



# The preferences of consumers when selecting skin care products

DOI nr: <https://doi.org/10.35683/jcm20134.138>

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## ABSTRACT

**Purpose of the study:** The importance of existing sales affinities between products cannot be understated. Consumers shopping baskets contain multiple products, from several product categories resulting in the development of a basket of cross-category products. Given that consumer preferences are attribute-driven, the authors questioned the attribute preferences of selected cross-category skincare products. As such the aim of the study was to determine product attribute preferences for skincare cross-category products in Durban.

**Design/methodology/approach:** A quantitative research design was used in the form of a cross-sectional descriptive survey. The study targeted Durban consumers and sampled 213 students selected from three Durban universities. Sampling techniques included the use of convenience sampling and respondents were purposely selected based on their capacity to give meaningful information relevant to the study. Conjoint analysis experts and a statistician was used to ensure research instrument validity. The questionnaire was also pretested prior to data collection.

**Findings:** The results indicated acceptable, consistent scoring patterns for the research instrument. Kendall's Tau test was used to test for reliability of the research instrument. The study revealed that for skincare products, durability was the most important attribute followed by the brand, product effectiveness (strength), size, price, and scent of skincare products. In terms of demographics, significant differences were also found in the respondents' preferences for skincare product attributes. The findings of the study are limited due to the low response rate among older respondents. Many respondents were unemployed students; therefore, the findings of the study cannot be generalised. Overall, taxonomic differences seemed to produce variances in attribute preferences.

**Recommendations/value:** The study suggests that manufacturers and retailers should emphasise the provision of more value for money through by offering more durable products.

**Managerial implications:** Retail managers may benefit from communicating more value for money for their skincare product offerings. Brands that are synonymous with longer lasting products either through offering



more volume or products that require less application to achieve desired results may provide a competitive advantage.

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### Keywords

Attributes preferences; Conjoint analysis; Consideration set; Heuristics; Skincare product category.

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**JEL Classification: L81**

## 1. INTRODUCTION

Research focusing on understanding why people buy certain products and brands and not others has been emphasised recently (Olson, 2013; Font-i-Furnols & Guerrero, 2014; Feldmann & Hamm, 2015). However, consumers ascribe an overall value to a specific product based on how the product is perceived to perform on various attributes and how important these attributes are (Hossain *et al.*, 2003; Eggers *et al.*, 2016). The assumption is that products and services can be characterised by a set of concrete attributes and each set may appeal to some consumers and not to others. Consumers have shown diverse reactions towards different features and benefits of products. Tastes are plausibly heterogeneous over the product attributes and thus, over the marketing offering of each business. Sensory consumer research has investigated the relationships that consumers have with intrinsic and extrinsic features of products and studies have shown varied findings (Enneking *et al.*, 2007; Mueller & Szolnokl, 2010).

This has prompted continued research into the effects that product features have on consumer preferences for different product categories. Such an understanding is rooted in consumer cognitivism. The cognitive approach to consumer behaviour ascribes behaviour to intrapersonal cognition where individuals are viewed as information processors. As such, consumers process information prior to purchase deciding. Moreover, the cognitive theory led to the Theory of Buyer Behaviour and the Consumer Decision Making Model (Bray, 2008).

The growing emphasis on market basket analysis has also created interest in the features and benefits sought after within product categories, particularly by retailers who have been at the forefront of category management research (Boztuğ & Reutterer, 2008). The increased need to develop an understanding of consumer choices among product categories within the retailing industry has been the driving force behind such research effort. Moreover, Statistics South Africa (2015 and 2021) retail trade statistics showed that pharmaceuticals and medical goods, cosmetics and toiletries were among the most traded goods within the retail industry. Therefore, investigating consumer attribute preferences, selecting the fast-moving skincare

product category (such as, body lotion, sunscreen, body wash, face wash, excluding luxury skincare products) may provide insight into consumer preferences.

The following sections will provide an outline of the literature that informed the researchers of a sound understanding of the study constructs under investigation. Thereafter, proceeding sections will also outline the research instrument used in the data collection process as well as the data analysis. The result and subsequent discussion of the results will include the findings of prior research. Finally, conclusions are drawn and implications for future research are provided.

## 2. RESEARCH PROBLEM, AIM AND OBJECTIVES

Retailers essentially do not offer one class of products to customers but offer an assortment of goods from different product classes. Consequently, category management has been identified as a key success factor of retail aisle management (Gooner *et al.*, 2011). Aisle management encompasses the effective placement of product categories for store aisles to affect the customers' shopping experience, behaviour, and the turnover of interconnected product categories. The effect of product placement in some cases may match or exceed the effect of other selection variables, for example, product attributes and a product display variable (Bezawada *et al.*, 2009). Nonetheless, the dynamic nature of consumer choices and preferences necessitate the continued study of such consumer choices and preferences (Hasegawa *et al.*, 2012). Furthermore, a knowledge gap exists regarding attribute preferences for product categories.

A critical aspect in studying the dynamics of consumer preferences is by determining whether changes are related to specific product attributes or combinations of attributes. It is unclear which attributes lead to satiation in demand for offerings. This is particularly important because purchase behaviour involves the consideration of meta-attributes. Consumers possess meta-level preferences for products which are more enduring than situational preferences (Agarwal *et al.*, 2015). Subsequently, investigating these attribute preferences for a specific product category was the focus of this study.

Furthermore, the use of stated preference models such as conjoint analysis or discrete choice models have been useful in predicting the appeal or sales potential of products. Using stated preference models, researchers have been able to ascertain the relative importance of product attributes as well as how attribute importance varies (Hossain *et al.*, 2003). Conjoint analysis has been the preferred predictive statistical model in several studies that seek to determine attribute preferences for a product. Conjoint analysis has been used to approximate the nature of consumer evaluations for a set of product profiles developed from a combination of product

attributes (Asioli *et al.*, 2014). Therefore, conjoint analysis was the preferred method selected to determine attribute preferences for skincare products.

Research has shown that shopper characteristics such as psychographics, behavioural history and shopper demographics moderate the effects of different drivers of shopper behaviour (Shankar *et al.*, 2011). Not only have researchers highlighted the effects of demographic factors, but other studies have also examined socio-demographic factors. Studies have investigated the effects of socio-demographics on consumer willingness to purchase products (Baltas & Argouslidis, 2007; Martinez & Montaner, 2008). Socio-demographic factors such as household income, the number of children in the household, gender, and age, among others have been investigated. Such studies discovered that income and family size were strong determinants of store brand purchase behaviour (Diallo *et al.*, 2013). As a result, this study sought to determine skincare cross-category attribute preferences of consumers in Durban. Furthermore, the study had as its objectives:

- To identify consumer product attribute preferences for skincare cross-category products in Durban.
- To identify product attribute preferences for skincare cross-category products for consumer with different demographic profiles.

### 3. LITERATURE REVIEW

Predicting the buyer's choice of product has been a subject of interest in consumer behaviour studies for generations (Wu & Rangaswamy, 2003; Hennig-Thurau *et al.*, 2010). Over the years research has introduced the idea of a two-stage decision making process whereby consumers consider–then-choose. The concept originated from the principles of consumer behavioural theories (Solomon *et al.*, 2006). In particular, the cognitive approach has been described as ideal for the examinations of ethically sound purchasing behaviour. Moreover, cognitive approach has been identified as possessing the capacity to explain complex purchasing behaviour (Foxall, 1993; Hansen 2005). Literature has shown the existence of variations of the cognitive psychology. However, a common thread among them is the importance of mental structures and their mediation of consumer responses to stimuli. Emphasis has been placed on factors such as perceptions, memory, emotions and learning (Bray, 2008).

The classification of products into different categories is a common practice among consumers and marketers. Both groups find it useful to categorise products as it aids the processing of information about different products (Felcher *et al.*, 2001). Research conducted into the categorisation of products has brought some insight into the cognitive process that consumers

use to make purchasing decisions (Ratneshwar *et al.*, 2001). Furthermore, studies have investigated the memory retrieval processes and how it was used in the formation of consideration sets as well as how product evaluation affects choice (Barone *et al.*, 2015).

Literature reviewed revealed the connection between category structures and consumer decisions through a hierarchical process. This process leads to the formation of consideration sets. For example, when faced with the need to quench his/her thirst, an individual may begin with a superordinate category (for example, beverages), thereby narrowing it down to a basic category (for example, fruit juices). It has been assumed that individuals also form a consideration set of brands from nested subordinate categories such as orange juices. A consideration set is formed containing a specific set of brands from which final selection is made (Lynch & Zauberan, 2007). Based on this view, consumers may not select from alternatives that are very different (for example, whiskey and an alcoholic cider). However, much more research is needed to understand all the factors that relate to cross-category considerations (Ratneshwar *et al.*, 2001).

### 3.1 Attribute explication

Early researchers only defined product attributes as the physical properties of a product that was quantitative and objectively measurable (Wu *et al.*, 1988). In more recent years, the accepted definition has expanded to include all evaluative criteria, including objective or physical properties (price, brand name or country of origin) and subjective properties (quality, style, or comfort), that a consumer may perceive as beneficial or valuable. Other researchers have categorized them as concrete or abstract. Concrete attributes refer to the physical characteristics and abstract attributes to the pseudo-physical characteristics (intangible and subjective) (Akpyomare *et al.*, 2012).

Product attributes have been divided into two groups: intrinsic and extrinsic in nature. Intrinsic attributes are specific to a product, unalterable, and include physical attributes such as shape, ingredients, flavour, colour, and aroma. Extrinsic attributes, on the other hand, are not an integral part of the physical product itself and thus include cues such as price, brand name, and country of origin (Forbes, 2008). Researchers have sought to understand the importance of both intrinsic and extrinsic product attributes during the consumer decision-making process. Another classification has been put forward over the years. A classification of attributes identifying two distinctive categories; core (primary) attributes and non-core attributes were developed (Brechan, 2006). In this classification all attributes that are not essential to solving the customer's problem are secondary product attributes. Despite this distinction, the classification of attributes into intrinsic and extrinsic attributes has been more widely accepted (Perrouty *et al.*, 2006).

### 3.2 Attribute heuristics

Universally, in the field of marketing, the concept of a product formed by consumers, is formed based on the initial information a consumer receives about the product which can induce expectations about it. Consequently, these concepts may influence product evaluations and purchasing decisions (Del Bosque *et al.*, 2006). Consumers have used heuristic cues (informational cues) when evaluating products to reduce risk (Hansen, 2005; Forbes, 2008). Heuristics are informational cues or indicators which can be used by consumers to infer the values of other attributes. Attributes or even values, which are inferred using such cues, have been noted as having a substantial influence on consumer product evaluations and purchase intentions (Zhang *et al.*, 2014). For instance, price is commonly used to infer attributes such as product quality and reliability. Consumers may use price as a cue heuristically to assign meaning to other product attributes or to an entire product class. Price is most frequently used as a heuristic cue when quality is difficult to judge and when it is perceived to vary greatly among brands (Pinson & Jolibert, 1998). A study by Akpoyomare *et al.*, (2012) showed that the country of origin and the price of a product were the most frequently used attributes in consumer decision making. Product attributes which are frequently used as heuristic cues are a brand name, store reputation together with the country of origin (Hansen, 2005).

#### 3.2.1 *Intrinsic vs extrinsic cues*

Past studies have shown that extrinsic cues such as the country-of-origin are distinct from other physical product characteristics or intrinsic attributes. The country or region of origin, price, brand name, labelling, and warranty have no direct bearing on product performance or quality. They are used by consumers as indicators which, therefore, influence product evaluations, perceptions of risk and purchase intentions (Rahman & Reynolds, 2015). Other authors have also identified intrinsic attributes as more important than extrinsic attributes (Forbes, 2008). In support of this stance, research has argued that extrinsic cues, such as the country of origin, will be especially important when consumers are evaluating products for which intrinsic information such as product quality are not known (Rahman & Reynolds, 2015).

On the contrary, a growing body of sensory consumer research confirmed that extrinsic product cues, such as packaging and branding, influence how consumers evaluate products such as food. One of the studies found that extrinsic cues had a strong effect on consumers' informed-liking. This referred to the liking developed from prior experiences with products (wine products) (Mueller & Szolnoki, 2010). They discovered that overall; packaging and brand evaluation were the strongest drivers of informed-liking for wine products. The consumers' intention to purchase within the category was influenced, largely, by price. Ultimately, extrinsic attributes were found to impact purchase intent in a mediated process through informed-liking.

However, this had no strong direct effect on the purchasing decisions of consumers. The existing literature therefore shows the presence of variances in consumer responsiveness to both extrinsic and intrinsic product cues.

### **3.2.2 Consumer age and the influences of product cues**

A study by Mueller and Szolnoki (2010) showed that different segments varied in consumer responsiveness to intrinsic and extrinsic cues. Younger consumers with lower consumption intensity were impacted more strongly in their informed liking of wine products by how much they liked a product particularly when they were unfamiliar with the wine. Although this was the case, it was an indication that they had not yet built strong preferences for extrinsic attributes. The respondents lacked the experience to use extrinsic cues as useful predictors for how much they will like a wine. The effect of brands was also observed to be diminished through product familiarity. Origin was of highest importance for the unexperienced segment and did not impact both more experienced consumer groups. This effect agrees with previous findings that novices rely more on stereotype information (Mueller & Szolnoki, 2010) while experts used country-of-origin to select wine only when the remaining cues were ambiguous (Perrouty *et al.*, 2006; Remaud & Lockshin, 2009). Although the extant literature showed attribute consideration within food product selection, the observed behavioural characteristics may be used to explain other behavioural patterns in other product purchases. Therefore, it can be assumed that younger consumers and consumers lacking product purchase experience will be impacted more by extrinsic cues. For example, packaging, branding and place of origin may be used when considering different shopping goods product categories.

### **3.2.3 Conjoint analysis**

Two vital patterns have fundamentally influenced the use of multi-attribute preference measurement techniques (with emphasis on conjoint analysis). Foremost, as products have become more composite, consumers have also obtained greater information about the features of products. Marketers have endeavoured to quantify consumers' product preferences given the increase in the number of features contained by each product (Hauser & Rao, 2004; Bradlow, 2005; Netzer *et al.*, 2008). In contrast to other multi-attribute models, conjoint analysis has been regarded as a user-friendly, dependable, and effective technique which has been used by researchers and managers to establish consumer preferences (Fraenkel *et al.*, 2001).

As a result, conjoint analysis has become one of the preferred research techniques in marketing research. The approach empowers researchers with the understanding of consumer preferences, and it has been used to resolve an extensive range of marketing

problems such as the following: estimating product demand, designing a new product line and calibrating price sensitivity/elasticity. The technique encompasses presenting participants with a carefully designed set of hypothetical product profiles (demarcated by the specified levels of the relevant attributes) and collecting their preferences in the form of ratings, rankings, or choices for those profiles (Agarwal *et al.*, 2015).

Indeed, since its introduction, conjoint analysis (and its variants) has been the most preferred technique for quantitative preference measurement. The technique has also been regarded as one of the key developments from marketing science to marketing practice (Netzer *et al.*, 2008). Introduced in the early 1970s, conjoint analysis must quantify consumer preferences, forecast demand, and develop products. Conjoint analysis has been highly successful and has become a regular tool in the field of marketing (Strezhnev *et al.*, 2013). As such, the importance of product attributes which cannot be overstated in the evaluation of products highlights the need for the use of conjoint analysis to investigate consumers attribute aspirations.

#### **4. RESEARCH METHODOLOGY**

A quantitative research method was used to collect data from consumers within the city of Durban. The study was cross-sectional in nature. The study was in the form of a descriptive design. The population of the study was made up of consumers residing in the greater Durban area. Retail shoppers were identified as ideal participants for the study based on the level of retail industry activity within the province KwaZulu Natal. However, the study targeted students (undergraduate and postgraduate) from three public universities in the greater Durban area. The study sampled 213 students using non-probability sampling. The accessible population, on the other hand, was established as a subset of the target population. Therefore, the accessible population for this study comprised of students of the three major universities in Durban (University A, University B, and University C). According to the Republic of South Africa's Department of Higher Education and Training (2014:9) the population of enrolled students from the three universities in 2012 was 37 242 (University A), 24 875 (University B) and 10 802 (University C). A similar population trend was observed for the year 2015 (South Africa Department of Higher education and Training, 2015). It was assumed that these figures would not have undergone drastic changes, thereby ensuring that the total research population of the three institutions remained above 65 000. Four Durban campuses were purposely selected based on the population sizes. Convenience sampling was adopted to recruit respondents. The sampled population consisted of respondents belonging to the following generational groups, namely, Baby Boomers (1946 – 1964), Generation X (1965 – 1976), Generation Y (1977 – 1994), Generation next (Z) (1995 – 1997).

#### 4.1 Data collection

The researcher administered self-administered questionnaires comprising of structured questions, assessed in an undisguised manner. The questionnaire was designed based on consumer conjoint analysis scales (Silayoi & Speece, 2007; Jainarain, 2012; Wu *et al.*, 2014; Bauer *et al.*, 2015). Product profiles were graphically presented to respondents in the form of a chart. A chart depicting the product attributes of skincare products was presented to respondents as visual aids (see Appendix) Attribute level preferences were obtained through the questions adapted from product aspects scales as well as product quality dimensions (Li & Dant, 1997; Sebastianelli & Tamimi, 2002; Kotler & Armstrong, 2009). The research instrument consisted of nominal questions for demographics and ordinal scale for skin care product profiles. The respondents considered three specific product features of which six attributes were analysed to generate a feature preference. The respondents from the Durban campuses of the three universities were selected via classroom intercept.

#### 4.2 Data analysis

Quantitative methods of data analysis allowed the researcher to obtain large volumes of data that enabled the establishment of expressive results from significant volumes of data (Abeyasekera, 2005). The method enabled the summation of research findings in numerical terms with a designated level of confidence (Abeyasekera, 2005). The Generate Orthogonal Design procedure was used to develop an orthogonal array. This procedure uses a fractional factorial design which also generates an orthogonal array, a method of factoring which results in a linear combination of observed variables possessing such properties that are deemed orthogonal to each other (that is independent of each other) (Smith & Albaum, 2010; IBM, 2016). This is typically the starting point of conjoint analysis. Descriptive statistics in the form of frequency and percentage were calculated from the variables. Inferential statistics were used to draw conclusions about the population. This was done at random, followed by inferences made about central tendency (mean, median and mode), or any of several other aspects of a distribution (Bettany-Saltikov & Whittaker, 2014).

### 5. RESULTS AND DISCUSSION

The following section presents the results and an interpretation of data collection process including the inferential statistics used to analyse the respondents' skincare product attribute preferences. A graphical representation of the respondent skincare attribute preferences in terms of the respondents' demographics is also provided.

## 5.1 Reliability and validity

A computer software program SPSS version 12.0 was used to determine the preferences for skincare product profiles. A list of ten profiles depicted in the Appendix were presented to respondents and ranked by the respondents in their order of preference. The last two profiles were used as hold-outs (profile nine and ten). These were not used during the conjoint analysis procedure to estimate utilities but instead, they were used to check the validity of the utilities by computing correlations between observed and predicted rank orders for these profiles. The value of Kendall's Tau for two hold-outs was examined. Kendall Tau correlation has been described as one of the indicators of reliability in the generalisability theory (Urbano *et al.*, 2013). Moreover, the estimated Partworths are used to predict preferences for the validation profiles to assess the validity and reliability of a conjoint model (Hair *et al.*, 2010). Particularly, in cases where no real-life data exists, the holdout tasks provide a way to test the predictive validity of a conjoint analysis model (Gustafsson *et al.*, 2001). However, others have argued that using holdout tasks allows for the testing of the internal consistency of a model (Grover & Vriens, 2006; Orme, 2010).

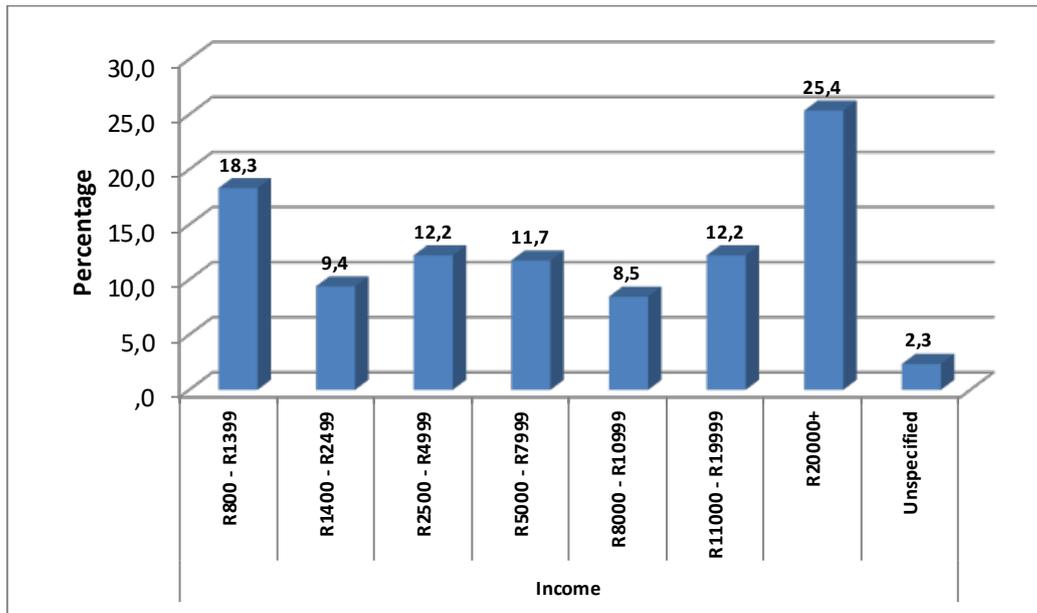
To measure validity, content validity was undertaken. Content validity relates to how well the questions were chosen to operationalise a construct to provide an adequate and representative sample of all the items that might measure the construct of interest (Kimberlin & Winterstein, 2008). Moreover, content validity involves assessing the ability of a set of questions to representative a given concept that is intended for measurement (Perroca, 2011). The questionnaire was pre-tested before it was used to collect data in the study. Sequencing of questions and the administration of the instrument was kept standardised to ensure the content validity of the information gathered from the questionnaire. Conjoint analysis experts were consulted along the way to check the accuracy of the questionnaire.

## 5.2 Biographical information

A total of 213 respondents took part in the study with more of the respondents (43.7%) belonging to Generation Z or also known as Generation Next (1995-1999) and (44.6%) Generation Y (1977-1994). Only 11.7 percent belonged to Generation X (1965-1976). 48.8% of the respondents were male and 51.2 percent respondents were female. Most of the respondents who participated within phase two of the study, 69 percentage were unemployed. 31 percent of the respondents were employed either on a part-time basis, full-time or self-employed. Furthermore, a group of students (29.6%) indicate that they were living at university residence while 14.1 percent and 7.5 percent were staying in a flat or a student commune, respectively. It should be noted that 0.5 percent of the respondents did not indicate their place

of residence. Figure 1 shows the distribution of respondents in terms of their monthly household income.

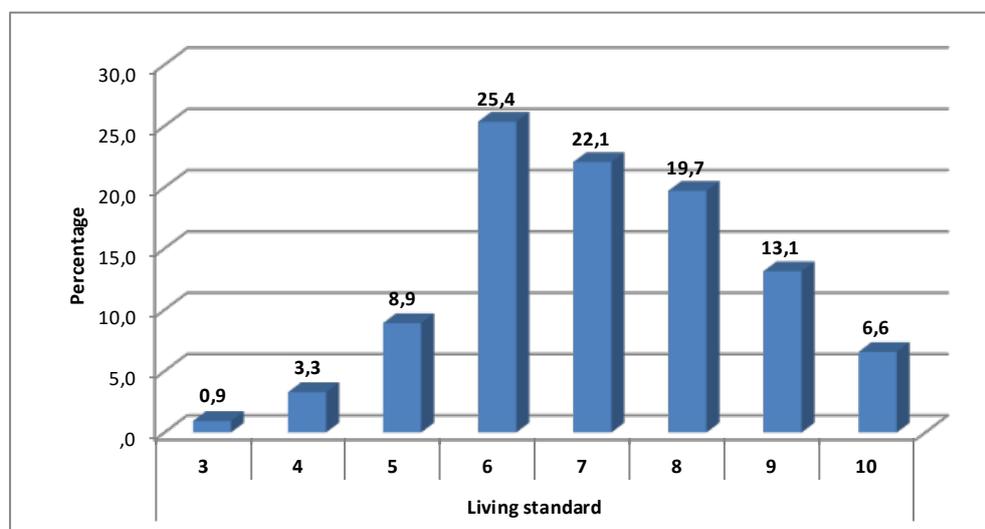
**Figure 1: Monthly household income**



Source: Calculated from survey results

Figure 2 shows the distribution of respondents in terms of the South African Audience Research Foundation (SAARF) Living Standards Measurement (LSM). The population distribution of the study shows that most respondents showed a living standard between LSM six to eight (67.2%). Furthermore, 19.7 percent of the respondents showed a living standard between LSM nine and ten while 8.9 percentage showed between LSM three to five.

**Figure 2: Living Standards Measure (LSM)**



Source: Calculated from survey results

### 5.3 Attribute preferences

The mean importance rankings were analysed using an analysis of variance test (ANOVA) to test for the existence of any significant differences across demographic categories. The test showed that the importance ratings for each attribute do not differ significantly in terms of the respondents' generational cohorts. Therefore, a separate test for each generational cohort was conducted separately to determine whether the importance rankings for each attribute differ significantly. Only the result where significant differences were found are presented.

Table 1 shows the relative importance and utility rankings for each of the six skincare product attributes used for the study. Durability received the highest score compared to all other attributes (19.96). The brand of skin care products received a high score (17.19) followed by product strength (16.60) while price received a low importance score compared to the size of skin care products. The least important attribute is scent (14.88) according to the responses provided. Table 1 also shows the attribute level preferences for each product. Positive score utility indicates the level that is preferred by the research respondents. The respondents preferred skin care products of durability that would last 3 weeks (0.574) instead of 2 weeks (-0.574). The positive utility of 0.281 for manufacturer (national) brands indicates that respondents prefer brands that are not restricted to a retailer.

**Table 1: Skincare category conjoint analysis results**

Attribute	Attribute Level	Part-worth Utility Estimates	Relative Importance (%)
Durability	3 weeks	0.574	19.96
	2 weeks	-0.574	
Brand	Manufacturer/ National	0.281	17.19
	Private/store	-0.281	
Product effectiveness (strength)	Average	0.045	16.60
	Very effective	-0.045	
Size	500g / 0.5 litre	0.187	16.39
	1kg / 1litre	-0.187	
Price	moderately priced	0.161	14.99
	Priced low	-0.161	
Scent	Floral	0.048	14.88
	Oceanic	-0.048	

Source: Calculated from survey results. SPSS 12.0

### 5.4 Inferential statistics

Friedman's test was used to measure if the relative importance values differed significantly across attributes. The results show that there is a significant difference in the importance rankings across the skincare product attributes,  $\chi^2(5) = 19.698$ ,  $p = 0.001$ . In particular,

durability is significantly more important while the brand, product strength and size are significantly more important than price and scent.

### 5.4.1 Generation

In terms of respondents,' generational cohorts, significant differences were found in the importance score for each attribute. Differences were observed within specific generational cohorts. Table 2 shows that significant differences were found in the scoring patterns of Generation Y and Z only ( $p < 0.005$ ). Generation Y respondents indicated that the durability of skincare products as significantly more important than all other attributes ( $M = 0.2157 \pm 0.18309$ ).

Table 2: Chi-squared test - attribute importance across generational cohorts

Generation	Frequency (N)	Attributes	Mean	Std. Deviation	Chi-square	df	Sig	
Gen X	25	Brand	0.1971	0.16315	4.181	5	0.524	Not significant
		Durability	0.1875	0.16006				
		Price	0.1731	0.17840				
		Product strength	0.1690	0.16259				
		Size	0.1483	0.12640				
		Scent	0.1248	0.11718				
Gen Y	94	Durability	0.2157	0.18309	11.300	5	0.046	Significant
		Product strength	0.1684	0.13440				
		Brand	0.1672	0.13052				
		Scent	0.1516	0.12887				
		Price	0.1503	0.13558				
		Size	0.1469	0.12257				
Gen next Z	93	Durability	0.1868	0.14845	11.162	5	0.048	Significant
		Size	0.1852	0.13864				
		Brand	0.1700	0.14327				
		Product strength	0.1626	0.14198				
		Scent	0.1525	0.16283				
		Price	0.1429	0.11914				
a. Friedman Test								

Source: Calculated from survey results

### 5.4.2 Gender

No significant differences were found in the scoring patterns of respondents in terms of the respondents' gender. However, significant differences have been found in the scoring patterns of male respondents ( $p < 0.005$ ) (see Table 3). Male respondents place significantly greater importance on the durability ( $M = 0.2150 \pm 0.16844$ ) of skincare products than all other attributes. The product strength ( $M = 0.1498 \pm 0.11571$ ) of skincare products received a significantly low importance score.

**Table 3: Chi-squared test - attribute importance between genders**

Chi-squared test								
Gender	Frequency (N)	Attributes	Mean	Std. Deviation	Chi-square	df	Sig	
Male	103	Durability	0.2150	0.16844	15.940	5	0.007	Significant
		Size	0.1678	0.13244				
		Scent	0.1593	0.16321				
		Brand	0.1568	0.12986				
		Price	0.1513	0.14732				
		Product strength	0.1498	0.11571				
Female	109	Brand	0.1862	0.14796	8.724	5	0.121	Not significant
		Durability	0.1852	0.16280				
		Product strength	0.1812	0.15965				
		Size	0.1602	0.13025				
		Price	0.1483	0.12108				
		Scent	0.1389	0.12136				
a. Friedman Test								

Source: Calculated from survey results

### 5.4.3 Employment type

No significant differences found in the attribute importance rankings in terms of the respondent's employment type. Differences were found in the responses of respondents who are unemployed ( $p < 0.05$ ). A Chi-squared test yielded the following result:  $\chi^2(5) = 23.560$ ,  $p = 0.000$  (see Table 4). Significant differences have been found in the importance rankings for durability ( $M = 0.2109 \pm 0.16629$ ) which received a significantly greater importance score compared to all other attributes.

**Table 4: Chi-squared test - attribute importance rankings of the unemployed**

Chi-squared test								
Employment type	Frequency (N)	Attributes	Mean	Std. Deviation	Chi-square	df	Sig.	
Unemployed	146	Durability	0.2109	0.16629	23.560	5	0.000	Significant
		Brand	0.1734	0.14417				
		Size	0.1716	0.13687				
		Product strength	0.1571	0.13332				
		Price	0.1438	0.13251				
		Scent	0.1432	0.14362				
a. Friedman Test								

Source: Calculated from survey results. SPSS 12.0

#### 5.4.4 Income

The respondents' monthly household income noted significant differences in terms of the mean score for the size of skincare products ( $p= 0.000$ ). The respondents earning between R11000 – R19999 showed a greater importance score for the size of skincare products compared to other respondents ( $M= 0.2400 \pm 0.16467$ ). The respondents earning a monthly household income of R5000 – R7999 showed the second highest mean importance score ( $M= 0.2371$ ) for the size of skincare products with a standard deviation ( $df$ ) of 0.16284. The respondents with a monthly household income between R800 – R1399 showed the lowest importance score for the size of skincare products, lower than any other income level ( $M= 0.1289 \pm 0.10536$ ). Due to the violation of the equal variance assumption (unequal sample sizes) a Welch statistical analysis test was conducted ( $p= 0.011$ ) (see Table 5).

**Table 5: Welch Statistic - size**

Welch Statistic: Robust Tests of Equality of Means				
	Welch Statistic <sup>a</sup>	df1	df2	Sig.
Size	3.019	6	72.358	0.011
a. Asymptotically F distributed.				

Source: Calculated from survey results. SPSS 12.0

The following hypotheses were set based on the findings of the study:

**H0:** The size of skincare product preference does not vary in terms of the monthly household income.

**H1:** The size of skincare product preference varies according to the monthly household income.

Table 5 shows that respondents' level of importance rankings for the size of skincare products varied significantly in terms of the respondents' monthly household income. H0 may be partially accepted.

Further analysis of the responses of respondents in each income level showed statistically significant differences in the responses of respondents at three income levels. Table 6 shows that respondents earning R800 – R1399 a month rated durability ( $M= 0.2106 \pm 0.15173$ ) as more important than the price and size of skincare products. The brand has been rated as less important than the scent but more important than price. Table 6 also shows that respondents who belong to a household that earns between R2500 – R4999 place more importance on durability than scent and the brand. However, respondents earning between R2500 – R4999 a month rated price ( $M= 0.2047 \pm 0.17966$ ) as significantly more important than all other attributes except for durability.

**Table 6: Chi-squared test - attribute importance across monthly household income**

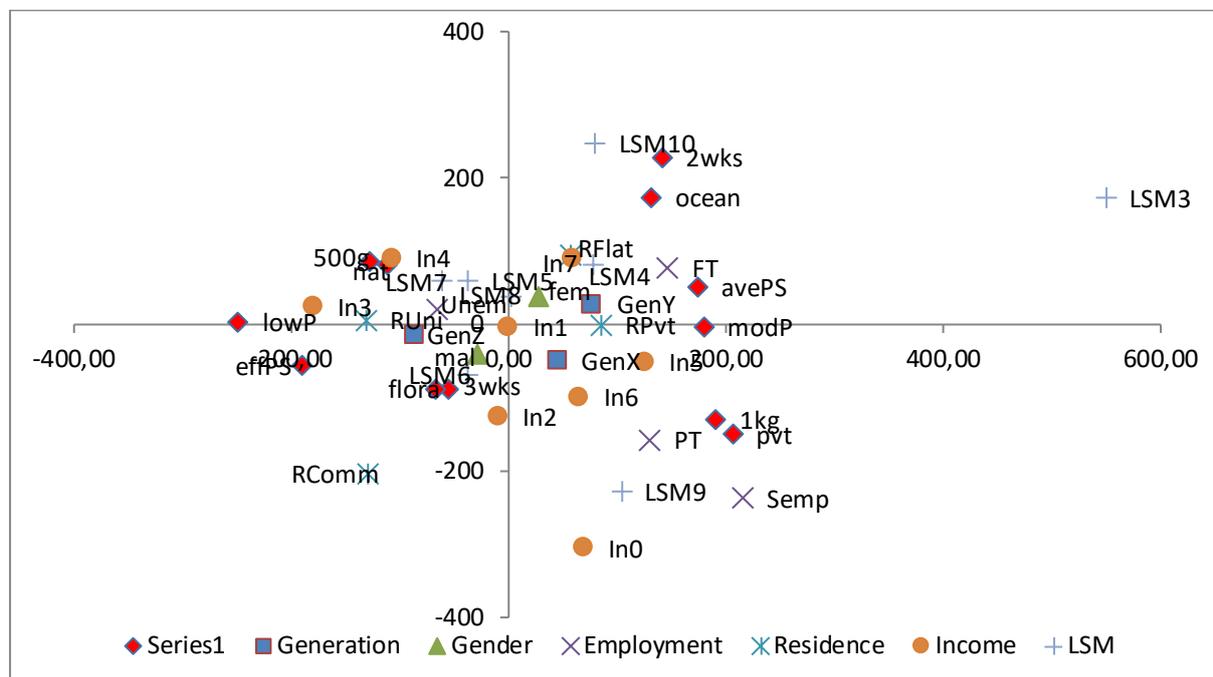
Chi-squared test								
Income	Attributes	Frequency (N)	Mean	Std. Deviation	Chi-square	df	Sig.	
R800 - R1399	Durability	39	0.2106	0.15173	11.413	5	0.044	Significant
	Product strength	39	0.1889	0.13423				
	Scent	39	0.1759	0.12237				
	Brand	39	0.1613	0.11884				
	Price	39	0.1344	0.12121				
	Size	39	0.1289	0.10536				
R2500 - R4999	Durability	26	0.2398	0.18201	13.162	5	0.022	Significant
	Price	26	0.2047	0.17966				
	Size	26	0.1553	0.12437				
	Brand	26	0.1534	0.10293				
	Product strength	26	0.1462	0.14057				
	Scent	26	0.1007	0.11049				
R5000 - R7999	Durability	25	0.2068	0.13432	17.075	5	0.004	Significant
	Size	25	0.2371	0.16284				
	Brand	25	0.1608	0.11780				
	Product strength	25	0.1515	0.14151				
	Price	25	0.1290	0.09745				
	Scent	25	0.1147	0.09941				
a. Friedman Test								

Source: Calculated from survey results

### 5.4.5 Correspondence analysis

Correspondence analysis was also used to visually present the relationships between preferences for skincare products. The horizontal axis accounts for 53.9% of the variation in the data (see Figure 3). The horizontal axis separates the following skincare utilities, namely: effective product strength, 500g size, low price and manufacturer brands on the left-hand side from the following utilities, namely: average (moderate) product strength, 1kg size, moderate price and private brand on the right-hand side. Associated with the utilities on the left-hand side are respondents who belong to Generation X; respondents who are unemployed; who reside in a university residence; respondents who earn between R2500 – R4999 and R5000 – R7999 (middle income earners) and an LSM five, six, seven and eight. The demographics associated with the utilities on the right-hand side include respondents from Generation X and Y, respondents in fulltime, part-time or those who are self-employed; respondents who live in a private home, and those at LSM three and four (low) and LSM nine and ten, and respondents who earn R8000 – R10999, R11000 – R19999 and R20000+ (see Figure 3).

Figure 3: Multiple correspondence analysis - skincare products



Source: Calculated from survey results

The vertical axis accounts for 23.7 percent of the variance in the data. The vertical axis separates based on durability and scent (see Figure 3). Associated with a durability of 2 weeks above the axis and oceanic scent are female respondents living in a flat, respondents who earn R20000+ and respondents whose living standard is at LSM four, five, eight or ten. Associated with a durability of 3 weeks and the floral scent, below the axis, are male respondents who are employed part-time or self-employed, respondents who live in a

commune and respondents whose monthly income is between R800 – R1399, R1400 – R2499 or between R11000-R19999 (see Figure 3). The respondents whose living standard is at LSM six or nine were also associated with the utilities below the vertical axis. The variables that are situated near the origin do not add value to the scatter plot but only account for insignificant variability in the plane for both the horizontal and vertical axis.

## 6. DISCUSSION

This result contradicts the outcomes from other studies that showed that quality was more important in the purchase of skincare products. The study also showed that even in the case of brand selection, quality was the most important attribute to consumers (Khan, n.d:3). However, the results that performance quality (product effectiveness) was less important when compared to durability and the brand of skincare product profiles, respectively. The results may be attributed to the sample size used in the study which consisted of students at three universities in Durban. Brands have been identified as signals that convey quality information such as reliability and durability. The value of brands as a quality signal is greater for durables because buyers cannot frequently adjust purchasing behaviour. Furthermore, brands of consumables are expected to exhibit less of a quality effect on consumer purchasing decision making. Brands are likely to be less valuable as buyers can engage in sensory assessments of consumable products (Jin *et al.*, 2011). This assertion may explain the emphasis on other attributes such as durability which is in direct contrast to the assertion that South African consumers are highly brand conscious (Pricewaterhouse Coopers (PwC) & Economist Intelligence Unit, 2012). This result may be explained by a consumer's desire to prolong the effects of the skincare product and lower the cost of repeat purchase. Skincare products are used frequently, resulting in a greater need for longer lasting products. Research has shown that consumers have generally been purchasing larger volumes and sizes of products over time while conducting less shopping trips (Coibion *et al.*, 2017).

The results of the study are not representative of the entire population and only reflect those of the respondents who participated in the research process. This may be attributed to industrial action during the data collection process. The study shows that there was a low response rate among older respondents (Generation X and Baby Boomer Generation) compared to the younger respondents (Generation Y and Z). Furthermore, to ensure that the questionnaire did not take more than 20 minutes to complete, the number of attribute levels was restricted. This may have limited the number of options consumers would encounter within real world shopping experiences. Consequently, this may have resulted in a skewed number of potential attribute combinations that were used to develop product profiles.

The respondents showed a preference for manufacturers (national) brands instead of the private store (retail store) brands. While private store brands have improved in quality over the years, they are still positioned as cheaper alternatives. Manufacturer brands have stronger brand equity emanating from the positive associations that consumers have with the intangible benefits of these brands (Martínez-López *et al.*, 2015). Moreover, the adverse effects of skincare product usage also make consumers weary of the use of different skincare products (Tejal *et al.*, 2013). Skincare products may contain substances that can be harmful to the skin (Manová *et al.*, 2013). Consequently, the preference for average effectiveness in skincare products could be a direct result of such concerns. Studies have shown that there is continued interest into the effects of prolonged exposure to skincare products (Nohynek *et al.*, 2010).

The respondents also seemed to favour smaller sized skincare products (0.5kg / 0.5ltr). The emergence of travel sized skincare products has offered smaller sized alternatives that consumers may be able to move and/carry with ease (Sandler 2018). This trend seems to have extended beyond South African borders. The Labels and Labelling Yearbook 2013 similarly showed that more and more companies were seeking to produce travel-friendly versions of all their consumers' favourite products which allowed customers the opportunity to take the comforts of home with them on the road (Jerschefske, 2013). Product sizes such as the 50ml have been identified as the ideal for gym goers (Volpato, 2010). Consequently, the researcher proposes that smaller sized products could be ideal for active consumers such as university students. In an article by Lloyd (2015), Mintel's Brazil beauty analyst Juliana Martins stated that in soap and bath products (body care), floral fragrances were the most represented family fragrance among consumers. The results seem to support this assertion as respondents preferred the floral scent more than the oceanic scent.

## 7. CONCLUSION AND MANAGERIAL IMPLICATIONS

South African consumers, much like many other consumers around the world, have become savvy shoppers. The need to obtain value for money due to growing economic pressure has forced consumers to care more about what they are purchasing and not just the brand they are purchasing. This notion seems to be reflected by the importance scores which show that determinants of quality such as durability are more important to South African consumers. As a result, manufacturers should emphasise the provision of more value for money through more durable products. Retail managers should emphasise communicating value for money in the skincare product offerings. The sale of bundled products that emphasise offering more value for skincare products may attract more customers. Brands that are synonymous with longer lasting products either through offering more volume or products that require less application to achieve desired results may provide a competitive advantage.

Durability was found to be the most important attribute in the consideration of skincare products. The results seem to indicate a shift in the behaviour of consumers as most studies that have investigated product belonging to the same category (FMCGs) have placed price and quality as the most important attributes (Somashekar & Kaboor, 2016). The conjoint analysis clearly shows differences in attribute preferences. Differences can also be found in the level of importance rankings of the attributes used to develop each product profile. Scent and price alternated as the least and second least important attribute in the consideration of skincare profiles. Durability received a higher importance score in the consideration of skincare product profile compared to the brand, price and the efficacy of skincare product profiles. Size was identified as more important than the price of skincare products.

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APPENDIX 1: SKINCARE PRODUCT CATEGORY PROFILE POSTER

 		<h1>SKIN CARE CATEGORY</h1>				
<b>PROFILE 1</b>	 DURABILITY	 VERY STRONG PRODUCT	 PRICED LOW		 FLORAL SCENT	 NATIONAL BRAND
<b>PROFILE 2</b>	 DURABILITY	 MODERATELY STRONG PRODUCT	 PRICED LOW		 OCEANIC SCENT	 PRIVATE STORE BRAND
<b>PROFILE 3</b>	 DURABILITY	 MODERATELY STRONG PRODUCT	 MODERATELY PRICED		 FLORAL SCENT	 PRIVATE STORE BRAND
<b>PROFILE 4</b>	 DURABILITY	 MODERATELY STRONG PRODUCT	 MODERATELY PRICED		 OCEANIC SCENT	 NATIONAL BRAND
<b>PROFILE 5</b>	 DURABILITY	 VERY STRONG PRODUCT	 MODERATELY PRICED		 OCEANIC SCENT	 NATIONAL BRAND
<b>PROFILE 6</b>	 DURABILITY	 MODERATELY STRONG PRODUCT	 PRICED LOW		 FLORAL SCENT	 NATIONAL BRAND
<b>PROFILE 7</b>	 DURABILITY	 VERY STRONG PRODUCT	 MODERATELY PRICED		 FLORAL SCENT	 PRIVATE STORE BRAND
<b>PROFILE 8</b>	 DURABILITY	 VERY STRONG PRODUCT	 PRICED LOW		 OCEANIC SCENT	 PRIVATE STORE BRAND
<b>PROFILE 9</b>	 DURABILITY	 MODERATELY STRONG PRODUCT	 MODERATELY PRICED		 FLORAL SCENT	 NATIONAL BRAND
<b>PROFILE 10</b>	 DURABILITY	 VERY STRONG PRODUCT	 MODERATELY PRICED		 FLORAL SCENT	 PRIVATE STORE BRAND