

**The Important Factors Affecting Consumer  
Attitude and Use of Skin Whitening Products  
(The Case of Under-graduate Females in the  
University of Khartoum)**

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## ABSTRACT

The market of skin whitening products is rising each year in Africa and the Middle-East, while some societies in the world do not even know the existence of the phenomenon skin whitening. The studies about attitude towards skin whitening products are limited. Current study will try to contribute to the scientific knowledge in this field. The aim of this study is to investigate the impact of product attributes, media and self-image on consumer behavior as well as the impact of consumer attitude and normative influence on purchase intention among females in University of Khartoum.

This study also investigates consumer's awareness, side effects and level of satisfaction. A sample of 300 Sudanese females was collected and with the use of the statistical program SPSS the most important influencing factors were determined. It appears that the normative influence and behavioral control have a significant impact on purchase intention towards skin whitening products. Whereas self-image and some of the product attributes were found to have a significant impact on consumer attitude.

Also, this study revealed that traditional media has no impact on consumer attitude towards the use of whitening products. With the use of the knowledge acquired from this research, young females in Sudan as well as the Sudanese society are provided with relevant information about the hazardous effects of skin whitening products.

**Keywords:** Skin whitening, consumer attitude, product attribute, self-image, normative influence.

## ÖZ

Afrika ve Orta Doğu’da cilt beyazlatıcı ürün piyasası her geçen yıl büyümekteyken, dünyadaki bazı toplumlar cilt beyazlatma ürünlerinin varlığından habersizdir. Toplumların cilt beyazlatma ürünlerine karşı tutumlarını ortaya koyan araştırmalar sınırlıdır. Bu çalışma ile alandaki bilimsel araştırmalara katkı koymak amaçlanmaktadır. Çalışmanın amacı, ürün özellikleri, medya ve öz imajın tüketici davranışları üzerindeki etkisini inceleyerek, tüketici davranışları ve normatif etkinin de Khartoum Üniversitesi’ndeki kadınların cilt beyazlatma ürünlerini satın alma eğilimi üzerindeki etkisini analiz etmektir. Ayrıca yapılan çalışmada tüketici farkındalığı, yan etkiler ve müşteri memnuniyeti gibi konuları da incelemektedir. 300 Sudanlı kadın katılımcı ile yapılan anket sonuçları SPSS istatistik programına aktarılarak, yukarıda bahsedilen durumların oluşmasındaki en önemli etkenler ortaya çıkarılmıştır. Anket sonuçlarına göre normatif etki ve davranışsal kontrolün tüketicilerin cilt beyazlatma ürünlerini satın alma isteği üzerinde önemli bir etkiye sahip olduğu ortaya çıkmıştır. Öte yandan, öz imaj ve bazı ürün özellikleri de tüketicilerin satın alma isteği üzerinde önemli bir etkiye sahiptir. Bu çalışmada, geleneksel medya araçlarının tüketicilerin cilt beyazlatma ürünlerini satın alma isteği üzerinde herhangi bir etkiye sahip olmadığı ortaya konmuştur. Elde edilen bilgiler ışığında, Sudan’daki genç kadınlar ve Sudan toplumu cilt beyazlatma ürünlerinin kullanımına bağlı olarak ortaya çıkabilecek tehlikeli yan etkiler konusunda bilgilendirilmiştir.

**Anahtar Kelimeler:** cilt beyazlatıcı, tüketici davranışları, öz imajın, normatif etkinin, ürünlerini

## DEDICATION

The sake of Allah, my Creator and my Master, my great teacher and messenger, Prophet Mohammed S.A.W (May Allah bless).

To My Father, who has been my role-model for hard work, persistence and personal sacrifices, and who instilled in me the inspiration to set high goals and the confidence to achieve them

To My Mother, who was one of the most inspiring and strong women I ever knew. She gave me and taught me unconditional love and acceptance.

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# Chapter 1

## INTRODUCTION

### 1.1 Overview

In the ancient history of the Sudan Nubians were the emperors, kings and rulers. They were fair in complexion with curly hair. In the most recent history, Sudan was part of the Othman caliphate which was also white in complexion. This was also followed by the British rulers with their white skin. In fact, most of the folk tales in the Sudanese culture stemmed from the background of the supremacy of the white color as opposed to the dark skin.

The 2011 separation of the South Sudan from the north also does have a racial connotation. The south is predominately black who are regarded by the majority fair northerners as inferiors. The unfortunate era of slave trade both in Africa and across also portrayed the black skinned people mainly as the victims with a white slaver and an Arab mediatory trader.

All the above contributed immensely to the mentality of black being inferior to white in the culture and sub-conscious of many Sudanese people. That's why most of them want to look like their rulers in their bid to associate with the upper class and not like the lower-class slaves.

Men and women alike, therefore, do naturally prefer white and lighter skinned women as wives with the hope of producing lighter skin kids with a naturally automatic pass to the seemly noble class.

## **1.2 Justification of the Study**

Sudan is a predominately Muslim country with a claim of being ruled by Islamic sharia. Genealogically, it is a land of mixed race Negros, Hamites, Semites, with even European blood. The outcome of this mixed races ranges from very fair, fair, light and blacks. Islam does not subscribe to segregation on the basis of creed or color as it was clearly stated by our beloved Prophet Mohammed (S.A.W) "there is no preference of an Arab over a non-Arab except by who is more God-fearing ". That is why the unfair treatment of the blacks in the Sudan and its associated degradation of the black race should be addressed and save the dark skinned from committing a sin by trying to change the creation of Allah as clearly stated in the Quran. So this study will, therefore, seek to contribute in removing the misconceptions of inferiority on the basis of color and most importantly stop the Muslim females from committing the sin of bleaching, Moreover the act of bleaching is a medical hazard by using chemical cosmetics or even herbs as was clearly proved in many studies WHO (2007).

The choice of University of Khartoum was based on the fact that it is the oldest (1902), most popular and populist as it is ranked as a top university both in Sudan and Africa. (Wikipedia).

## **1.3 The Objective of the Study**

The objective of the study as clearly indicated by the title of this research is to determine, the most important factors influencing the attitudes and use of bleaching products with a view to consider the most vulnerable sector of the population

represented by students of a territory institution in Khartoum state, who are at marriage age and naturally obsessed by having a lighter skin. these categories of students represent the scope of study. It is also to determining how product attributes, media, normative influence, and self-image have an impact on consumer attitude, and whether or not does attitude influence purchase intention.

#### **1.4 Size of the Cosmetic Industry**

The skin lightening market is expected to register a double-digit CAGR for the forecast period. Depending on geographic regions, the skin lightening market is segmented into seven key regions: North America, South America, Eastern Europe, Western Europe, Asia Pacific, Japan, and Middle East & Africa. As of 2015, Asia Pacific dominated the global skin lightening products market in terms of market revenue. China and India are the fastest growing market. There's a robust demand from the Middle East for skin lightening products. The skin lightening products market is small in Europe as compared to Japan and other Asian countries.

## **Chapter 2**

### **LITERATURE REVIEW**

This chapter will delve on the different investigations concerning cosmetics and skin whitening creams that had been previously undertaken and relate them to our present study. It is discovered that most previous studies had focused on the cosmetic industry in general, and the skin whitening seemed to be neglected. However, few studies were conducted concerning consumers attitudes towards skin whitening creams. This chapter will also consider the studies on the concepts of consumer attitude, normative influence, media, product attributes, purchasing intentions, and purchasing behavior.

#### **2.1 Cosmetics Industry**

Cosmetics have been known for centuries, although the ingredients in the past are different from what we have today. However, the first thing that come to people's minds, when they hear the word cosmetics are make-ups and perfumes which had been designed mainly for ladies (Kumar et al.2006).

In general, cosmetics are divided into different categories namely: Makeups, Shampoos, and Soaps. Cosmetics are used with the intention of improving the skin. They consist of a broad collection of products for washing body parts, improving shapes, bleaching or whitening the color of the skin (Kumar et al.2006).

Cosmetics industries are highly profitable, creative and competitive industries. Globally the total expenditure per annum on cosmetics is predicted to be 18 billion

dollars and a lot of companies in this industry are still striving to extend their market's share (Kharim 2011).

Cosmetics industries in the past have generally focused on women's markets established along the commodities themselves. In the 1990s people seem to consider beauty products and their uses as an exclusive business for grown up women. The fact today, however, is absolutely different, as there are emerging new segments for the beauty industries namely teenagers, adolescents and even most importantly men (Kumar et al.2006).

### **2.1.1 Skin Whitening**

Although in the past couple of years, studies about the dangers of skin bleaching have risen, skin whitening is still very common in western and northern Africa. The studies on this subject generally examine the degree of use, side effects, and reasons behind whitening in the sub-region. Using a historical approach, the following studies represents a catalog of studies on topics dealing with the usage of skin whitening products.

According to Hunter (2002), those with white skins have better opportunities concerning getting a better education, stable income, and even favorite marriage. Moreover, in the United States, there was a better treatment to those with a white skin by the majority of Americans including the blacks themselves in the 1990s as revealed by the study. This indicates that even the blacks themselves discarded their own integrity. A fascinating fact revealed by many articles is that for a black to be part of a social club their skin tone shouldn't be darker than a brown paper bag (Hill, 2002).



Mahe (2003) conducted a study on Senegalese females using skin whitening products. Two different sample sizes were used for the survey. 368 Senegalese ladies and another sample of 452 Senegalese females who usually use skin whitening products. Based on his results 52% of females in the first sample used skin whitening products while 92% of females in the second sample used skin whitening products for 4 years all over their body. Statistical data regarding bleaching products chemicals and side effects were collected.

Sylvia Arthurs “Dying to be white” (2008). Is a paper that presented an understanding of skin bleaching in Ghana. The author shaded light on the income of cosmetics companies by selling bleaching products to desperate African women who were risking their health for a lighter skin tone, she noted that the majority of these creams are banned in Europe. The study also revealed the long hours these ladies spend during the day administering these creams.

Hugh L.J. Makin (2010). Explored the dangers of corticosteroid which is applicable to skin whitening as a mixture of hydrocortisone with hydroquinone in a bit to get cheaper products, the study also revealed that female users of the mixture and even hydroquinone in Sub-Saharan Africa do hurt not only themselves but the harm is extended to even their unborn babies.

## **2.2 The Concept of Consumer Attitude**

The concept of Consumer behavior as an important area of study is associated with the fast spread of educational institutions and the advancement of scientific knowledge in the past decades.

Based on (Hauser &Urban 1979) at a basic level, the field of consumer behavior is more about understanding consumers' perceptions on why they purchase products and services. The goal of consumer behavior examination is to explain and anticipate how consumers will react when they face other options.

In relations with the above objective, our research intends to explain the reaction of consumer community when purchasing cosmetics such as bleaching or whitening products. How cosmetic consumers react when they intend to buy cosmetics specifically bleaching or whitening products.

Consumer behavior has been explained as those actions involved in gaining, using, and disposing of products and services. This definition connote the process consumers go through when deciding to purchases the product they needed (Engel,et al 1995)

The study was done by (Junaid, et al 2013). Focused on explaining the attitude and behavior of young girls in Delhi towards the use of cosmetics. It was observed that as the income of the girls increased the more they spend on cosmetics, also the study reported that the young females were fully aware of the different cosmetics brands available. An important finding of this research is that girls favor cosmetics with natural products.

Kouba et al. (2011) is an interesting paper that explains the consumer attitude and behavior towards skin beauty and the intention to use care products and this time between women who are both Chinese and Singaporean, the sample size of this study was 370 respondents and they were all females beside an equation modeling, hypothesis were also tested in this paper. The hypothesis was based on the importance

of culture values and how it affects consumer attitude towards skincare products which was divided into (anti-ageing, whitening and smoothening), and because the respondent was both Chinese and Singaporean the study included cultural values from both cultures. The result of this study stated that cultural values are considered to be very important factors when measuring consumer attitude towards skin beauty products, and as a result attitude impacts consumer's intention to buy skin care products. Moreover, the respondent who had Buddhist, Confucian and Singaporean values was influenced by their values when purchasing skin whitening products. In terms of skin smoothening respondent with Buddhist and Singaporean values were found to be influenced by their values. Moreover, only those respondents with Singaporean values were influenced to use anti-aging products.

### **2.3 Concept of Product Attributes**

Product characteristics and their consequences are of greater importance and interest to marketers and this are the characteristics which consumers use to rate products before making purchase decisions. The process of making decisions is often seen as one in which consumer's rate options depending on the power of each attribute (Gurent 1986).

A product characteristic is yet another issue to concentrate on when dealing with consumer behavior as, when consumers need to determine which brand to buy. The characteristics can consist of quality, accuracy, price, brand, effective results, elements, product composition and product packaging (Ozsomer & Altaras 2008).

Brand influence and intimacy is one of the most essential marketing topics for vendors, being conversant with a certain brand d automatically enables consumers to be

conscious of some of the product characteristics so it is essential for marketers to build a solid brand image in order to decrease insecurity and improve on the growth of purchase intentions (Park & Lennon 2007).

Most of the time consumers are willing to pay more because they perceive that the product is valuable enough for extra money. Marketers often face the difficult task of convincing consumers that they will be able to perceive the performance of the product after it is used. After a period of time and in order to convince consumers with their purchases, they demand to be assured that the results are guaranteed and in situations where the product is not up to their expectations, the product can be replaced or money refunded. (Huang, et al 2006).

Early researchers explained product characteristics as the materialistic properties of a product that were assessable (Wu, et al, 1988). In more recent years the approved definition has been extended to include all evaluative criteria, including extrinsic properties such as price, brand and country of origin and intrinsic such as quality, style or comfort as well as other characteristics which consumers consider as of advantage or worth (Grapentine, 1995; Jamal & Goode, 2001; Wu et al., 1988).

Product attributes that are limited to products include external attributes such as price, brand, and country of origin and are not part of the physical product itself in addition to internal such as shape, color, smell, ingredient, and flavor. Researchers ought to learn about the significance of both the internal and external product characteristics during the consumer decision process.

In addition (Grunert, 1986, Liefelde et al, 2000). Zeithaml (1988) discussed that the significance of extrinsic attributes against intrinsic attributes relied on the product and the situation for example internal characteristics will be an essential quality index if they are available and can be assessed at the period of purchase, but in cases where they are not available until consumption then the external characteristics will be assessed instead.

This is probably true for a product such as wine where the internal attributes (smell and flavor) are not available to be assessed or rated by consumers when deciding on which product to choose. (Nebenzah, Jaffe, & Lampert, 1997; Samiee, 1994)

In relation to our study in the cosmetic industry in general and whitening creams specifically, a study done by (Dr. Vinith et al 2007) stated that generally men as though few consumers comprehensively choose to buy and decide on the brand of cosmetics individually. Quality is the main element controlling the male cosmetic consumers, they aim to buy their cosmetics from one shop at their convenience, and according to this study males tend to spend more money on cosmetics than females i.e. (301-500 rupees per month when compared to females.

## **2.4 Media and Consumer Behavior**

The goal of every advertiser is to notify and influence consumers as concluded by Fill (2000). The success of advertisers depends fully on consumers. The consumer behavior concept explains what consumers go through while taking the decision of buying a product or using a service of a certain organization. It's the advertiser's job to convince consumers to use the product being proposed.

Shanon & Weaver (1949) discussed that communication is a procedure that begins from the sender through pictures and words and selecting an intermediate to transmit the message ensuring that the message is translated by the receiver and it produces the basic feedback to ensure that the communication process is efficient. Moreover, marketers use mass media as a means to reach their target customers. Newspaper, magazine, radio and television are the different media tools used to target customers.

Based on Ayanwale et al. (2005) & Bove (1992) they indicated that advertisements in all forms visual and oral provide information about the product which therefore interprets consumer behavior.

A research was done by Haque, et al (2011) analyzed the opinion of consumers in regard to fast food advertisements, the study developed three hypotheses to analyze screen, commercial and internet advertisement, this study concluded that consumer behavior is more influenced by online advertising followed by commercial ads and the least was print advertisements.

In 2004 in the united states based on the study done by Sorce & Dewitz (2007) to lay a case on the role of print media in the new era of internet their study revealed that the amount of money spent on newspaper, magazine, and business paper ads has a share of almost 40% regarding another type of media while TV & radio accounts for 44% of media advertising. The same study reported that print advertising was more active than those of TV advertising endorsing SUV brands during 10years, the respondent who were open to print ads better remembered the ad content than those who watched an online ad with the same message.

Television ad industry includes attention catching tricks such as attractive, delightful music lyrics, jingles, and repetitive messages. Moreover, the impact of advertising is more on television than the print media or radio Kaur (2002).

The importance of advertising has increased vividly in the recent years Ayanwale (2005) as a result of these Unsal &Yuksel (1984) states that consumers seem to pay more attention to products that are advertised and the one that is not.

There are different mass-communication elements available to marketers such as sales promotion, advertising, and public relations. These tools have straightened out the benefit of personal selling, the advantage to customize a message to each prospect for the benefit of reaching many customers at a low cost ( Etzelet et al.1997).

Esther et al (1992). In their study titled "attention memory, attitude and cognition experiments on the advertising hierarchy" reported that there is a visible relationship between memory, attitude, and connotation, despite the age of the respondent the memory of advertising relies on the participants' attitude and behavior.

Abhilasha Mehta (2002) in his study “advertising attitude and advertising effectiveness” have analyzed that the purchasing interest of consumers are based on how much the consumers have positive attitude advertising, the worth of the advertisement for the brands being advertised and how instructive or reliable and advertisement is.

The study was done by Chingning et al (2002). Titled " understanding consumer attitude towards advertising " stated that advertising in both the traditional media and

the internet is easily overlooked by the audience and observed with slight value. elements like entertainments, irritation, credibility, and informativeness were examined and referred to that by knowing consumers attitude towards the tools of advertising helps marketers to improve their advertising strategies.

Goods, services, ideas, and organizations are normally advertised through the television with the objective of reaching a wide diversity of consumers, generally all types of advertising plays an important role in affecting consumer attitude but in our society people are more influenced by TV ads as it affects not only behavior but also culture of the country Aberdeen ( 2011).

We should also note here that there were few types of research done on the effect of advertising on consumer attitude. Bolatito (2012) evaluated the role of advertising in selecting a brand and how consumers prefer a brand to another in the field of telecommunication however the study was done in Nigeria by using quality, price, availability, and advertising as tools to measure their effects brand preference, results predicted that consumers favored MTN due to the amount of money they spend on their ads besides availability, the study also influenced both females and males respectively.

A similar study was conducted on Bournvita food & drinks the purpose of the study was how advertisements affected consumers when purchasing Bournvita the study reported that consumers' intention to buy Bournvita is due to their likeliness towards Bournvita ads., Ayan Wale et al ( 2005).



Moreover, the study that was conducted in Kota city, the ads focused mainly on men costumes as a result of this selling women clothes was very low, therefore advertising female clothes is essential. In terms of educated people it wasn't an issue as they were aware of the brands, but the less educated must be taken into account as they are usually not aware of the brand as a result of this taking advertising and promotions seriously is a must by doing this all segments would be aware of the brand and the company sales will increase. Dr. Payal et al (March, 2014).

Geeta Sonkusare (2013) revealed that TV advertising is one of the most important types of media to connect with consumers it's a powerful way to provide the audience with information about the product using audiovisuals. However, in this study, they discovered that TV advertising had the greatest effect on consumer attitude than other tools of media.

Muhammad & Dwi (2015). This study reported that with the technological evolution there has been a great increase in internet users and because today we live in a world that is obsessed with mobile phones and tablets which are used to access the internet so in order to attract the large segments of the society using the internet is a necessity. This research also reported that the effectiveness of online promotions and advertising captures only those who use the internet on a continuous base; in addition, we need to take into consideration those who have no access to the internet.

Scholars concluded that the media has an excessive impact on encouraging people to whiten their skin color. Large enterprises convince customers through the media that by having a white skin they have more opportunities to succeed (Verma 2010).

However illustrating only the excellent part of skin bleaching while fully discarding the hazardous part of it controls people actions.

Skin bleaching can be very prejudicial to a person well-being while applying it on a daily basis can cause side effects (Charles 2003, Fokou 2009). Music media shows white skinned actor /actress with high status and confident, and by looking at famous and wealthy celebrities who changed their color and appear on TV for people to see and imitate. This shows how influential media ads are on people attitude

As Thompson & Keith (2009) indicates "The media has inspired major negative self-acceptance for women with a dark skin ". These ladies are not confident enough and it leads them to bleach their color to feel they are beautiful and appreciated famous celebrities whether in Hollywood Africa has a great influence on people. Those who grow up in a dark skin society whether, in Asia, Africa or elsewhere have developed the love for white complexion and therefore encourage skin whitening.

## **2.5 Normative Influence on Consumer Behavior**

The word reference group is defined as a person or a group of people which impacts a person attitude. It can also be defined as a group whose approved prospect represents the base for an individual attitude.

Scholars in consumer behavior predicted that consumers' selection for products and services are greatly influenced by reference group particularly for products such as sweets (Ratner, 2002), cloths (Batra 2001), food (Shocker 1991), soda (Van 1994), perfumes (Abel 1990) and alcohol (Smart 1998).

Based on Sillars (1995), family members including parents serve as an intermediate for information, pressure, and support. It creates a different lifestyle, a sample of decision making and a way of interacting. Adolescents have constant time to learn the beliefs, attitude, and values they have observed from their families and approve this as the norms. (Sears, 1983) research on car insurance reported that 62% of the respondent narrated that they were influenced by their families and followed their choices.

However normative influence affects consumers in a certain type of products and services, consumers are more influenced by their reference groups in terms of luxurious goods and goods that are more famous or known to others. (Ryan 1982).

According to (Casselmann & Damhorst, 1991) US college students when buying unisex t-shirts their purchase intention was driven by their attitude rather than normative influence, related findings were obtained for casual costumes (Chang et al. 1996), sweaters (DeLong et al 1986), sneakers (Lee 1991). However, studies that used the Fishbein model in Asia, Chan and Lau (1998) discovered that when Chinese consumers were purchasing gold rings they were more influenced by their families & friends than by attitude. Also, similar results were obtained when Korean consumers were purchasing sneakers (Green 1991).

The study was done by Lennon & Zhang (2003) modified the Fishbein model by adding acculturation and the analysis reported that the added variable upgraded the interpreted purchase intention of Chinese for clothes made in the US.

According to Jiang Yan-Mei & Zhao Wen-Ping research, they stated that normative influence of selecting and consuming websites has a positive impact on how easily

they use the product, their behavior towards use, behavioral intention to purchase and genuine online purchase.

## **2.6 Self Image**

A book by Bocker (1993) explained self-image as a factor which can increase a person confident. Individuals strive to become what they wish to be by using the items they think will help to make them who they want to be, their image & their individuality

A paper by Arthur Peru proved that males of all ages who were attractive were considered to be more socially desirable than those who were not or less attractive, in addition, older men were as desirable as young men. The recognition of male capabilities was influenced by female judges age instead of the men, judges who were young in comparison to those who were young in comparison to those were old also anticipated the male respondent to be younger. This shows how important males grooming is in today world.

According to Fan & Ding (2010). In their study in Malaysia where they examined how self-image, social anticipation, and celebrity endorsement affected the use of metrosexual towards male cosmetics products. Yet this research focus on the use of male cosmetics as a whole, therefore, the finding of this study cannot be applied to all the male cosmetics in the market.

A similar study was conducted by Rebecca & George (2006) this study reported that women who wear makeup were observed as more confident than those who are seen without cosmetics. The majority of people also perceived females who wear makeup as having the opportunity to have a better job, also men viewed ladies with cosmetics as more impressive than those who don't. The study also presented that ladies can

efficiently apply cosmetics to handle how they are assessed which may be beneficial in cases where females may be assessed based on their looks such as job interviews.

Jorge & Carlos (2011). In their study examined the relationship between three variables: self-image, personal beliefs & women consumer behavior in the retail industry the study was conducted in Brazil. An exploratory research was adopted as methodology; the sample was composed of 204 participants. The findings of this study show an important relationship between three variables. More specifically self-image had an impact on consumers' attitude. The findings of this study serve as implications for a manager who work for consumer product organization.

A study similar to our present study done by Asiya Faisal Khan in the city of Gwalior with a sample of with a sample of 125 respondent who was all females both working and nonworking females, who are users of skin care products. The finding of this research proved that there is a positive relationship between self-image and consumer attitude in using cosmetics.

## **2.7 Purchase Intention**

Bagozzi (1979). Defined purchase intention as a consumer behavioral towards a product or service. Intention to buy is a person desire towards a product Kim (2004). Consumer's effort intentionally willing to buy a product of a brand. According to Halim (2005), they interpreted purchase intention as a number of advocates that are willing to come back again for that specific product

## **2.8 Behavioral Control**

Explanations about the theories of consumer behavior will be explained in details later in this chapter including models of reasoned action and planned behavior. However, Lee 2009 in his study modified the theory of reasoned action and applied it to Korea, China, and Japan, who are known to have a Confucian culture the model was modified to substitute image saving & group conformity with subjective values. While the study of Lee aimed to test the relationship between socially friendly factors and consumer's personal behavior and reported that there was a relationship between the two variables in Confucian cultures and this was against the results of Fishbein which proved that there is no link between the variables.

## **2.9 Theoretical Framework**

It is very important for a marketer to understand consumer attitude, motives and elements that influence them. Two theories have been developed to better understand consumer behavior. When explaining the relationship between products beliefs, consumer attitude, purchase intention, and behavior both TRA and TPB has proven to be useful. Moreover, both theories have been used in the different situation including advertising (Scharl et al 2005). A conceptual model has been developed in other to answer the research questions and hypothesis of the present study. The next section will explain the different consumer behavior theories and the conceptual model.

### **2.9.1 Theory of Reasoned Action**

This theory explains that consumer attitude is a deceive activity of his or her behavioral intention to execute the behavior. According to TRA, an individual is required to observe the attitude while purchasing or using a product instead of the attitude towards the product itself if a person desires to forecast and explain consumer behavior (Ajzen 7Fishbein, 1980). Despite the fact that there is a relationship between a consumer

attitude towards a product and their attitude towards purchasing the product the difference must be made since the first is an external factor with no essential relationship with purchasing attitude.

The major element in this model is the consumer's intention to engage in a given action. Therefore, behavior intentions are associated with attitude and objective norm. However, to gain a deeper insight of the element influencing attitudes, we need to search for the factors of attitude & normative elements.

Based on the explanation of the theory authors the elements of the model are perceptions consumer have about themselves and those around them. Moreover, those perceptions are considered to serve as a base for individual behavior and norms, which eventually shapes consumers' intentions.

Referring to the theory of reasoned action, a consumer attitude can be divided into: 1) a notion that a specific attitude leads to a stated result; 2) an analysis of the results. This is to point out that if a certain action seems useful to a person, he or she may then decide to literally participate in a certain behavior.

In the other side, an individual thought of what other people wants the person to do it known as a subjective norm. Whether or not a person engages or intends to engage in any act is strongly affected by his or her environment.

### **2.9.2 Theory of Planned Behavior**

A modified or extended model of TRA is the theory of planned behavior; TRB is usually used to explain the attitudinal procedure of human attitude (Ajzen 1991). In other to differentiate between the two theories we need to understand that TRB

assimilates the approach of observed behavioral control which conquers the basic theory limitation in handling attitude over which individuals have deficient free control. A broad range of attitude can be predicted using both theories. (Shepherd 1998). Though the theories differentiate between attitudes and behavior, attitude forecast at best intentions to purchase the products. Moreover, it is anticipated that there is a positive relationship between buying products with social characteristics and buying frequency despite the weak relationship.

However, the three components of the TRB model (subjective norm, attitudes, and control) are predictors of consumer's intention to purchase a product with a high level of efficiency.



## **Chapter 3**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

The main goal of this study is to explore the impact of product attribute, media, normative influences and self-image on consumer attitude as well as the impact of attitude on purchase behavior and intention. In relation to the above literature review this study observes norms, media, product attributes and self-image as important predictor of cosmetics consumer behavior. Therefore, this chapter explains the methods in which the data is collected, how the data was analyzed and it also focuses on both the research reliability and validity.

#### **3.2 Conceptual Model**

There are a lot of factors we take into account when discussing the attitude towards cosmetics (skin whitening products), as well as the use regarding this product. This section will explain the conceptual model that will support us to identify the most important factors concerning the attitude and use of skin care products among female university students in Khartoum University. The hypothesis and conceptual model below has been formulated based on the previous studies as well as the theories of consumer behavior.

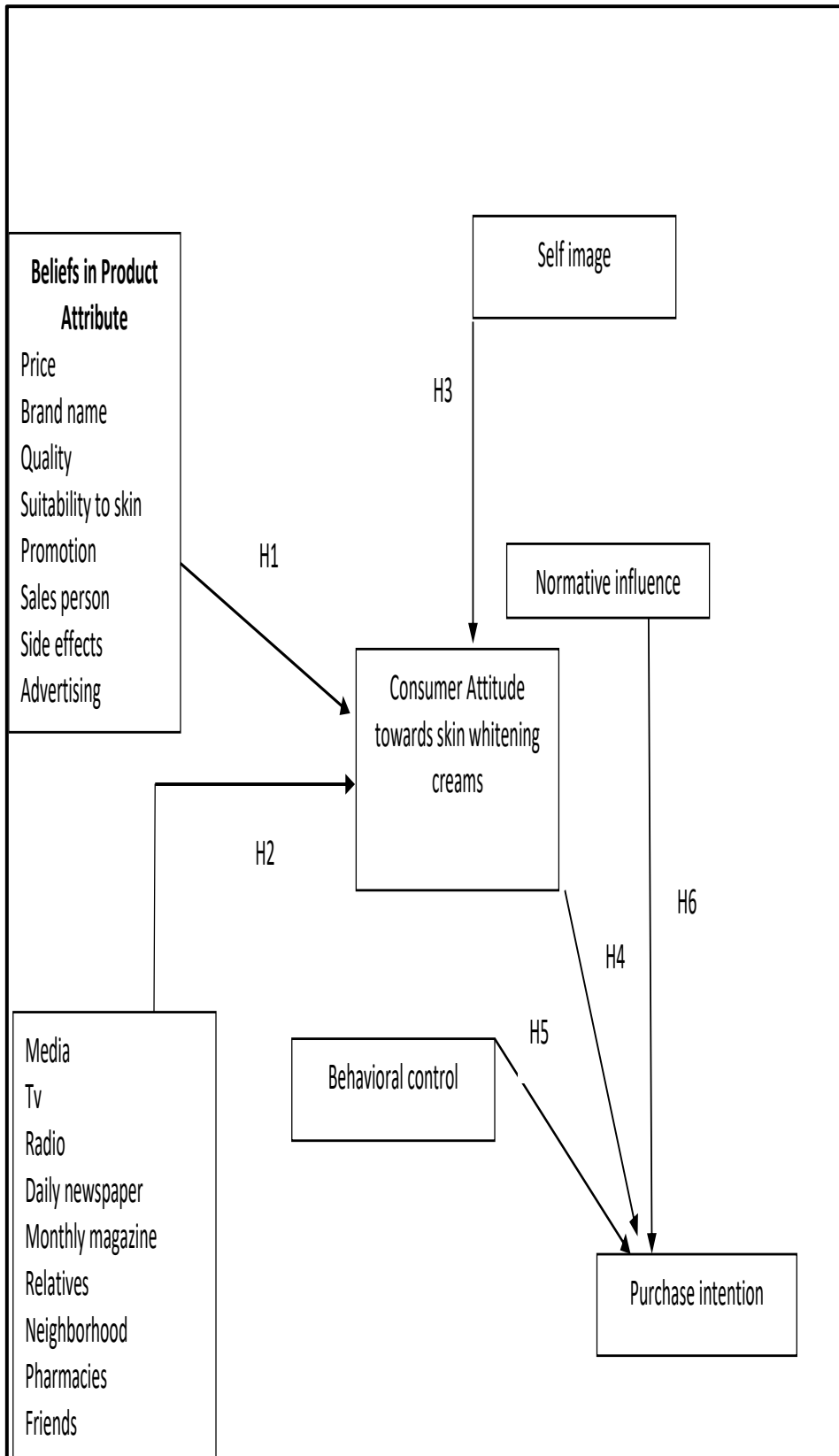


Figure 1: Conceptual Model

### **3.2.1 The Association between Attitude and Beliefs in Product Attributes**

According to the study by Siu & Wong (2002) on cosmetics in Hong Kong, they examined different product attributes including price, promotion, salesperson, and packaging. A similar study by Anderson (1998) in China investigated the different product attributes and the study reported that Chinese cosmetic consumer rated price, packaging, brand, and salesperson as the most effective product attributes. Moreover, the study of Johri (1998) on consumer behavior towards green products, reported that consumers attitude when purchasing a cosmetics is affected by the product's color, ingredient, brand, how safe it is to the skin, quality and price. Therefore, when purchasing cosmetics consumers into consideration price, quality, promotion, suitability to skin type, effectiveness within a short period and sales person. Moreover, our study realized the need to investigate whether product attributes positively or negatively affects skin whitening consumers in Khartoum University therefore, the following hypothesis was formulated:

**H1:** There is a relationship between **product attributes** and **consumer attitude** among skin whitening consumers in Khartoum University Sudan.

### **3.2.2 The Association between Media and Consumer Attitude**

We should also note here that there were few types of research done on the effect of advertising on consumer attitude. Bolatito (2012) evaluated the role of advertising in selecting a brand and how consumers prefer a brand to another in the field of telecommunication however the study was done in Nigeria by using quality, price, availability and advertising as tools to measure their effects brand preference ,results predicted that consumers favored MTN due to the amount of money they spend on their ads besides availability , the study also influenced both females and males respectively .based on the above study the following hypothesis was developed:

**H2:** There is a relationship between **media** and **consumers attitude** between Khartoum University females regarding skin whitening products

### **3.2.3 The Association between Self Image and Consumer Attitude**

According to Moore (1998), which assumed that consumer attitude towards purchasing clothes was accompanied with self-image, as buying clothes satisfies different needs including self-image and identity, like clothes skin cosmetics have a similar value Coulter (2002). Skin care products have been found to impact a person opinion since these products impact a person's looks. Consequently, Feik &Price (2002) reported that Hungarian women were found to be influenced by self-image when purchasing skin care products.

This study also intends to explore self-image in a different population and thus it anticipated that self -image impacts the attitude of Sudanese female consumers when buying skin whitening product. Therefore, the following hypothesis was formulated:

**H3:** There is an association between **self-image** and **consumer attitude** among skin whitening consumers in Khartoum University.

### **3.2.4 The Association between Consumer Attitude and Purchase Intention**

Fishbien (1975) imposed that a person's attitude towards the consumer behavior and objective norm regarding that behavior will decide his or her intention to execute a behavior. A fundamental study reported that in terms of organic food consumer intention to purchase is positively affected by their attitude Chen (2007).

Based on Thogersen (2007). It has been detected that consumer attitude has been considered to be an important forecaster towards consumer intention when eating organic food for example fruits. Gracia (2007) discussed the positive effect of consumer attitude towards organic food with respect to environmental advantage.

Tarkianinen (2005), observed another positive relationship between the two variables, based on the discussions above the fifth hypothesis was developed

**H4:** There is a relationship between **consumer attitude** and **purchase intention** among Khartoum University student regarding skin whitening products.

### **3.2.5 The Association between Behavioral Control and Purchase Intention**

The observed behavioral control notion was first presented in the study of Azjen , his study reported that behavioral control can account for a substantial share of variation in behavior. The significance of behavior is well proved in previous researches.

Posthuma &Dworkin (2000) reported that behavioral control was an essential concept in their study that merged TPB, direct theory, organization law theories and decision making into a separate framework. Massive studies have revealed a positive relationship between behavioral control and behavior intention in different areas. Taylor &Todd (1995), discovered that behavioral control is positively impacted with intention of innovation acceptance.

Different studies have proved a positive relationship between behavioral control and intention in internet setting. Lim &Dubinsky (2000) found an absolute relation between behavioral control and intention in the background of e-coupon use behavior, Kang et al (2000) also revealed a positive relation between our variables. In Shim et al (2001) research reported that an important and positive route coefficient was observed between behavioral control and intention to handle the internet information scrutinizing.

Even though many researches proved the positive relationship between the two variables little or no research exist for Sudanese cosmetic consumers, therefore our

study aims to reveal the relationship between behavioral control and intention for Sudanese cosmetic users.

**H5:** There is a relationship between **behavioral control** and **purchase intention** among Khartoum University student regarding skin whitening products.

### **3.2.6 The Association between Normative influence and Purchase Intention**

Previous studies and literature review proved that there is a relationship between normative influence and purchase intention. Therefore the following hypothesis was developed to test this relationship in a different population.

**H6:** There is a relationship between **normative influence** and **purchase intention** among Khartoum University student regarding skin whitening products.

## **3.3 Population and Sample**

Based on the aim of this study we strive to understand how consumer attitude towards the use of lightening products in Khartoum state Sudan. However, the research focuses on Khartoum University due to the time restriction, we are unable to cover the whole Khartoum state. Therefore, the sample size was 300 respondents who are currently students in Khartoum University from different departments and schools.

## **3.4 Pretesting**

A pilot study was taken to determine the problems of the proposed questionnaire. The questionnaires were distributed to Sudanese females presently attending Eastern Meddittarian University. The results of the analyses enabled us to add more questions based on the comments of the respondents; therefore, the questionnaire was modified before distributing it to the main population.

## **3.5 Primary Data Collection**

Primary data is the precise data which the analyst gathers or perceived by themselves. Primary data can be divided to interview & questionnaires. This type of data is of great

importance as it is characterized as a unique data collected specifically for the present study in hand (Brymen & Bell). Moreover, in our present study a questionnaire was designed for collecting information to be analyzed which then answers all the questions proposed by the researcher.

### **3.6 Secondary Data**

This type of data can be seen at the early stages of this study, firstly researchers have gone through previous studies and data to have a better understanding of the proposed data, secondly secondary data was used as a guide for further studies. Moreover, this type of data is regarded as significant instruments for collecting all relative data based on the aim of this study.

In addition, secondary data has a lot of advantages including providing high quality data with the least resources. This is the purpose that supports why we used secondary data in this study.

### **3.7 Data Collection**

Our sample was selected from the University of Khartoum using a self-administered questionnaire; this type of questionnaire is normally used when our sample is selected from a large population. Moreover, a structured questionnaire includes a less involvement of the researcher while the number of respondent is high.

#### **3.7.1 Questionnaires**

The questionnaires for this study were constructed to investigate attitude, behavioral control, product attributes, media, purchase intention and actual purchase both likert scale and multiple-choice questions was used.

### **3.7.1.1 Section one: Consumer Demographic Questions**

This section constitutes general questions about the respondent's profile such as their age the student's educational level, departments and marital status. This section also includes a question on whether the females heard about any type skin whitening products. The females were asked about the brands they used, the duration and amount of money they spent purchasing the skin whitening products.

### **3.7.2 Sources of the Questionnaire**

#### **3.7.2.1 Section two: Attitude**

This section consists of three statements: I like the idea of purchasing skin whitening, skin whitening is a good idea and, I have a favorable attitude towards purchasing skin whitening, respondents were asked to rate their opinion and a measure of five Likert scale was used and the statement were retrieved from the paper of Dr Nuntasaree & Dr. Barry (2009).

#### **3.7.2.2. Section three: Purchase Intention**

This section includes questions related to the consumers purchase intention statements were constructed from the study of Sukato & Elsey (2009). When I shop for cosmetic I search for skin whitening creams, for the next 6months I intend to use skin whitening products and I intend to use skin whitening creams for the next skin whitening products. The statements were also measured using a five scale Likert scale.

#### **3.7.2.3 Section four: Behavioral Control**

The statements of behavioral control include: I feel free to use skin whitening creams, using skin whitening creams is entirely within my control and I have the necessary resources to use skin whitening creams. This statement was taken from the study of Herbjorn et al (2005) and a 5 Likert scale was used to measure the items.



#### **3.7.2.4 Section Five: Normative influence and Self –image**

The statements in this section were retrieved from the study of (Sears, 1983) and Adebajo, S (2002). Women were asked to rate their opinions regarding how they see themselves as well as how others see them, statements include: being more beautiful, belongs to a high social class, men consider light skin as more beautiful, using the whitening products to get married and skin whitening creams provides women with a higher self-esteem.

#### **3.7.2.5 Section Six: Product Beliefs**

In this section consumers were asked how important was each attribute was to them while purchasing skin whitening products. The attributes include price, quality, brand name, availability, side effects, suitability to skin type, sales person, promotion and effectiveness within the short period of application some of this attributes were retrieved from the paper of Dr Nuntasaree & Dr. Barry (2009) , while others were added after the analysis of the pilot study.

#### **3.7.2.6 Section Seven: Media**

The components used to measure media included television, radio, daily newspaper, monthly magazines in addition to family, friends and relatives. These types of media were measured using a 5 Likert scale.

#### **3.7.2.7 Section Eight: Awareness**

This section included a question related to Islamic beliefs as it was proved by Al Bukhari & Muslim that changing the color is not allowed islamically, also questions about whether or not females contact a medical doctor or a pharmacist before using the cream. Also, this section included satisfaction and banning questions and a question on female's actual purchase. The last question was respondent personal income.

### **3.8 Data Analysis Techniques**

First the data set was checked for missing and inconsistent values. Descriptive analysis was conducted to test demographic questions. Demographic questions were tested using One-Way ANOVA to test the statistical differences between the groups. Marital status as tested using independent T-test to analysis which group is more engaged in skin whitening. Regression analysis was used to test the hypothesis. Finally, further analysis was made to the last section of the questionnaire.

## Chapter 4

### RESULTS AND DISCUSSIONS

#### 4.1 Demographics Data Analysis

Table 1: Distribution of Age Categories

Age Category	Frequency	Percentage (%)
15 - 20	42	16.8
21 - 25	185	74.0
26 - 30	23	9.2
<b>Total</b>	<b>250</b>	<b>100.0</b>

The majority of respondents were between the ages of (21-25) with 74%, while 16.8% were between the ages of (15-20), and only 9.2% were between the ages of (26-30). The above results explain perfectly the fact that our sample size was taken from undergraduate students, and normally undergraduates falls between that category, however only 9.2% were between the age of (26-30) and this is because this category is beyond the standard age of undergraduates.

Table 2: Marital Status

<b>Marital Status</b>	<b>Frequency</b>	<b>Percentage</b>
1 Single	204	81.6
2 Married	44	17.6
3 Divorced	2	.8
<b>Total</b>	<b>250</b>	<b>100.0</b>

Moreover, regarding marital status, 81.6% of our respondents were single, while 17% were married and only 8% were divorced. The objective of this study included normative influence and self –image and how this affected the female’s choice to use skin whitening products, and one of the reasons was because they wanted to get married as well as men’s view of white being beautiful. This explains why 74% of females who use skin whitening cream are single.

Table 3: Faculty

<b>Faculty</b>	<b>Frequency</b>	<b>Percentage</b>
1.Social Science	110	44.0
2.Health Sciences	45	18.0
3 Engineering	94	37.6
4 Other	1	.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

Regarding the faculties and departments of respondents, 44% were in social sciences departments, 37% were in engineering and only 18% were health sciences. This explains the fact that students in health science schools are more aware and conscious about the side effects and risks of these whitening products and therefore only a few

of them use it. Students in other departments are less educated about the medical side effects of whitening creams and therefore they are more engaged in the act of usage.

Table 4: Level of Education

<b>Education</b>	<b>Frequency</b>	<b>Percentage</b>
1. Year 1	68	27.2
2. Year 2	91	36.4
3. Year 3	68	27.2
4. Year 4	22	8.8
5. Year 5	1	.4
Total	250	100.0

The majority of students were in their early stages of education, with 27.2% in their third and first year respectively, however the majority of students who used skin whitening products were in their second year 36.4%, while only 8.8% and .4% were in their fourth and fifth year. Moreover, this result explains the fact that the higher the level of education the lower the usage of skin whitening products.

Table 5: Brands

<b>Brands</b>	<b>Frequency</b>	<b>Percentage</b>
1 Fair and Lovely	54	21.6
2 Kenza	14	5.6
3 Mixture of creams	47	18.8
4 all the three	135	54.0
Total	250	100.0

Regarding the brands, 54% of consumers used all the three brands namely fair and lovely, Kenza and Mixture of creams, while the second highest is fair and lovely with 21.6%, followed by a mixture of creams 18.8% and the least goes to kenza 5.6%. The above results show that consumers are so obsessed with being white and therefore they use all the types of whitening creams available in the market.

Table 6: Duration of usage

<b>Duration</b>	<b>Frequency</b>	<b>Percentage</b>
1 Less than 6 months	18	7.2
2 6 - 12 months	58	23.2
3 13 -36 months	57	22.8
4 More than 36 months	117	46.8
Total	250	100.0

Based on the above table, 46.8% of students have been using skin whitening products for more than 3years, while 22.8% and 23.2% have been using it between 6months and three years and only 7.2% have been using whitening products or a short period.

These, show how these young females have been practicing the usage of skin whitening products for years.

Table 7: Expenditure

<b>Expenditure</b>	<b>Frequency</b>	<b>Percentage</b>
1 Less than 200sdg	41	16.4
2 200- 499sdg	147	58.8
3 500 - 799sdg	59	23.6
4 800 and above	3	1.2
Total	250	100.0

The majority of students spend between 200-499sdg on skin whitening products, while 23.6% spend between 500-799sdg, 16.4% spend less than 200sdg. However, this explains that the skin whitening products consumers use are very cheap as it contains corticosteroid and this product were banned in Europe due to their risk and dangerous side effects. We need to note here that whitening products with less or no side effects do exist in the market by famous brands such as L'Oreal and Himalaya however this expensive whitening products take a lot of time to whitening the skin that's why females prefer cheaper products.

#### **4.2 One-Way ANOVA Test Analysis**

One-Way ANOVA is used because our exposure variable (age, education, faculty, and expenditure) is categorical and the outcome variable (ATT, INT, BEHCON, NOR\_INF, ATTR, MEDIA) are continuous.

##### **AGE:**

In order to determine whether or not different age groups have an impact on consumer attitude, intention, behavioral control, normative influence, self-image, product attributes and media. One-Way ANOVA was applied. The following hypothesis was developed:

Ho: There is NO difference among different age groups

Ha: There is difference among different age groups

Based on the spss results presented in table (8) there is a difference among age groups regarding most of the variables ( attitude,intention,behaviroal control, normative infleunce and self-image). The precise significant level (p value) of ANOVA is displayed in table(8) . The level of significance determined by us is 5% (based on

similar researches ). The table shows that the p value is less than 0.05 for most variables, therefore we reject the null hypothesis and the alternative hypothesis is accepted that means there is a statistical significant difference among different age groups .Whereas product attributes and media showed a significant level higher than 0.05 in this case we fail to reject the null hypothesis as this means that there is NO difference among age groups concerning product attributes and media.

### **Education**

Interms of education One-Way ANOVA was applied in order to determine whether the level of education has an impact on consumer attitude, intention, behaviroal control, normative infleunce ,self image , product attrirbutes and media . The following hyptothesis was developed:

Ho: There is NO difference among consumer educational level

Ha: There is difference among consumer educational level

Table (9) revealed that the 'p' value is less than 'a' value which means that the null hypothesis is rejected. This means that there is a statistically significant difference between the the levels of education concerning their impact on consumer attitude ,intention ,behavriaol control, normative influence and self image. Whereas the different levels of education has no significant impact on product attributes and media as the table shows that the 'p' value is greater than 'a' value .

### **Faculty**

Similar to other demographic questions faculty is analysed using One-Way ANOVA to determine whether there is a significant difference among different departments concerning their impact on consumer attitude, intention, behaviroal control,normative



influence ,self-image ,product attributes and media towards the use of skin whitening products .The following hypothesis was developed:

Ho: There is NO difference among different faculty groups

Ha: There is difference among different faculty groups

Table (10) shows that the 'p' value is less than the 'a' value which means the null hypothesis is rejected and the alternative hypothesis is accepted, therefore there is a difference between the different faculties concerning their impact on consumer attitude,intention,behavioral,normative influence, self-image, product attributes and media.

### **Duration**

One -Way ANOVA is also applied in order to understand whether the duration of usage do significantly impact consumer attitude, intention, behavioral control,normative influence ,self-image ,product attributes and media towards the use of skin whitening products .The following hypothesis was developed:

Ho: There is NO difference between usage duration

Ha: There is difference between usage duration

Table (11) reveals that the 'p' value is less than the 'a' value therefore the null hypothesis is rejected and the alternative hypothesis is accepted. This means that there is a statistically significant difference between the duration of usage regarding consumer attitude, intention, behavioral control,normative influence, self-image, product attributes and media towards the use of skin whitening products.

## **Expenditure**

The last demographic variable is consumer expenditure on skin whitening products , this variable was also analysed using One-Way ANOVA to test if there is a significant difference among the duration of usage. The following hypothesis was developed:

Ho: There is NO difference between usage duration

Ha: There is difference between usage duration

Table (12) reveals that the 'p' value is less than the 'a' value therefore the null hypothesis is rejected and the alternative hypothesis is accepted. The spss results therefore shows that there is a statistically significant difference among the different group of duration.

## **4.3 Factor Analysis**

The purpose of factor analysis is to reduce the number of factors in which the variables have high loadings the results of the factor analysis revealed that respondents identified four factors. Attitude, intention behavioral control, normative influence loaded in factor looking at (Appendix table 14). We can see that ATT1 ,ATT2, ATT3 ,INT1,INT2 INT3,BEH1,BEH2,BEH3,NOR1,NOR2,NOR3,NOR4,NOR5,NOR6 and NOR7 are loaded on factor (component 1), while all product attributes are loaded in factor (component 2), while all MEDIA variables have been viewed in two forms both factor 3 and factor 4.

## **4.4 Independent T-test**

Unlike other demographics, marital status was analyzed using independent t-test in order to determine whether there is a significant difference in consumer ATT, INT BEHCONT, NOR\_INF, ATTR and MEDIA according to consumer marital status.

According to table (12) there is a statistically significance difference between the mean score for singles and married consumers (see table 12). In other words married females have a statistically higher mean score than singles regarding V1, V2, V3 and V4, and this results explains the fact that the married females in Sudan seem to be obsessed by maintaining their white skin being in a society were their husbands will be vulnerable to be engaged in polygamy perhaps in search for a more fairer female, also married females are more concerned about their physical appearance than singles. Whereas there is no statistically significance difference between singles and married regarding V5 and V6.

#### 4.5 Regression Analysis for Purchase Intention

In testing or analyzing the variables of our conceptual model for skin whitening products in Khartoum University the significance level was set at 5 percent. With the aid of the SPSS it revealed that purchase intention highly depends on consumer attitude, normative influence and behavioral control.

Purchase Intention = constant + Normative influence + consumer attitude + behavioral control

Table 8: Model Summary

Model	R	R <sup>2</sup>	Adjusted R Square	Std. Error of the
Purchase Intention	.957 <sup>a</sup>	.917	.916	.23942

The above table shows that 91.7% of the variation in purchase intention is explained by normative influence, consumer attitude and behavioral control. In other words,

91.7% of purchase intention observed among females in University of Khartoum is due to INT, BC and NOR\_INF.

Table 9: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std.Error	Beta		
(Constant)	.118	.040		2.944	.004
<b>H6</b> (BC)	.513	.062	.521	8.228	.000
<b>H4</b> (ATT)	.063	.053	.062	1.189	.236
<b>H7</b> (NOR_INF)	.379	.055	.391	6.908	.000

The predictors of purchase intention of skin whitening products among female students in Khartoum University are observed to be normative influence (P= .001) and behavioral control (P= .001). The above results were similar to most of the previous studies stated in the literature of the present study. Concerning behavioral control, the results of our present study supports the results of the study proposed by Shim et al (2001) which reported that there is an important and positive route coefficient between behavioral control and intention to handle the internet information scrutinizing. Therefore, hypothesis **H5 is accepted**.

Its ironical to note that whistle the white race seek to make themselves darker by skin tanning, the darker skinned race choose to become fair skinned. This bleaching products are used in response to normative influence either to look more attractive to the opposite sex or for personal gratification. Beside the previous studies that proved a significant relationship between normative influence and purchase intention.

Respondent also commented during the process of data collection that the society norms, opportunities to get married as well as job opportunities are the main reasons behind the high purchase of skin whitening products. Therefore, **H6 is accepted.**

Consumer attitude was found not to be significant ( $P=.236$ ) and hence would not be added to the final model. The insignificance of consumer attitude can be explained that in case respondent evaluated the suggested behavior of using skin whitening products as negative (attitude) this might have resulted in lower intentions and hence they are less likely to purchase whitening products. Consumers also reported their awareness of the skin whitening side effects and therefore this will lead to a lower purchase intention. We also state here that the act of using skin whitening products is a negative act and though previous studies proved a positive relationship between consumer attitude and purchase intention it is reasonable to **reject H4** in our present study

#### **4.6 Regression Analysis for Consumer Attitude**

In analyzing the variables for consumer attitude, the significant level was also set at 5%. Also with the aid of SPSS it revealed that the independent variable (Media) was found not to be influential on the dependent variable (consumer attitude). The following results were obtained.

MEDIA 2( $p= .225$ ), MEDIA 3 ( $p= .800$ ), MEDIA 4 ( $p=.511$ ), MEDIA 5( $p= .493$ ), MEDIA 6( $p=.441$ ), MEDIA7 ( $p=. 374$ ), MEDIA 8( $p=.708$ ), MEDIA9 ( $p= .460$ ). The results showed that in case of our population and product, the different types of traditional media had no influence on consumer attitude in other words a higher or lower level of traditional media exposure does not have a significant impact on the attitude towards skin whitening products. Unlike the study of Wale et al (2005) on

bournavita in Nigeria which proved that there is a positive relationship between consumer attitude and Media. The case here is different as our respondent were between the age of 15-26 and because today we live in a world that is obsessed with mobile phones and tablets, traditional media therefore has a low impact on consumers especially youth. It was more interesting to test the impact of social media on consumer attitude. **Therefore, H2 IS REJECTED**

Multiple Regression analysis was performed to test the impact of product attribute (independent variable) and consumer attitude (dependent variable). The results were as follows PRICE ( $p=.680$   $\beta= -.088$ ), QUALITY ( $p= .009$   $\beta=-.364$ ), BRAND ( $p=.003$   $\beta= .561$ ), AVAILABILTY ( $p=.003$   $\beta= .551$ ) SUITABILTY ( $p=. 018$   $\beta=1.203$ ) PROMOTION ( $p=.164$   $\beta= -.386$ ) EFFECTIVNESS ( $p=.009$   $\beta=.364$ ) SALESPERSON ( $p=.311$   $\beta=-.511$ ). The results indicates that there is a statistically significant impact of quality, brand, availability and effectiveness within short period of time on consumer attitude towards skin whitening products also there is a positive correlation between both availability and effectiveness towards consumer attitude which means, the higher the Availability and effectiveness within short period the higher consumer attitude towards the use of skin whitening products. This results perfectly explains the population of our study, in Sudan females who use skin whitening products are looking for quick results and wide availability. Whereas quality indicted a negative correlation and this is obvious in case of skin whitening products as this product are of low quality therefore the higher the quality the lower the consumer attitude towards using whitening products. Moreover price, promotion and suitability to skin and sales person has no impact on consumer attitude towards skin whitening products. In contrast with previous studies a study by Aderson (1998) in China investigated the different product attributes and the study reported that Chinese cosmetic consumer rated price,

packaging, brand, and salesperson as the most effective product attributes. Moreover, the study of Johri (1998) on consumer behavior towards green products, reported that consumers attitude when purchasing a cosmetic is affected by the product's color, ingredient, brand, how safe it is to the skin, quality and price. We can perceive here that consumer's ratings were different in each study depending on the type of product and population. **Therefore H1 was PARTIALLY ACCEPTED**

Lastly simple regression was performed to test Self-image (dependent) impact on consumer attitude (independent) the following results were obtained.

Table 10: Model Summary

Model	R	R2	Adjusted R Square	Std.Error of the
Self-Image	.915 <sup>a</sup>	.837	.837	33845

The above table shows that 83.7% of the variation in Self-Image is explained by consumer attitude. In other words, 83.7% of Self-Image observed among females in University of Khartoum is due to consumer attitude.

Table 11: Model Summary

Model Sig	Unstandardized Coefficients		Standardized Coefficients	t
	B	Std.Error	Beta	
Constant	.057	.057	1.008	.315
<b>H3</b> Con Att	.943	.026	.915	35.710 .000

The predictors of Self-image towards the use of skin whitening products among female students in Khartoum University are observed to be consumer attitude ( $p=0.001$ ). This result was similar to previous studies. The results of the present study is similar to the study conducted by Rebecca & George (2006) this study reported that women who wear makeup were observed as more confident than those who are seen without cosmetics. The majority of people also perceived females who wear makeup as having the opportunity to have a better job, also men viewed ladies with cosmetics as more impressive than those who don't. The study also presented that ladies can efficiently where females may be assessed based on their looks such as job interviews. In a society like Sudan were females are encouraged to lighten their skin tone to get married or have better job opportunities explains why Self-image impacts consumer's attitude.

**Therefore, H3 IS ACCEPTED.**

#### **4.7 Further Analysis**

The last section of the questionnaire was analyzed using descriptive analysis (Appendix table 10). The results indicated that 64% of consumers were not aware that changing the color of the skin is not allowed in Islam. Females also reported that they experienced side effects such as skin redness, skin rash and redness as a result of exposure to sun (Appendix table 10, 11, 12). The results also revealed when the females were asked about their satisfaction with the whitening products 62.4% were neutral (Appendix table 13) and this correlates with their experience of several side effects. 52% (Appendix table 14) of the females supported the banning of skin whitening products in Sudan .This means that the young females are becoming aware of the dangers of this whitening products. Level of satisfaction and duration were analyzed using correlation analysis and the results revealed that there is a negative



correlation between degree of satisfaction and duration which means the longer they use skin whitening products the less satisfied they are.

Table 12: Hypotheses Summary

H1: There is a relationship between product attribute and consumer attitude	<b>ACCEPTED</b>
H2: There is a relationship between Media and Consumer Attitude	<b>REJECTED</b>
H3: There is a relationship between Self-Image and consumer attitude	<b>ACCEPTED</b>
H4: There is a relationship between Consumer Attitude and Purchase intention	<b>REJECTED</b>
H5: There is a relationship between Behavioral Control and Purchase intention	<b>ACCEPTED</b>
H6: There is a relationship between Normative influence and Purchase Intention	<b>ACCEPTED</b>

## **Chapter 5**

# **CONCLUSION, RECOMMENDATION AND LIMITATION**

### **5.1 Conclusion**

In the Sudan, there was four decades of civil war between lighter-skinned northerners and darker southerners. These has given skin tone more sinister connotations, and the meaning of the various shades is nuanced. The attitude towards skin whitening products has led to a boom in the use of skin-lightening products in the Sudan.

Many articles stated that the business of skin whitening products is a global phenomenon. The study revealed that educated women do utilize skin whitening products. Skin whitening traces its origin to the period of colonization and slavery. Skin tone was then associated with high class, attractiveness and intelligence. These days, there are various ways to enlighten the skin, i.e. by laser treatment or the practice of whitening lotions, - soaps and – creams. The numerous -lotions-, - soaps and whitening creams contain ingredients to decrease the concentration of melanin, which determines one's skin tone.

This research has created a consciousness of the factors that determine the attitude and use of skin whitening products among female students in the University of Khartoum, with the help of the proposed conceptual model begotten from different consumer behavior theories such as theory of reasoned action & theory of planned behavior. It

has helped to shed light on the different influential factors that affect consumer attitude and use of whitening products.

The objectives of this research aimed to test the impact of normative influence, behavioral control and consumer attitude (independent variables) on purchase intention (dependent variable) and the results indicated that the three variables highly influence purchase intention i.e. there is a positive correlation between the independent variables and the dependent variable. One -way ANOVA was used to test the demographic questions the outcome revealed that there is a statistically significant difference among consumer age groups, Expenditure, duration, faculty and level of education. Marital status was also tested using independent T-test and the results showed that there is a difference between singles and married females towards the use of skin whitening creams with the married being higher than singles. This result explains the fact that the married females in Sudan seem to be obsessed by maintaining their white skin being in a society where their husbands will be vulnerable to be engaged in polygamy perhaps in search for a fairer female.

This study also showed the high influence of the society on a female's intention to purchase skin whitening products in a bid to maintain her light skin. This was revealed by the results obtained from the regression analysis.

Traditional Media was found to have no significant impact on the attitude of the female youth in our sample. It is pertinent to point out that our respondents were between the ages of 15-26 who are more engaged with social media.

The outcome of the regression analysis indicated that Self-image highly influences consumer attitude towards the use of skin whitening products

The results also revealed that consumers experienced side effects as a result of using skin whitening products. Results also indicated that they were not aware that using whitening products was not allowed in Islam. This study also indicates that the longer consumers use skin whitening products the less satisfied they are.

## **5.2 Recommendation**

Our findings suggest the need for an enlightening advocacy among undergraduate students in Khartoum regarding the health hazards of using whitening products both in the short and long term.

The main factors leading to the widespread of purchasing skin whitening products includes normative influence and self-image and therefore awareness should be raised within the community on the hazardous effects of these products.

Young Sudanese females should learn how to appreciate themselves and be proud of their skin tone. Campaigns should be organized in order to fight the act of bleaching. (BLACK IS BEAUTIFUL).

This study also suggests that strong action is needed from the Sudanese government to apply strong educational systems, public policies or intensive law enforcement efforts to rid Sudan from the availability of dangerous chemicals or toxic skin whitening products

Our proposed study also suggests updating the educational system to include courses to raise awareness about the serious side effect of this products. To increase self-esteem within young Sudanese females so that they can feel proud of their skin.

### **5.3 Limitation & Future Studies**

Several limitations in our study was noted: firstly, the findings of this study must be interpreted with care as the sample of the population only represent undergraduate students in one University in Khartoum state which does not represent the entire Sudan female population such an important topic need to be carried out throughout the country.

Secondly the outcome of this study may not be generalized to other cultures, more cultures need to be examined in order to determine the reliability of this study.

Thirdly this study includes only females therefore future studies need to take into account the male population.

Fourth the results of this study indicated that Media has no impact on consumer attitude therefore future researches should test the impact of social media in consumer attitude.

Fifth the topic of this research is regarded as a shameful topic; therefore, it was difficult to get females to admit their usage of skin whitening products

Lastly religious bodies should raise awareness concerning the view of Islam on changing the color of the skin

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## **APPENDICES**

## Appendix A: Questionnaire for Analysis

### Questionnaire for Customers

The purpose of this thesis questionnaire is for the completion of a Post graduate program at the Eastern Mediterranean University (marketing specialization). This thesis focuses on the most important factors affecting the attitude and use of skin whitening creams (The case of female students in university of Khartoum) Please respond honestly to the below questions stressing that no one will know the identity of the research participants, Moreover it gives you the opportunity to share your views

#### **Section one: Personal information** (Please ✓ one box)

##### **Question 1: Your age?**

15 – 20  21 – 25  26 – 30  Over 30

##### **Question 2: Marital status?**

Single  Married  Divorced   widowed

;

##### **Question 3: Faculty /department?**

Social Sciences  Health Sciences  Engineering  Other

.....

##### **Question 4 : level of education?**

Year 1  Year 2  Year 3  Year 4  Year 5

##### **Question 5: Have you heard about any type of skin whitening creams?**

Yes  No

##### **Question 6: Do/have you use/used any type of skin whitening creams?**

Yes  No

**Question 6 (i) If No,** what are the reasons that prevented you from using any type of skin whitening products?

.....

.....

##### **Question 7: which of the skin whitening products do/have you use/used ?**

Cream  pills  injections

**Question 7:** What is the name of the skin whitening cream/pills you use /used?

Fair and lovely  Kenza  Mixture of creams  Other   
 .....

**Question 8:** How long have you been using skin whitening creams?

Less than 6months  6months-12months  12months-36months  more than   
 36months

**Question 9:** What is your monthly expenditure on skin whitening creams?

Less than 100 sdg  101-199 sdg  200 – 499 sdg  500 - 749 sdg   
 750 – 900 sdg  More than 901 sdg

<b>Question 10 Section two: Attitude</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
I like the idea of purchasing skin whitening products	5	4	3	2	1
Purchasing skin whitening products is a good idea	5	4	3	2	1
I have a favorable attitude towards purchasing Skin whitening products	5	4	3	2	1
<b>Question 11 Section three: Purchase intention</b>					
When I shop for cosmetics I search for skin whitening creams	5	4	3	2	1
For the next 6months I intend to use skin whitening products	5	4	3	2	1
I intend to use skin whitening creams for the Next 6 months	5	4	3	2	1
<b>Question 12 Section four : behavioral control</b>					
I feel free to use skin whitening creams	5	4	3	2	1
Using skin whitening creams is entirely within my control	5	4	3	2	1



I have the necessary means and resources to use Skin whitening creams	5	4	3	2	1
<b>Question 13 Section five: Normative influence and self image</b>					
Lighter skin is more beautiful	5	4	3	2	1
Lighter skin tone implied that women belong to A higher social class	5	4	3	2	1
Lighter skin tone helps a woman get a better job	5	4	3	2	1
Lighter skin tone increase A woman chance of getting married	5	4	3	2	1
Lighter skin tone provides women with Higher self esteem	5	4	3	2	1
The way skin lightening products are advertised r has an influence on a woman preference of lighter skin tone	5	4	3	2	1
Men consider lighter skin as more beautiful	5	4	3	2	1

Please answer the following statements by rating your degree of agreement and disagreement

### **Section f: beliefs in product attributes**

**Question 14:** How important is the following given attributes in choosing the skin whitening cream?

<b>Statement</b>	<b>Very Important</b>	<b>Important</b>	<b>Neutral</b>	<b>Less Important</b>	<b>Not Important At All</b>
Price	5	4	3	2	1
Quality	5	4	3	2	1
Brand Name	5	4	3	2	1
Availability	5	4	3	2	1
Side Effects	5	4	3	2	1
Suitability to Skin type	5	4	3	2	1
Sales person	5	4	3	2	1

Promotion /advertising	5	4	3	2	1
Effective within the short period of application	5	4	3	2	1

### **Section Six; Media**

**Question 15** Do you purchase a skin whitening cream after you come across any type of media ?

Yes  No

**Question 16** :How important was each media for you in choosing the skin whitening cream?

Media	Very Important	Important	Neutral	Less Important	Not Important At All
Television	5	4	3	2	1
Radio	5	4	3	2	1
Daily Newspaper	5	4	3	2	1
Monthly magazine	5	4	3	2	1
Friends	5	4	3	2	1
Relatives	5	4	3	2	1
Neighbourhood	5	4	3	2	1
Pharmacies	5	4	3	2	1

### **Section seven: Awareness**

**Question 17**

Statements	Yes	No
Are you are aware that changing the color is not allowed islamically based on the following " Allah has cursed those women who practice tattooing ,those who get tattooed , those who pluck the hair of eyebrows ,those who have their eyebrows plucked and those who make up gaps between their teeths to become beautiful,changing their upon the creation of Allah." ( Al-Bukhari and Muslim)		
Where you aware of the side effects before using the whitening cream		
Have you contacted a doctor before using the cream		
Have you contacted a Pharmacist before using the skin whitening cream		

**Question 18:** Which of the following side effects have you experienced? You can tick more than one

Side effects	Yes	No	Sometimes
The appearance of redness or skin rash			
Itching and scratching skin			
Several facial redness			
Redness of the as a result of exposure to the sun			
Infection			
Skin cancer			

Please specify if other

**Question 19** I am satisfied with the skin whitening cream am using ?

Strongly Disagree      1      2      3      4      5      Strongly  
                       

**Question 20:** Banning skin whitening products is a good idea ?

Strongly Disagree      1      2      3      4      5      Strongly Agree  
                       

**Question 21 :**How often do you purchase skin whitening creams ?

Weekly       Monthly       Yearly       Occasionally

**Question 22:** how many times have you purchased skin whitening creams in the last 6months ?fill the number

**Question 23 :**The outcome of this research will benefit the society ?

Strongly Disagree      1      2      3      4      5      Strongly Agree  
                       

**Question 24:** What is your monthly average personal income?

Less than  500 sdg      501-1999  sdg      2000-4000  sdg      More than 4,000  sdg

Thank you for you corporation

## Appendix B: Independent T- Test Analysis

**Table 1**

<b>ANOVA- AGE</b>					
	Sum of Squares	df	Mean Square	F	Sig.
<b>V1</b> ATT1 I like the idea of purchasing skin whitening products	Between Groups	2	3.193	4.828	.009
	Within Groups	247	.661		
	Total	249			
ATT2 Purchasing skin whitening products is a good idea	Between Groups	2	3.451	5.259	.006
	Within Groups	247	.656		
	Total	249			
ATT3 I have a favorable attitude towards purchasing skin whitening products	Between Groups	2	3.183	4.632	.011
	Within Groups	247	.687		
	Total	249			
V2 INT1 When i shop for cosmetics i search for skin whitening products	Between Groups	2	3.392	4.990	.008
	Within Groups	247	.680		
	Total	249			
INT2 For the next 6months i intent to use skin whitening products	Between Groups	2	2.862	4.314	.014
	Within Groups	247	.663		
	Total	249			
INT3 I intent to use skin whitening products for the next 6months	Between Groups	2	2.903	4.354	.014
	Within Groups	247	.667		
	Total	249			
<b>V3</b> BehCont1 I feel free to use skin whitening creams	Between Groups	2	3.151	4.615	.011
	Within Groups	247	.683		
	Total	249			
BehCont2 using skin whitening creams is	Between Groups	2	3.151	4.615	.011
	Within Groups	247	.683		

entirely within my Total control		174.976	249			
BehCont3 I have the necessary means and resources to use skin whitening creams	Between Groups	6.303	2	3.151	4.615	.011
	Within Groups	168.673	247	.683		
	Total	174.976	249			
<b>V4</b> NOR_INF1 Lighter skin is more beautiful	Between Groups	6.840	2	3.420	4.779	.009
	Within Groups	176.760	247	.716		
	Total	183.600	249			
NOR_INF2 Lighter skin tone implies that a woman belongs to a higher social class	Between Groups	8.565	2	4.283	6.168	.002
	Within Groups	171.499	247	.694		
	Total	180.064	249			
NOR_INF3 Lighter skin tone helps a woman get a better job	Between Groups	8.951	2	4.476	6.400	.002
	Within Groups	172.745	247	.699		
	Total	181.696	249			
NOR_INF4 Lighter skin tone increases a woman chance of getting married	Between Groups	8.639	2	4.320	6.194	.002
	Within Groups	172.245	247	.697		
	Total	180.884	249			
NOR_INF5 Lighter skin tone provides a woman with a higher self esteem	Between Groups	8.565	2	4.283	6.168	.002
	Within Groups	171.499	247	.694		
	Total	180.064	249			
NOR_INF6 the way skin lightening products advertised has an influence on a woman preference of lighter skin	Between Groups	8.951	2	4.476	6.400	.002
	Within Groups	172.745	247	.699		
	Total	181.696	249			
NOR_INF7 Men consider lighter skin as more beautiful	Between Groups	8.360	2	4.180	5.636	.004
	Within Groups	183.196	247	.742		
	Total	191.556	249			
<b>V5</b> Attr_ Price	Between Groups	.549	2	.274	.647	<b>.525</b>
	Within Groups	104.767	247	.424		
	Total	105.316	249			

Att_ Quality	Between Groups	.892	2	.446	.707	<b>.49 4</b>
	Within Groups	155.784	247	.631		
	Total	156.676	249			
Attr_ Brand name	Between Groups	1.542	2	.771	1.538	<b>.21 7</b>
	Within Groups	123.834	247	.501		
	Total	125.376	249			
Attr_ Availability	Between Groups	1.010	2	.505	1.035	<b>.35 7</b>
	Within Groups	120.446	247	.488		
	Total	121.456	249			
Attr_ SideEffect	Between Groups	.408	2	.204	.430	<b>.65 1</b>
	Within Groups	117.256	247	.475		
	Total	117.664	249			
Attr_ Suitability to skin type	Between Groups	.412	2	.206	.441	<b>.64 4</b>
	Within Groups	115.364	247	.467		
	Total	115.776	249			
Attr_ Sales person	Between Groups	.361	2	.180	.379	<b>.68 5</b>
	Within Groups	117.415	247	.475		
	Total	117.776	249			
Attr_ Promotion Advertising	Between Groups	.671	2	.336	.742	<b>.47 7</b>
	Within Groups	111.745	247	.452		
	Total	112.416	249			
Attr_ Effective within short period of application	Between Groups	.314	2	.157	.292	<b>.74 7</b>
	Within Groups	132.442	247	.536		
	Total	132.756	249			
<b>V6</b> Media1 Do you purchase a skin whitening cream after you come across any type of	Between Groups	.971	2	.485	5.030	<b>.00 7</b>
	Within Groups	23.833	247	.096		
	Total	24.804	249			
MEDIA2 Television	Between Groups	1.614	2	.807	2.148	<b>.11 9</b>
	Within Groups	92.786	247	.376		
	Total	94.400	249			

MEDIA3 Radio	Between Groups	.017	2	.008	.011	<b>.989</b>
	Within Groups	188.847	247	.765		
	Total	188.864	249			
MEDIA4 newspaper	Daily Between Groups	.281	2	.140	.187	<b>.830</b>
	Within Groups	185.243	247	.750		
	Total	185.524	249			
MEDIA5 magazine	Monthly Between Groups	.353	2	.177	.271	<b>.763</b>
	Within Groups	160.623	247	.650		
	Total	160.976	249			
MEDIA6 Friends	Between Groups	1.175	2	.588	1.651	<b>.194</b>
	Within Groups	87.929	247	.356		
	Total	89.104	249			
MEDIA7 Relatives	Between Groups	1.697	2	.848	2.903	.057
	Within Groups	72.179	247	.292		
	Total	73.876	249			
MEDIA8 Neighbourhood	Between Groups	1.195	2	.598	2.031	<b>.133</b>
	Within Groups	72.681	247	.294		
	Total	73.876	249			
MEDIA9 Pharmacies	Between Groups	2.526	2	1.263	3.084	.048
	Within Groups	101.138	247	.409		
	Total	103.664	249			
<b>V7</b> Aware1 Are you aware that changing the colour is not allowed In Islam	Between Groups	1.125	2	.562	2.460	.088
	Within Groups	56.475	247	.229		
	Total	57.600	249			
Aware2 where you are aware of the skin whitening products before using it	Between Groups	1.121	2	.560	6.728	.001
	Within Groups	20.575	247	.083		
	Total	21.696	249			
Aware3 Do you contact a doctor before using the whitening cream	Between Groups	1.061	2	.530	6.112	.003
	Within Groups	21.439	247	.087		
	Total	22.500	249			

Aware4 Do you Between contact a pharmacist Groups before using the Within Groups whitening cream Total	1.895 26.749 28.644	2 247 249	.947 .108	8.747	.000
<b>V8</b> Effects1 The Between appearance of Groups redness or skin rash Within Groups Total	.349 22.947 23.296	2 247 249	.174 .093	1.876	<b>.155</b>
Effects2 itching and Between scratching skin Groups Within Groups Total	.615 23.469 24.084	2 247 249	.307 .095	3.236	.041
Effects3 several facial Between redness Groups Within Groups Total	.834 28.542 29.376	2 247 249	.417 .116	3.610	.028
Effects4 Redness as a Between result of exposure to Groups the sun Within Groups Total	.663 49.293 49.956	2 247 249	.332 .200	1.661	<b>.192</b>
Effects5 Infection Between Groups Within Groups Total	.775 40.989 41.764	2 247 249	.387 .166	2.335	.099
Effects6 skin cancer Between Groups Within Groups Total	.177 13.923 14.100	2 247 249	.088 .056	1.566	<b>.211</b>

Table 2

### ANOVA – EDUCATION YEAR/CLASS

	Sum of Squares	df	Mean Square	F	Sig.
<b>V1</b> ATT1 I like the Between idea of purchasing Groups skin whitening Within products Groups Total	60.466 108.209 168.675	3 245 248	20.155 .442	45.6 34	.000



ATT2	Purchasing Between skin whitening Groups products is a good idea	Within Groups	Total	61.962	3	20.654	47.7 28	.000
				106.022	245	.433		
				167.984	248			
ATT3	I have a favorable attitude towards purchasing skin whitening products	Between Groups Within Groups	Total	62.854	3	20.951	45.6 85	.000
				112.358	245	.459		
				175.213	248			
<b>V2</b>	INT1 When I shop for cosmetics I search for skin whitening products	Between Groups Within Groups	Total	60.543	3	20.181	43.6 78	.000
				113.200	245	.462		
				173.743	248			
INT2	For the next 6months I intent to use skin whitening products	Between Groups Within Groups	Total	60.986	3	20.329	45.8 56	.000
				108.612	245	.443		
				169.598	248			
INT3	I intent to use skin whitening products for the next 6months	Between Groups Within Groups	Total	61.417	3	20.472	45.9 75	.000
				109.097	245	.445		
				170.514	248			
<b>V3</b>	BehCont1 I feel free to use skin whitening creams	Between Groups Within Groups	Total	62.988	3	20.996	46.2 97	.000
				111.108	245	.454		
				174.096	248			
BehCont2	using skin whitening creams is entirely within my control	Between Groups Within Groups	Total	62.988	3	20.996	46.2 97	.000
				111.108	245	.454		
				174.096	248			
BehCont3	I have the necessary means and resources to use skin whitening creams	Between Groups Within Groups Total		62.988	3	20.996	46.2 97	.000
				111.108	245	.454		
				174.096	248			

<b>V4</b>	NOR_INF1	Between	66.018	3	22.006	46.2	.000	
		Lighter skin is more beautiful				16		
		Groups	116.657	245	.476			
		Within Groups	182.675	248				
NOR_INF2	Lighter skin tone implies that a woman belongs to a higher social class	Between	68.871	3	22.957	50.5	.000	
		Groups				86		
		Within	111.185	245	.454			
		Groups	180.056	248				
NOR_INF3	Lighter skin tone helps a woman get a better job	Between	69.323	3	23.108	50.7	.000	
		Groups				50		
		Within	111.553	245	.455			
		Groups	180.876	248				
NOR_INF4	Lighter skin tone increases a woman chance of getting married	Between	68.871	3	22.957	50.5	.000	
		Groups				86		
		Within	111.185	245	.454			
		Groups	180.056	248				
NOR_INF5	Lighter skin tone provides a woman with a higher self esteem	Between	68.871	3	22.957	50.5	.000	
		Groups				86		
		Within	111.185	245	.454			
		Groups	180.056	248				
NOR_INF6	the way skin lightening products are advertised has an influence on a woman preference of lighter skin	Between	69.323	3	23.108	50.7	.000	
		Groups				50		
		Within	111.553	245	.455			
		Groups	180.876	248				
NOR_INF7	Men consider lighter skin as more beautiful	Between	68.527	3	22.842	45.4	.000	
		Groups				90		
		Within	123.024	245	.502			
		Groups	191.550	248				
<b>V5</b>	Attr_ Price	Between	6.634	3	2.211	5.51	.001	
		Groups				3		
		Within	98.266	245	.401			
		Groups	104.900	248				

Att_ Quality	Between Groups	.858	3	.286	.452	.716
	Within Groups	154.885	245	.632		
	Total	155.743	248			
Attr_ Brand Name	Between Groups	1.511	3	.504	.997	.395
	Within Groups	123.846	245	.505		
	Total	125.357	248			
Attr_ Availability	Between Groups	3.725	3	1.242	2.585	.054
	Within Groups	117.680	245	.480		
	Total	121.406	248			
Attr_ Side Effect	Between Groups	6.030	3	2.010	4.430	.005
	Within Groups	111.159	245	.454		
	Total	117.189	248			
Attr_ Suitability to skin type	Between Groups	7.713	3	2.571	5.835	.001
	Within Groups	107.950	245	.441		
	Total	115.663	248			
Attr_ SalesPerson	Between Groups	8.163	3	2.721	6.106	.001
	Within Groups	109.171	245	.446		
	Total	117.333	248			
Attr_ Promotion /Advertising	Between Groups	6.877	3	2.292	5.327	.001
	Within Groups	105.421	245	.430		
	Total	112.297	248			
Attr_ Effective within short period of application	Between Groups	7.720	3	2.573	5.061	.002
	Within Groups	124.577	245	.508		
	Total	132.297	248			
<b>V5</b> Media1 Do you purchase a skin	Between Groups	.524	3	.175	1.762	.155

whitening cream	Within					
after you come	Groups	24.279	245	.099		
across any type of	Total	24.803	248			
MEDIA2 Television	Between					
	Groups	5.827	3	1.942	5.401	.001
	Within					
	Groups	88.109	245	.360		
	Total	93.936	248			
MEDIA3 Radio	Between					
	Groups	1.415	3	.472	.645	.587
	Within					
	Groups	179.075	245	.731		
	Total	180.490	248			
MEDIA4 Daily newspaper	Between					
	Groups	.770	3	.257	.347	.792
	Within					
	Groups	181.311	245	.740		
	Total	182.080	248			
MEDIA5 Monthly magazine	Between					
	Groups	1.582	3	.527	.815	.487
	Within					
	Groups	158.515	245	.647		
	Total	160.096	248			
MEDIA6 Friends	Between					
	Groups	5.426	3	1.809	5.324	.001
	Within					
	Groups	83.225	245	.340		
	Total	88.651	248			
MEDIA7 Relatives	Between					
	Groups	6.839	3	2.280	8.383	.000
	Within					
	Groups	66.630	245	.272		
	Total	73.470	248			
MEDIA8 Neighbourhood	Between					
	Groups	6.158	3	2.053	7.441	.000
	Within					
	Groups	67.585	245	.276		
	Total	73.743	248			
MEDIA9 Pharmacies	Between					
	Groups	6.279	3	2.093	5.291	.001
	Within					
	Groups	96.910	245	.396		

	Total	103.189	248			
<b>V6</b>	Aware1 Are Between you aware that Groups changing the colour Within is not allowed In Groups Islam Total	5.205 51.984 57.189	3 245 248	1.735 .212	8.17 7	.000
	Aware2 where you Between aware of the skin Groups whitening products Within before using it Groups Total	4.139 17.548 21.687	3 245 248	1.380 .072	19.2 60	.000
	Aware3 Do you Between contact a doctor Groups before using the Within whitening cream Groups Total	3.311 19.179 22.490	3 245 248	1.104 .078	14.0 98	.000
	Aware4 Do you Between contact a Groups pharmacist before Within using the whitening Groups cream Total	3.386 25.241 28.627	3 245 248	1.129 .103	10.9 54	.000
	Effects1 The Between appearance of Groups redness or skin Within rash Groups Total	2.375 20.115 22.490	3 245 248	.792 .082	9.64 3	.000
<b>V7</b>	Effects2 itching Between and scratching skin Groups Within Groups Total	2.961 20.324 23.285	3 245 248	.987 .083	11.9 00	.000
	Effects3 several Between facial redness Groups Within Groups Total	1.894 26.733 28.627	3 245 248	.631 .109	5.78 6	.001
	Effects4 Redness Between as a result of Groups exposure to the sun Within Groups Total	1.752 47.678 49.430	3 245 248	.584 .195	3.00 1	.031

Effects5 Infection	Between Groups	.195	3	.065	.389	.761
	Within Groups	40.945	245	.167		
	Total	41.141	248			
Effects6 skin cancer	Between Groups	.372	3	.124	2.212	.087
	Within Groups	13.725	245	.056		
	Total	14.096	248			

**Table 3**

### ANOVA - FACULTY

	Sum of Squares	df	Mean Square	F	Sig.
<b>V1</b> ATT1 I like the idea of purchasing skin whitening products	23.590	2	11.795	19.853	.000
Between Groups					
Within Groups	146.153	246	.594		
Total	169.743	248			
ATT2 Purchasing skin whitening products is a good idea	23.191	2	11.596	19.564	.000
Between Groups					
Within Groups	145.805	246	.593		
Total	168.996	248			
ATT3 I have a favorable attitude towards purchasing skin whitening products	21.440	2	10.720	17.052	.000
Between Groups					
Within Groups	154.656	246	.629		
Total	176.096	248			
<b>V2</b> INT1 When i shop cosmetics search for whitening products	19.881	2	9.940	15.893	.000
Between Groups					
Within Groups	153.862	246	.625		
Total	173.743	248			
INT2 For the next 6months i intent	21.634	2	10.817	18.097	.000
Between Groups					

to use skin whitening products	Within Groups	147.041	246	.598		
	Total	168.675	248			
INT3 I intent to use whitening products for the next 6months	Between Groups	20.424	2	10.212	16.840	.000
	Within Groups	149.174	246	.606		
	Total	169.598	248			
<b>V3</b> BehCont1 I feel free to use skin whitening creams	Between Groups	21.959	2	10.979	17.753	.000
	Within Groups	152.138	246	.618		
	Total	174.096	248			
BehCont2 using skin whitening creams is entirely within my control	Between Groups	21.959	2	10.979	17.753	.000
	Within Groups	152.138	246	.618		
	Total	174.096	248			
BehCont3 I have the neccassry means and resources to use skin whitening creams	Between Groups	21.959	2	10.979	17.753	.000
	Within Groups	152.138	246	.618		
	Total	174.096	248			
<b>V4</b> NOR_INF1 Lighter skin is more beautiful	Between Groups	23.112	2	11.556	17.714	.000
	Within Groups	160.486	246	.652		
	Total	183.598	248			
NOR_INF2 Lighter skin tone implies that a woman belongs to a higher social class	Between Groups	28.984	2	14.492	23.598	.000
	Within Groups	151.073	246	.614		
	Total	180.056	248			
NOR_INF3 Lighter skin tone helps a woman get a better job	Between Groups	26.214	2	13.107	20.739	.000
	Within Groups	155.473	246	.632		
	Total	181.687	248			
NOR_INF4 Lighter skin tone increases a woman chance of getting married	Between Groups	27.581	2	13.790	22.130	.000
	Within Groups	153.295	246	.623		
	Total	180.876	248			

NOR_INF5	Between	28.984	2	14.492	23.598	.000
Lighter skin tone provides a woman with a higher self esteem	Groups					
	Within Groups	151.073	246	.614		
	Total	180.056	248			
NOR_INF6	Between	26.214	2	13.107	20.739	.000
the way lightening products advertised has an influence on a woman preference of lighter skin	Groups					
	Within Groups	155.473	246	.632		
	Total	181.687	248			
NOR_INF7	Between	33.411	2	16.705	25.987	.000
Men consider skin as beautiful	Groups					
lighter as more beautiful	Within Groups	158.139	246	.643		
	Total	191.550	248			
<b>V5</b> Attr_ Price	Between	5.385	2	2.692	6.656	.002
	Groups					
	Within Groups	99.515	246	.405		
	Total	104.900	248			
Attr_ Quality	Between	.841	2	.421	.668	<b>.514</b>
	Groups					
	Within Groups	154.902	246	.630		
	Total	155.743	248			
Attr_BrandName	Between	1.320	2	.660	1.316	<b>.270</b>
	Groups					
	Within Groups	123.307	246	.501		
	Total	124.627	248			
Attr_ Availability	Between	5.722	2	2.861	6.113	.003
	Groups					
	Within Groups	115.129	246	.468		
	Total	120.851	248			
Attr_ Side Effect	Between	3.197	2	1.598	3.449	.033
	Groups					
	Within Groups	113.992	246	.463		
	Total	117.189	248			
Attr_ Suitability to skin type	Between	5.474	2	2.737	6.128	.003
	Groups					
	Within Groups	109.860	246	.447		



	Total	115.333	248			
Attr_SalesPerson	Between Groups	5.474	2	2.737	6.019	.003
	Within Groups	111.860	246	.455		
	Total	117.333	248			
Attr_Promotion/Advertising	Between Groups	6.828	2	3.414	7.987	.000
	Within Groups	105.156	246	.427		
	Total	111.984	248			
Attr_Effective within period of application	Between Groups	5.752	2	2.876	5.591	.004
	Within Groups	126.545	246	.514		
	Total	132.297	248			
<b>V7</b> Media1 Do you purchase skin whitening cream after you come accross any type of	Between Groups	.241	2	.120	1.205	<b>.302</b>
	Within Groups	24.563	246	.100		
	Total	24.803	248			
MEDIA2 Television	Between Groups	10.220	2	5.110	14.952	.000
	Within Groups	84.077	246	.342		
	Total	94.297	248			
MEDIA3 Radio	Between Groups	1.068	2	.534	.703	<b>.496</b>
	Within Groups	187.004	246	.760		
	Total	188.072	248			
MEDIA4 Daily newspaper	Between Groups	2.446	2	1.223	1.650	<b>.194</b>
	Within Groups	182.349	246	.741		
	Total	184.795	248			
MEDIA5 Monthly magazine	Between Groups	4.116	2	2.058	3.246	.041
	Within Groups	155.980	246	.634		
	Total	160.096	248			
MEDIA6 Friends	Between Groups	5.864	2	2.932	8.713	.000
	Within Groups	82.786	246	.337		
	Total	88.651	248			
MEDIA7 Relatives	Between Groups	6.165	2	3.083	11.267	.000
	Within Groups	67.305	246	.274		

	Total	73.470	248			
MEDIA8	Between	6.165	2	3.083	11.267	.000
Neighbourhood	Groups					
	Within Groups	67.305	246	.274		
	Total	73.470	248			
MEDIA9	Between	5.422	2	2.711	7.646	.001
Pharmacies	Groups					
	Within Groups	87.228	246	.355		
	Total	92.651	248			
<b>V8</b>	Aware1 Are	4.963	2	2.481	11.688	.000
you aware that	Between					
changing the	Groups					
colour is not	Within Groups	52.226	246	.212		
allowed in Islam	Total	57.189	248			
Aware2	where	2.120	2	1.060	13.326	.000
you aware of the	Between					
skin whitening	Groups					
products before	Within Groups	19.567	246	.080		
using it	Total	21.687	248			
Aware3	Do you	1.957	2	.978	11.723	.000
contact a doctor	Between					
before using the	Groups					
whitening cream	Within Groups	20.533	246	.083		
	Total	22.490	248			
Aware4	Do you	2.798	2	1.399	13.327	.000
contact a	Between					
pharmacist	Groups					
before using the	Within Groups	25.828	246	.105		
whitening cream	Total	28.627	248			
<b>V9</b>	Effects1 The	.815	2	.407	4.459	.013
appearance of	Between					
redness or skin	Groups					
rash	Within Groups	22.471	246	.091		
	Total	23.285	248			
Effects2	itching	1.399	2	.699	7.587	.001
and scratching	Between					
skin	Groups					
	Within Groups	22.674	246	.092		
	Total	24.072	248			
Effects3	several	.930	2	.465	4.025	.019
facial redness	Between					
	Groups					
	Within Groups	28.427	246	.116		
	Total	29.357	248			
Effects4	Between	1.192	2	.596	3.011	.051
Redness as a	Groups					

result of exposure to sun	of Within Groups	48.688	246	.198		
	to the Total	49.880	248			
Effects5 Infection	Between Groups	.558	2	.279	1.667	.191
	Within Groups	41.161	246	.167		
	Total	41.719	248			
Effects6 skin cancer	Between Groups	.045	2	.023	.395	.674
	Within Groups	14.051	246	.057		
	Total	14.096	248			

**Table 4**

### ANOVA - DURATION

	Sum of Squares	df	Mean Square	F	Sig.
<b>V1</b> ATT1 I like the idea of purchasing skin whitening products	Between Groups	3	16.168	32.806	.000
	Within Groups	246	.493		
	Total	249			
ATT2 Purchasing skin whitening products is a good idea	Between Groups	3	16.750	34.701	.000
	Within Groups	246	.483		
	Total	249			
ATT3 I have a favorable attitude towards purchasing skin whitening products	Between Groups	3	17.275	34.195	.000
	Within Groups	246	.505		
	Total	249			
<b>V2</b> INT1 When i shop cosmetics i search for skin whitening products	Between Groups	3	17.963	36.586	.000
	Within Groups	246	.491		
	Total	249			
INT2 For the next 6months i intent to	Between Groups	3	17.926	38.073	.000

use skin whitening products	Within Groups	115.823	246	.471		
	Total	169.600	249			
INT3 I intent to use skin whitening products for the next 6months	Between Groups	54.146	3	18.049	38.154	.000
	Within Groups	116.370	246	.473		
	Total	170.516	249			
<b>V3</b> BehCont1 I feel free to use skin whitening creams	Between Groups	51.459	3	17.153	34.162	.000
	Within Groups	123.517	246	.502		
	Total	174.976	249			
BehCont2 using skin whitening creams is entirely within my control	Between Groups	51.459	3	17.153	34.162	.000
	Within Groups	123.517	246	.502		
	Total	174.976	249			
BehCont3 I have the necessary means and resources to use skin whitening creams	Between Groups	51.459	3	17.153	34.162	.000
	Within Groups	123.517	246	.502		
	Total	174.976	249			
<b>V4</b> NOR_INF1 Lighter skin is more beautiful	Between Groups	53.213	3	17.738	33.465	.000
	Within Groups	130.387	246	.530		
	Total	183.600	249			
NOR_INF2 Lighter skin tone implies that a woman belongs to a higher social class	Between Groups	56.910	3	18.970	37.892	.000
	Within Groups	123.154	246	.501		
	Total	180.064	249			
NOR_INF3 Lighter skin tone helps a woman get a better job	Between Groups	57.670	3	19.223	38.128	.000
	Within Groups	124.026	246	.504		
	Total	181.696	249			
NOR_INF4 Lighter skin tone increases a woman chance of getting married	Between Groups	57.285	3	19.095	38.005	.000
	Within Groups	123.599	246	.502		
	Total	180.884	249			
NOR_INF5 Lighter skin tone provides a woman	Between Groups	56.910	3	18.970	37.892	.000
	Within Groups	123.154	246	.501		

with a higher self esteem	Total	180.064	249			
NOR_INF6	the way lightening products advertised has an influence on a woman preference of lighter skin	57.670	3	19.22 3	38.128	.000
	Between Groups	124.026	246	.504		
	Within Groups					
	Total	181.696	249			
NOR_INF7	Men consider skin as beautiful	56.052	3	18.68 4	33.920	.000
	Between Groups	135.504	246	.551		
	Within Groups					
	Total	191.556	249			
<b>V5</b> Attr Price	Between Groups	12.487	3	4.162	11.030	.000
	Within Groups	92.829	246	.377		
	Total	105.316	249			
Att_ Quality	Between Groups	10.549	3	3.516	5.919	.001
	Within Groups	146.127	246	.594		
	Total	156.676	249			
Attr_ Brand Name	Between Groups	2.708	3	.903	1.811	.146
	Within Groups	122.668	246	.499		
	Total	125.376	249			
Attr_ Availability	Between Groups	9.455	3	3.152	6.922	.000
	Within Groups	112.001	246	.455		
	Total	121.456	249			
Attr_ Side Effect	Between Groups	8.567	3	2.856	6.439	.000
	Within Groups	109.097	246	.443		
	Total	117.664	249			
Attr_ Suitability to skin type	Between Groups	10.304	3	3.435	8.011	.000
	Within Groups	105.472	246	.429		
	Total	115.776	249			
Attr_ Salesperson	Between Groups	10.304	3	3.435	7.862	.000
	Within Groups	107.472	246	.437		

	Total		117.776	249				
Attr_ Promotion /Advertising	Between Groups		11.166	3	3.722	9.043	.000	
	Within Groups		101.250	246	.412			
	Total		112.416	249				
Attr_Effective short period of application	Between Groups		11.508	3	3.836	7.783	.000	
	Within Groups		121.248	246	.493			
	Total		132.756	249				
V6 Media1 Do you purchase a skin whitening cream after you come across any type of	Between Groups		.223	3	.074	.743	.527	
	Within Groups		24.581	246	.100			
	Total		24.804	249				
MEDIA2 Television	Between Groups		4.948	3	1.649	4.536	.004	
	Within Groups		89.452	246	.364			
	Total		94.400	249				
MEDIA3 Radio	Between Groups		2.812	3	.937	1.239	.296	
	Within Groups		186.052	246	.756			
	Total		188.864	249				
MEDIA4 Daily newspaper	Between Groups		1.164	3	.388	.518	.670	
	Within Groups		184.360	246	.749			
	Total		185.524	249				
MEDIA5 Monthly magazine	Between Groups		.460	3	.153	.235	.872	
	Within Groups		160.516	246	.653			
	Total		160.976	249				
MEDIA6 Friends	Between Groups		5.091	3	1.697	4.969	.002	
	Within Groups		84.013	246	.342			
	Total		89.104	249				
MEDIA7 Relatives	Between Groups		7.440	3	2.480	9.183	.000	
	Within Groups		66.436	246	.270			
	Total		73.876	249				
MEDIA8 Neighbourhood	Between Groups		7.026	3	2.342	8.619	.000	

	Within Groups	66.850	246	.272		
	Total	73.876	249			
MEDIA9 Pharmacies	Between Groups	4.777	3	1.592	3.961	.009
	Within Groups	98.887	246	.402		
	Total	103.664	249			
<b>V6</b> Aware1 you are changing colour allowed in Islam	Are that the is not Total	1.830	3	.610	2.691	.047
	Between Groups	55.770	246	.227		
	Within Groups	57.600	249			
Aware2 where you aware of the skin whitening products before using it	Between Groups	2.382	3	.794	10.114	.000
	Within Groups	19.314	246	.079		
	Total	21.696	249			
Aware3 Do you contact a doctor before using the whitening cream	Between Groups	1.629	3	.543	6.400	.000
	Within Groups	20.871	246	.085		
	Total	22.500	249			
Aware4 Do you contact a pharmacist before using the whitening cream	Between Groups	1.896	3	.632	5.813	.001
	Within Groups	26.748	246	.109		
	Total	28.644	249			
<b>V7</b> Effects1 appearance of redness or skin rash	The of skin Total	1.126	3	.375	4.166	.007
	Between Groups	22.170	246	.090		
	Within Groups	23.296	249			
Effects2 itching and scratching skin	Between Groups	1.637	3	.546	5.979	.001
	Within Groups	22.447	246	.091		
	Total	24.084	249			
Effects3 several facial redness	Between Groups	1.507	3	.502	4.436	.005
	Within Groups	27.869	246	.113		
	Total	29.376	249			
Effects4 Redness as a result of exposure to the sun	Between Groups	3.253	3	1.084	5.712	.001
	Within Groups	46.703	246	.190		
	Total	49.956	249			

Effects5 Infection	Between Groups	.425	3	.142	.842	.472
	Within Groups	41.339	246	.168		
	Total	41.764	249			
Effects6 skin cancer	Between Groups	.576	3	.192	3.490	.016
	Within Groups	13.524	246	.055		
	Total	14.100	249			

**Table 5**

### ANOVA - EXPENDITURE

		Sum of Squares	df	Mean Square	F	Sig.
<b>V1</b> ATT1 I like the idea of purchasing skin whitening products	Between Groups	4.256	2	2.128	3.158	.044
	Within Groups	164.416	244	.674		
	Total	168.672	246			
ATT2 Purchasing skin whitening products is a good idea	Between Groups	5.426	2	2.713	4.072	.018
	Within Groups	162.558	244	.666		
	Total	167.984	246			
ATT3 I have a favourable attitude towards purchasing skin whitening products	Between Groups	6.724	2	3.362	4.869	.008
	Within Groups	168.483	244	.691		
	Total	175.206	246			
<b>V2</b> INT1 When I shop for cosmetics I search for skin whitening products	Between Groups	9.571	2	4.786	7.154	.001
	Within Groups	163.230	244	.669		
	Total	172.802	246			
INT2 For the next 6months I	Between Groups	7.973	2	3.987	6.088	.003
	Within Groups	159.768	244	.655		



intent to use Total skin whitening products	167.741	246			
INT3 I intent to Between Groups use skin Within Groups whitening Total products for the next 6months	8.170 160.503 168.672	2 244 246	4.085 .658	6.210	.002
<b>V3</b> BehCont1 I Between Groups feel free to use Within Groups skin whitening Total creams	6.149 167.940 174.089	2 244 246	3.074 .688	4.467	.012
BehCont2 using Between Groups skin whitening Within Groups creams is Total entirely within my control	6.149 167.940 174.089	2 244 246	3.074 .688	4.467	.012
BehCont3 I Between Groups have the Within Groups necessary Total means and resources to use skin whitening creams	6.149 167.940 174.089	2 244 246	3.074 .688	4.467	.012
NOR_INF1 Between Groups Lighter skin is Within Groups more beautiful Total	7.299 174.442 181.741	2 244 246	3.650 .715	5.105	.007
NOR_INF2 Between Groups Lighter skin Within Groups tone implies that Total a woman belongs to a higher social class	6.301 172.080 178.381	2 244 246	3.150 .705	4.467	.012
NOR_INF3 Between Groups Lighter skin Within Groups tone helps a Total woman get a better job	6.708 173.332 180.040	2 244 246	3.354 .710	4.722	.010
NOR_INF4 Between Groups Lighter skin Within Groups	6.549 172.665	2 244	3.275 .708	4.627	.011

tone increases Total a woman chance of getting married		179.215	246			
NOR_INF5 Between Groups		6.301	2	3.150	4.467	.012
Lighter skin Within Groups		172.080	244	.705		
tone provides a Total woman with a higher self esteem		178.381	246			
NOR_INF6 the Between Groups		6.708	2	3.354	4.722	.010
way skin Within Groups		173.332	244	.710		
lightening Total products are advertised has an influence on a woman preference of lighter skin		180.040	246			
NOR_INF7 Men Between Groups		5.832	2	2.916	3.867	.022
consider lighter Within Groups		183.998	244	.754		
skin as more Total beautiful		189.830	246			
<b>V5</b> Attr_ Price Between Groups		28.119	2	14.060	44.827	.000
Within Groups		76.529	244	.314		
Total		104.648	246			
Att_ Quality Between Groups		14.609	2	7.305	12.629	.000
Within Groups		141.132	244	.578		
Total		155.741	246			
Attr_BrandNam Between Groups		5.909	2	2.955	6.074	.003
e Within Groups		118.682	244	.486		
Total		124.591	246			
Attr_ Availability Between Groups		19.243	2	9.621	23.127	.000
Within Groups		101.510	244	.416		
Total		120.753	246			
Attr_ Side Effect Between Groups		21.135	2	10.567	26.897	.000
Within Groups		95.861	244	.393		
Total		116.996	246			
Attr_ Suitability Between Groups		26.824	2	13.412	37.067	.000
to skin type Within Groups		88.285	244	.362		
Total		115.109	246			
	Between Groups	28.077	2	14.039	38.474	.000

Attr_SalesPers on	Within Groups	89.032	244	.365		
	Total	117.109	246			
Attr_Promotion Advertising	Between Groups	26.851	2	13.426	38.586	.000
	Within Groups	84.898	244	.348		
	Total	111.749	246			
Attr_ Effective within short period of application	Between Groups	28.118	2	14.059	32.994	.000
	Within Groups	103.971	244	.426		
	Total	132.089	246			
<b>V6</b> Media1 Do you purchase a skin whitening cream after you come across any type of	Between Groups	.135	2	.067	.667	.514
	Within Groups	24.667	244	.101		
	Total	24.802	246			
MEDIA2 Television	Between Groups	22.598	2	11.299	38.758	.000
	Within Groups	71.134	244	.292		
	Total	93.733	246			
MEDIA3 Radio	Between Groups	.762	2	.381	.500	.607
	Within Groups	186.064	244	.763		
	Total	186.826	246			
MEDIA4 Daily newspaper	Between Groups	1.195	2	.598	.800	.450
	Within Groups	182.262	244	.747		
	Total	183.457	246			
MEDIA5 Monthly magazine	Between Groups	.111	2	.055	.085	.918
	Within Groups	158.853	244	.651		
	Total	158.964	246			
MEDIA6 Friends	Between Groups	17.328	2	8.664	29.876	.000
	Within Groups	70.761	244	.290		
	Total	88.089	246			
MEDIA7 Relatives	Between Groups	22.740	2	11.370	55.273	.000
	Within Groups	50.192	244	.206		
	Total	72.931	246			
MEDIA8 Neighbourhood	Between Groups	21.562	2	10.781	51.210	.000
	Within Groups	51.369	244	.211		
	Total	72.931	246			
MEDIA9 Pharmacies	Between Groups	23.599	2	11.800	36.437	.000
	Within Groups	79.016	244	.324		
	Total	102.615	246			
<b>V8</b> Aware1 Are you aware that	Between Groups	5.401	2	2.701	12.859	.000
	Within Groups	51.246	244	.210		

changing the Total colour is not allowed in Islam	56.648	246			
Aware2 where Between Groups you aware of Within Groups the skin Total whitening products before using it	.869 20.799 21.668	2 244 246	.434 .085	5.094	.007
Aware3 Do you Between Groups contact a doctor Within Groups before using the Total whitening cream	.854 21.616 22.470	2 244 246	.427 .089	4.819	.009
Aware4 Do you Between Groups contact a Within Groups pharmacist Total before using the whitening cream	1.896 26.695 28.591	2 244 246	.948 .109	8.665	.000
<b>V9</b> Effects1 Between Groups The Within Groups appearance of Total redness or skin rash	.273 22.196 22.470	2 244 246	.137 .091	1.503	.225
Effects2 itching Between Groups and scratching Within Groups skin Total	.098 23.165 23.263	2 244 246	.049 .095	.516	.597
Effects3 several Between Groups facial redness Within Groups Total	.168 27.687 27.854	2 244 246	.084 .113	.739	.479
Effects4 Between Groups Redness as a Within Groups result of Total exposure to the sun	1.276 47.549 48.826	2 244 246	.638 .195	3.275	.039
Effects5 Between Groups Infection Within Groups Total	2.574 39.054 41.628	2 244 246	1.287 .160	8.041	.000
Effects6 skin Between Groups cancer Within Groups Total	.221 13.868 14.089	2 244 246	.111 .057	1.946	.145

## Appendix C: Factor analysis

**Table 6**

**Rotated Component Matrix<sup>a</sup>**

	Compo nent				
	1	2	3	4	
ATT1 I like the idea of purchasing skin whitening products	.904				
ATT2 Purchasing skin whitening products is a good idea	.932				
ATT3 I have a favorable attitude towards purchasing skin whitening products	.957				
INT1 When i shop for cosmetics i search for skin whitening products	.955				
INT2 For the next 6months i intent to use skin whitening products	.964				
INT3 I intent to use skin whitening products for the next 6months	.964				
BehCont1 I feel free to use skin whitening creams	.972				
BehCont2 using skin whitening creams is entirely within my control	.972				
BehCont3 I have the neccassry means and resources to use skin whitening creams	.972				
NOR_INF1 Lighter skin is more beautiful	.939				
NOR_INF2 Lighter skin tone implies that a woman belongs to a higher social class	.979				
NOR_INF3 Lighter skin tone helps a woman get a better job	.981				
NOR_INF4 Lighter skin tone increases a woman chance of getting married	.981				
NOR_INF5 Lighter skin tone provides a woman with a higher self esteem	.979				

NOR_INF6 the way skin lightening products are advertised has an influence on a woman preference of lighter skin	.981			
NOR_INF7 Men consider lighter skin as more beautiful	.954			
Attr_Price Price		.870		
Att_Quality Quality		.766		
Attr_BrandName Brand name		.809		
Attr_Availability Availability		.865		
Attr_SideEffect Side effect		.915		
Attr_Suitability Suitability to skin type		.926		
Attr_SalesPerson Sales person		.926		
Attr_Promotion Promotion/Advertising		.922		
Attr_Effective Effective within short period of application		.862		
Media1 Do you purchase a skin whitening cream after you come across any type of				
MEDIA2 Television		.805		
MEDIA3 Radio			.935	
MEDIA4 Daily newspaper			.960	
MEDIA5 Monthly magazine			.901	
MEDIA6 Friends		.845		
MEDIA7 Relatives		.906		
MEDIA8 Neighbourhood		.904		
MEDIA9 Pharmacies		.813		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

## Appendix D: Regression Analysis

**Table 7 PRODUCT ATTRIBUTES**

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.309	.494		2.648	.009
	Attr_ Price	-.088	.214	-.057	-.413	.680
	Attr_ Quality	-.364	.137	-.308	-2.651	.009
	Attr_ Brand name	.561	.184	.425	3.053	.003
	Attr_ Availability	.551	.173	.029	-.240	.003
	Attr_ Side effect	-.143	.244	-.095	-.586	.559
	Attr_ Suitability to skin type	1.203	.505	.775	2.382	.018
	Attr_ Sales person	-.511	.503	-.334	-1.016	.311
	Attr_ Promotion/Advertising	-.386	.277	-.241	-1.396	.164
	Attr_ Effective within short period of application	.364	.084	-.066	-.880	.009
a. Dependent Variable: Cons_Att						

**Table 8 MEDIA**

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.010	.552		5.451	.000
	Media1 Do you purchase a skin whitening cream after you come accross any type of	-.159	.207	-.062	-.769	.442
	MEDIA2 Television	-.176	.145	-.135	-1.217	.225
	MEDIA3 Radio	-.050	.199	-.055	-.253	.800
	MEDIA4 Daily newspaper	.156	.236	.167	.658	.511
	MEDIA5 Monthly magazine	-.087	.127	-.086	-.687	.493
	MEDIA6 Friends	-.145	.189	-.106	-.771	.441
	MEDIA7 Relatives	.346	.388	.227	.891	.374
	MEDIA8 Neighbourhood	-.136	.364	-.091	-.375	.708
	MEDIA9 Pharmacies	-.100	.135	-.074	-.739	.460

a. Dependent Variable: Cons\_Att



**Table 9 SELF-IMAGE**

<b>Coefficients</b>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant )	.057	.057		1.008	.315
	Cons_Att	.943	.026	.915	35.710	.000

a. Dependent Variable: SI

## Appendix E: Further Analysis

**Table 10**

**Are you aware that changing the color is not allowed islamically based on the following "Allah has cursed those women who practice tatooin,those who get tatooin,those who pluck the hair of their eyebrows,those who have their eyebrows plucked and those who**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	90	36.0	36.0	36.0
Valid No	160	64.0	64.0	100.0
Total	250	100.0	100.0	

**Table 11**

**Reddness as a result of exposure to the sun**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	181	72.4	72.4	72.4
Valid No	69	27.6	27.6	100.0
Total	250	100.0	100.0	

**Table 12**

**Am satisfied with the skin whitening cream am using**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.4	.4	.4
Disagree	27	10.8	10.8	11.2
Valid Neutral	156	62.4	62.4	73.6
d Agree	65	26.0	26.0	99.6
Strongly Agree	1	.4	.4	100.0
Total	250	100.0	100.0	

**Table 13**

**Am satisfied with the skin whitening cream am using**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	1	.4	.4	.4
Disagree	27	10.8	10.8	11.2
Neutral	156	62.4	62.4	73.6
Agree	65	26.0	26.0	99.6
Strongly Agree	1	.4	.4	100.0
Total	250	100.0	100.0	

**Table 14**

**Banning skin whitening products is a good idea**

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Disagree	4	1.6	1.6	1.6
Disagree	1	.4	.4	2.0
Neutral	31	12.4	12.4	14.4
Agree	131	52.4	52.4	66.8
Strongly Agree	83	33.2	33.2	100.0
Total	250	100.0	100.0	

**Table 15**

**Correlations**

		How long have you been using skin whitening creams?	Am satisfied with the skin whitening cream am using
How long have you been using skin whitening creams?	Pearson Correlation	1	-.142*
	Sig. (2-tailed)		.025
	N	250	250
Am satisfied with the skin whitening cream am using	Pearson Correlation	-.142*	1
	Sig. (2-tailed)	.025	
	N	250	250

\*. Correlation is significant at the 0.05 level (2-tailed).