequate theoretical framework to investigate the decision-making process in the context of organic PCP. At the empirical level, the understanding of the determinants of the consumers' purchase intention is valuable to manufacturers and retailers for the increase in organic PCP market share.

2. Theoretical framework

The conceptual foundations of the proposed model and the related hypotheses are drawn from the Stimulus-Organism-Response (S-O-R) model. The S-O-R framework was first developed by Mehrabian and Russell (1974) in the context of environmental psychology and later extended in other contexts, including the retail setting and many other areas of consumer behaviour to explain the consumer decision - making process (e.g., Baker *et al.*, 1992; Chang *et al.*, 2011; Chebat and Michon, 2003; Eroglu *et al.*, 2001; 2003; Islam and Rahman, 2017; Kang and Sohaib, 2015; Kim and Lennon, 2013; Mollen and Wilson, 2010; Rose *et al.*, 2012). The paradigm postulates that Stimuli from the environment influence an individual's cognitive and affective reactions (Organism), which in turn lead to some behavioural Responses (Donovan and Rositer, 1982). More specifically, the stimuli are defined as those factors that arouse the individual, affecting his/her internal states. With reference to consumers' behaviour, Bagozzi (1986) conceptualized stimuli as both marketing mix variables and other environmental inputs that affect the emotional responses of the consumer (e.g., atmosphere, visual appeal, accessibility, social cues, customer service, information). The organism element of the S-O-R framework is the internal state of the individual that intercedes between the stimuli and behavioural responses. In the Mehrabian and Russell's initial S-O-R model, the organism was represented by three emotional states: pleasure, arousal, and dominance (PAD). Subsequently, the PAD approach was criticized and several authors conceptualized organism as a cognitive and affective internal state (e.g., Bitner, 1992; Eroglu *et al.*, 2001; Holbrook and Hirschman, 1982; Lee *et al.*, 2011). The affective state reflects the arousal and pleasure displayed in response to the environmental stimuli. The cognitive state comprises the individuals' mental processes concerning the acquisition, processing, retention, and retrieval of information (Eroglu *et al.*, 2001). These two psychological constructs have been consistently identified as influential components of customer behaviour and experience (e.g., Bagozzi *et al.*, 1999; Frow and Payne 2007; Tynan and McKechnie, 2009) and have often been operationalized through

attitudinal measures (e.g., Eroglu *et al.*, 2001; Fiore, 2002; Fiore and Kim, 2007; Lee and Yun, 2015). The final outcome in the S-O-R paradigm is the behavioural response affected by the internal state, which can be classified as either approach or avoidance (Mehrabian and Russell, 1974). Approach behaviours include all positive actions that might be directed towards a particular setting (e.g., positive communications, intention to purchase/to act, etc.), whereas avoidance behaviours reflect the opposite responses such as negative communications and no intention to purchase.

According to the S-O-R framework, the theoretical model in the present study views consumer engagement with organic PCP as consisting of three components (see Figure 1). The first comprises the individual's knowledge and experience with these products, which act as external stimuli that affect the experiential response. The second component is represented by the internal state that arouses the individual, expressed as attitude towards organic PCP. Most prior research on organic PCP, starting from the Theory of Planned Behaviour (Ajzen's, 1991), has been concentrated on attitude as a single evaluative dimension (Ghazali *et al.*, 2017; Hansen *et al.*, 2012; Kim and Chung, 2011; Mombeini *et al.*, 2015). Following the approach adopted by Lee and Yun (2015) in the context of organic foods, this study employed a bi-dimensional conceptualization of attitude. Attitude towards behaviour refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of that behaviour (Ajzen and Fishbein, 2005). Literature on consumption behaviours highlighted that there exist two dimensions of consumer evaluation: (a) an utilitarian dimension (instrumental or functional) which concerns with how useful or beneficial an object is; and (b) an hedonic (affective gratification) dimension measuring the experiential affect associated with the object (e.g., how pleasant and agreeable the feelings to the product are) (Batra and Ahtola, 1990; Holbrook and Hirschman, 1982; Millar and Tesser, 1986; Triandis, 1977). In the context of organic food purchases, for example, utilitarian attitude reflects the consumers' assessment of how useful or beneficial buying organic food is, while hedonic attitude refers to whether buying organic food is pleasant or delightful (Lee and Yun, 2015). Sharing with this view, both utilitarian and hedonic attitudes towards organic PCP were measured to adequately represent cognitive and affective internal states. Finally, the third component of the model is the behavioural response of consumers, which is represented by the intention to purchase organic PCP.

3. Hypotheses development

Five antecedent variables are proposed as external stimuli which can influence the cognitive and affective state towards organic personal care products. The selection was made according to the relevant literature and to their expected relevance in the context under investigation.

The first set of variables is related to the consciousness about organic PCP, measured in terms of product knowledge (i.e., information, familiarity and purchasing experience), awareness of their natural content and awareness

of the ecological benefits. Product knowledge is an important factor in the consumer decision-making process (Alba and Hutchinson, 1987; Brucks, 1985). In literature two conceptually different constructs are distinguished: objective knowledge, i.e. the accurate information stored in the consumer's long-term memory; and subjective knowledge, i.e. the consumer's self-perception of how much he knows about a product or service (Brucks, 1985; Park *et al.*, 1994; Selnes and Gronhaug, 1986). Among the two dimensions, subjective knowledge was found to be a stronger determinant of attitude and behaviour than objective knowledge (e.g., Feick *et al.*, 1992; Pieniak *et al.*, 2006). Several authors highlight the importance of this construct in the analysis of pro-environmental behaviour and purchase of organic food (Aertsens *et al.*, 2011; Chryssochoidis, 2000; Ellen, 1994; de Magistris and Gracia, 2008; Padel and Foster, 2005; Stobbelaar *et al.*, 2007; Teng and Wang, 2015; Thøgersen *et al.*, 2010). On the contrary, in the context of organic PCP only one study emerges which explored the impact of subjective knowledge on the attitude towards re-purchasing, founding a positive relationship (Ghazali *et al.*, 2017). The present study intends to enrich the literature investigating the dual relationship between subjective knowledge of organic PCP and the two dimensions of attitude. It is expected that better product knowledge would lead to more positive hedonic and utilitarian attitudes towards organic PCP. Hence, the following hypothesis is formulated:

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H1: Knowledge about organic PCP significantly increases (a) the utilitarian attitude and (b) the hedonic attitude towards these products.

Natural content and ecological welfare attributes pertain to the safety and environmental benefits associated to organic PCP production and use. Kim and Chung (2011) and Mombeini *et al.* (2015) showed that consumer values (including health consciousness and environmental consciousness) significantly increase the attitude towards buying organic skin/hair care products. However, they measured values in a general way (i.e., "attention to health" and "attention to environment") and not with specific reference to organic products. To the authors' knowledge, only Ghazali *et al.* (2017) measured environmental and safety values associated to organic PCP, demonstrating their positive effect on attitude towards re-purchasing. In a similar vein, Lee and Yun (2015) explored the impact of natural content and ecological welfare attributes of organic food on the consumers' utilitarian and hedonic attitude but did not find the natural content effect significant. This study aims to shed light on such relationships in the context of organic PCP and hypothesises that the awareness of natural content and ecological welfare attributes could positively influence the utilitarian dimension of the consumer's evaluation process. On the contrary, since hedonic motivation is associated with fun and playfulness rather than functionality (Holbrook and Hirschman, 1982), the affective gratification (excitement, arousal, delight) deriving from the use of organic products is not supposed to be influenced by functional attributes like natural content and ecological welfare. In light of this reasoning, the following hypothesis is stated:

H2: Consumers' perception of (a) natural content and (b) ecological welfare attributes of organic PCP significantly increases the utilitarian attitude towards these products.

The second set of variables concerns the product evaluation, measured as sensory appeal, perceived quality and price. Except for Rybowska (2014), who found that the most important reason for not buying eco cosmetics was too the extremely high price, there is a lack of literature exploring potential links between such variables and attitude/behaviour towards organic PCP. Sensory aspects have been proven to be an important factor in organic food choice (e.g., Chen, 2007; Lee and Yun, 2015). Particularly, Lee and Yun (2015) found a positive impact of sensory appeal on hedonic attitude. Similar to food, sensory stimuli are relevant in the cosmetics/hygiene products evaluation and influence the associated emotions, perceived quality and satisfaction (Theofanides and Kerasidou, 2012). Therefore, in the fourth hypothesis it is supposed that sensory appeal of organic PCP could increase the utilitarian and hedonic benefits associated to such products.

H3: Sensory appeal of organic PCP significantly increases (a) the utilitarian attitude and (b) the hedonic attitude towards these products.

The marketing literature suggests that the quality expectation of the various product alternatives is an important factor in consumer choice behaviour (Narasimhan and Sen, 1992; Steenkamp, 1989; Steenkamp and Van Trijp, 1996). In the context of organic food products, Gracia and De Magistris (2008) highlighted that the importance consumers attach to the organic food quality positively influence the level of consumption. In a similar way, if consumers perceived that organic personal care products have higher quality than the conventional ones, their attitude towards such product should improve. Therefore, the following hypothesis is formulated:

H4: Perceived quality of organic PCP significantly increases (a) the utilitarian attitude and (b) the hedonic attitude towards these products.

Except for the aforementioned study of Rybowska (2014) and that of Cervellon *et al.* (2011), which explored the consumers' willingness to pay for organic shampoo, to the authors' knowledge no studies exist that have investigated the impact of perceived price on attitude or purchase intention. Shifting the focus on the organic food sector, the vein of research analysing such relationship has provided contradictory results. If Lee and Yun (2015) suggested that perceived expensiveness decreases the hedonic and the utilitarian attitude, Chen (2007) did not find a significant relationship. Sharing with Lee and Yun's (2015) findings, this study intends to investigate if the price evaluation contributes to the perception of the hedonic and utilitarian benefits associated with organic PCP. More specifically, it is supposed that:

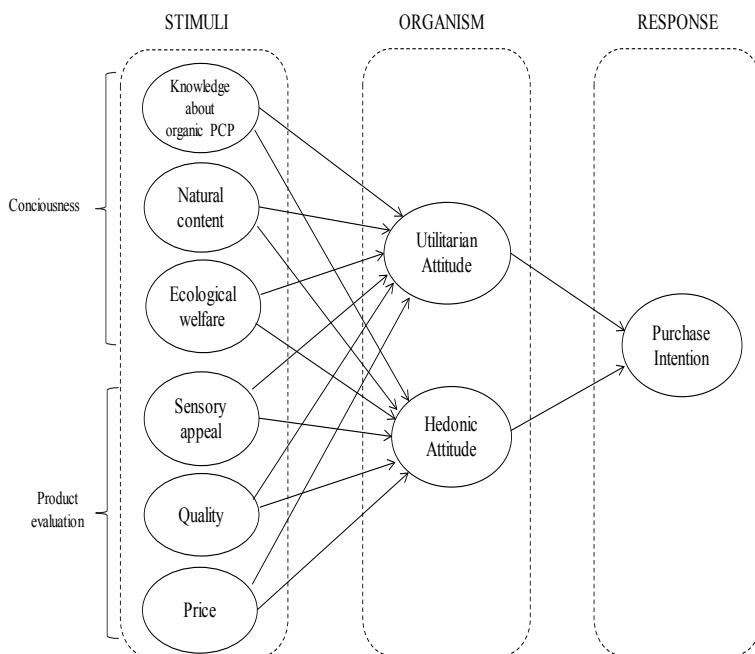
H5: Perceived expensiveness of organic PCP significantly decreases (a) the utilitarian attitude and (b) the hedonic attitude towards these products.

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The last hypothesis concerns the relationship between the attitudinal reactions to the stimuli and the behavioural response (purchase intention) conceptualized in the S-O-R model. Following the TPB (Ajzen's, 1991) basic assumptions, several authors highlighted the positive influence of attitude towards (purchasing) organic PCP on purchase intention. The present study aims to enrich such findings investigating the separate effect of utilitarian attitude and hedonic attitude on the intention to buy.

H6: (a) The utilitarian attitude and (b) the hedonic attitude towards organic PCP have a significantly positive effect on the intention to purchase these products.

Fig. 1: Conceptual model



Source: our elaboration

4. Method

A self-administered questionnaire was sent in electronic form to a sample of Italian people between September and October 2018. Respondents immediately read the definition of organic PCP. Then, only those who have purchased such products at least once were able to proceed with the interview. The final sample size was equal to 161 valid

questionnaires (72% females and 28% males; mean age = 31.8 ranging from 18 to 61).

The latent variables were measured using scales that have been well validated in the literature. Knowledge about organic PCP was measured through the five items developed by Park *et al.* (1992). The three-item scales proposed by Steptoe *et al.* (1995) were used to measure natural content and sensory appeal. Ecological welfare was assessed by the Lindeman and Vaananen (2000) four-item scale. Product quality was measured with one item developed by Gracia and De Magistris in the context of organic food (2007). Two items (Yoo *et al.*, 2000) collected the perceived expensiveness of organic PCP. The utilitarian and hedonic attitudes were assessed through three and five items respectively. The two scales, measured on a seven-point semantic differential, were developed by Voss *et al.* (2003). Finally, purchase intention was assessed using the three-item scale of Teng and Wang (2015). All statements, except for the two attitude scales, were on a seven-point anchored scale (from “completely disagree” to “completely agree”). The items used in the questionnaire are shown in Appendix A.

4.1 Analytical procedure

The collected data underwent two phases of analysis. First, Cronbach's alpha and the confirmatory factor analysis (CFA) were used to examine the construct validity and reliability of the scales. Second, the paths of relationships between the latent variables were explored. Structural equation modelling (SEM) with the maximum likelihood method was employed for the analysis of the measurement model (CFA) and of the conceptual model.

The fit of the models was interpreted based on a range of fit indices, namely the Chi-square (χ^2) value, the degree of freedom (df), the comparative fit index (CFI), the non-normed fit index (NNFI), the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). Data analysis was performed using the IBM SPSS statistical software (SPSS Inc, Chicago, IL; release 25.0) and the LISREL software (release 8.80).

5. Results

5.1 Preliminary data analysis

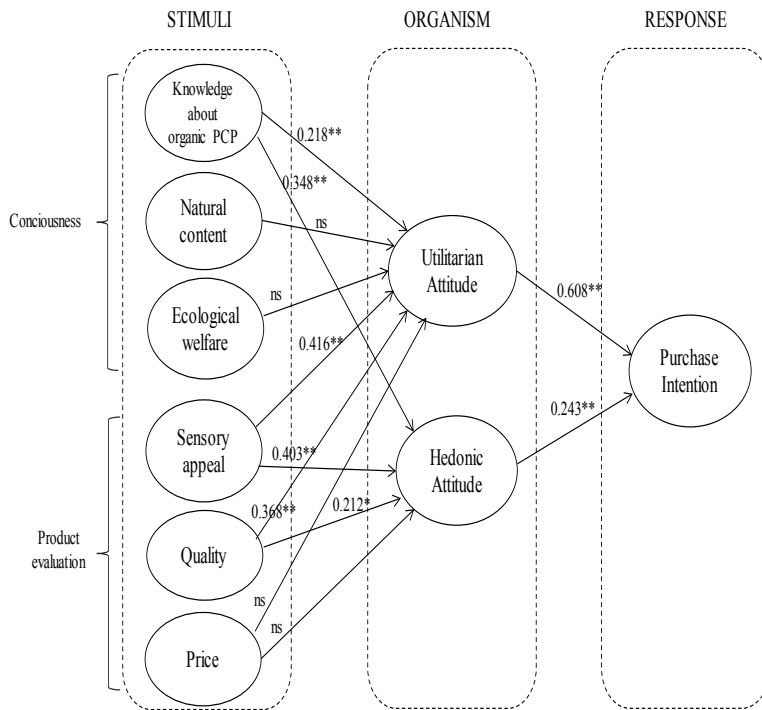
The internal consistency reliability (Cronbach's alpha) was very high for each construct, ranging from 0.77 to 0.94. All items had a high item-total correlation, and the alpha value did not increase when each item was removed. The analysis of the measurement model showed an acceptable overall fit. As the skew and kurtosis statistics showed that the normality assumption was violated, the models were estimated using the Satorra-Bentler method (Satorra and Bentler, 1994): $\chi^2 = 602.15$, $df = 342$, $p = 0.000$, CFI = 0.98, RMSEA = 0.06, NNFI = 0.98, SRMR = 0.11.

All items loaded strongly and significantly on the hypothesised latent variables and all constructs exceeded the recommended cut-off points for the adequacy of 0.70 for the Composite Reliability (CR; Steenkamp and Van Trijp, 1991) and 0.50 for the Average Variance Extracted (AVE; Fornell and Larcker, 1981). Finally, the data met Fornell and Larcker's (1981) criterion: the average variance explained by each latent variable was greater than any of the squared correlations involving the variable, suggesting that discriminant validity was achieved.

5.2 Test of structural model

Results revealed that the structural model fits the data well ($\chi^2 = 634.04$, $df = 351$, $p = 0.000$, CFI = 0.98, RMSEA = 0.06, NNFI = 0.98, SRMR = 0.09) (Figure 1). Overall, the model explains 60% of the variance for purchase intention. The significant parameters estimates are shown in Figure 2.

Fig. 2: Structural model with standardized coefficients



* $p < 0.05$; ** $p < 0.01$

Source: our elaboration

The examination of the path coefficients and t-values indicated that knowledge about organic PCP significantly influenced the utilitarian ($\beta = 0.218$, $p < 0.01$) and hedonic attitude ($\beta = 0.348$, $p < 0.01$) towards these products, thus completely supporting H1. On the contrary, H2 was not supported by empirical data: natural content and ecological welfare did

not have a significant effect on utilitarian attitude. According to H3, the higher the sensory appeal the better (a) the utilitarian attitude ($\beta = 0.416$, $p < 0.01$) and (b) the hedonic attitude ($\beta = 0.403$, $p < 0.01$) towards organic PCP, while a higher quality perception improved the functional dimension of attitude (H4a; $\beta = 0.368$, $p < 0.01$) and the affective one (H4b; $\beta = 0.212$, $p < 0.05$). Contrary to what hypothesised (H5), the price evaluation did not significantly impact on the attitudinal dimensions. Finally, the intention to buy organic PCP increased with the increase in the hedonic attitude ($\beta = 0.243$, $p < 0.01$) and, mostly, in the utilitarian attitude ($\beta = 0.608$, $p < 0.01$) towards these products, thus supporting H6a and H6b.

6. Discussion and conclusion

The present study proposed and tested a comprehensive buying behaviour model in order to identify the way of nudging consumers to choose organic personal care products. Based on the S-O-R framework (Mehrabian and Russell, 1974), it examined how attributes related to the consumers' experience with organic PCP (Stimulus) lead to the consumers' attitudes (Organism) and, consequently, to behavioural intentions (Response). Data collected from Italian consumers were used to pursue this research goal.

Results confirm that attitude is a strong predictor for purchase intention. In this manner, as the attitude towards organic PCP increases positively, so does the intention to buy. This result is in line with the classical attitude-behaviour theory (Ajzen, 1991; Ajzen and Fishbein, 2005) and previous studies in the context of organic cosmetics (Ghazali *et al.*, 2017; Hansen *et al.*, 2012; Mombeini *et al.*, 2015; Yeon and Chung, 2011). However, differently from previous research, the current study enriched the literature knowledge employing a bi-dimensional approach to attitudes. To adequately reflect the consumers' cognitive and affective internal states based on the S-O-R model, both the utilitarian and hedonic attitude towards organic PCP are considered as predictors of purchase intention. Findings showed that the major driver of buying intentions is the utilitarian attitude, established by favourable perceptions of the effectiveness, helpfulness and functionality attributes of organic PCP. The effect of the hedonic attitude was also significant and positive.

According to Matic' and Puh's (2015) findings, the environmental aspect did not contribute to the consumer's attitude towards organic PCP. This result is different from those of other studies, which assert that concern for one's health and for the environment are the two most commonly-stated motives for purchasing organic cosmetics (e.g. Ghazali *et al.*, 2017; Yeon and Chung, 2011).

Results also showed that subjective knowledge of organic PCP determines the consumer's positive utilitarian and hedonic attitude towards these products. This reflects that if consumers perceive themselves having good familiarity and understanding of the features and benefits of organic PCP, they are more likely to generate positive attitudes, which in turn lead to a greater purchase intention.

Finally, the proposed theoretical model sheds light on the role of other relevant variables which affect the organic PCP choice and that have been neglected in previous research. Specifically, quality perception and sensory appeal evaluation significantly increase both the utilitarian and hedonic attitudinal dimensions.

This study provides both theoretical and managerial contributions. Theoretically, it showed that the S-O-R model is a solid framework for the purpose of the study. Moreover, it advances the understanding of consumer buying behaviour in the context of organic PCP. Considering a broad system of relations, it fills the lack of knowledge regarding a more grounded exploration of the decision-making process towards these products.

Managerially, the study provides manufacturers and retailers several implications for the development of effective strategies to the organic PCP market. Regarding the determinants of the attitude towards these products, protection of the environment seems not a priority for the consumers. Therefore, practitioners wishing to gain more market share as regards the organic PCP must consider factors other than ecological welfare which can motivate the consumers to develop positive perceptions towards such products.

The findings suggest that creating a positive attitude towards organic PCP may be a significant consideration for companies to consequently increase consumers' purchase intentions. Specifically, the major driver of buying intention is the utilitarian attitude, established by favourable perceptions of the natural content, quality and sensory characteristics of organic personal care products. Contextually, previous experience and perceived knowledge of the benefits and features of organic PCP are important to influence both utilitarian and hedonic attitude. Therefore, when communicating the utilitarian (effectiveness and functionality) and the hedonic (fun, excitement, pleasure) dimensions of the organic personal care products consumption, companies should stress their intrinsic quality and the pleasantness of sensory aspects like texture and perfume. Moreover, retailers and manufacturers can help consumers develop more positive perceptions of organic PCP by increasing their familiarity with these products. To achieve this goal, they should use miniature samples as a marketing tool to induce trials. Similarly, the use of product testers in store should provide tactile cues for the sensory evaluation. According to McCabe and Nowlis (2003), consumers' direct experience with a product plays a fundamental role in making purchase decisions. If consumers evaluate the sensory attributes of organic PCP as pleasant and develop a high quality perception even before the purchase, they are more likely to improve their attitude towards such products, which in turn can positively influence the purchase intention. Clearly this lever cannot be exploited in the online retail channel, in which rich and elaborate descriptions are the best way to overcome the consumer's desire for direct sensory experience.

The proposed strategies can be useful to for both persuading the non-buyer and reinforcing the purchases of who is already a buyer of organic PCP. Greater knowledge and better perceptions about these products will not only induce new individuals to buy them but will also increase the

level of consumption among existing consumers. For non-consumers, the marketing campaign should mainly point out the quality and the natural content benefits of organic PCP. For consumers, instead, campaigns should also stress the past experience and the experimented sensory benefits.

7. Limitations

Despite the literature contribution, the present study has some limitations. First, the recruitment method and the sample size prevent us from generalizing the results. Therefore, further research is recommended in order to extend the investigation to a larger sample that is going to be representative of the general population. The increase in sample size will also allow verifying the robustness of the model. Second, only purchase intention was measured, not actual behaviours. In addition to measuring purchase behaviour through self-report measures, it would be interesting to make an in-depth daily survey in order to investigate the actual consumers' purchase of organic personal care products. Third, although perceived expansiveness of organic PCP did not affect the attitude formation, it would be appropriate to investigate if it impacts on behavioural interventions. Therefore, the direct relationship between price and purchase intention should be included in the proposed model. Finally, longitudinal studies are required to examine whether changes in consumer attitude, perception and buying with regard to organic PCP happen in time.

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Appendix A: Items of the questionnaire

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Construct	Items	Authors
Knowledge about organic PCP	I know a lot about organic personal care product I have great purchasing experience with organic personal care product I am familiar with organic personal care product I understand the features and benefits of organic personal care product My knowledge about organic personal care product is better relative to the people that I know	Park <i>et al.</i> , 1992
Natural content	Organic personal care products contain no additives Organic personal care products contain natural ingredients Organic personal care products contain no GMOs and synthetic fragrances	Steptoe <i>et al.</i> , 1995
Ecological welfare	Organic food has been produced in a way which has not shaken the balance of nature Organic food is packaged in an environmentally friendly way Organic food has been produced in a way that animals have not experienced pain Organic food has been produced in a way that animals' rights have been respected	Lindeman and Vaananen, 2000
Sensory appeal	Organic personal care products look nice Organic personal care products have a pleasant texture Organic personal care products smell good	Steptoe <i>et al.</i> , 1995
Product quality	Organic personal care products have higher quality than conventional	Gracia and De Magistris, 2007
Price	Organic personal care products are expensive The price of organic personal care products is high	Yoo <i>et al.</i> , 2000
Utilitarian attitude	Ineffective-effective Not helpful-helpful Not functional-functional	Voss <i>et al.</i> , 2003
Hedonic attitude	Unnecessary-necessary Not fun-fun Dull-exciting Not delightful-delightful Not thrilling-thrilling	Voss <i>et al.</i> , 2003
Purchase intention	If organic personal care products were available in the shops, I would buy them I am willing to buy organic personal care products despite their higher prices The probability I would buy organic personal care products is very high	Teng and Wang, 2015

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