Review Article

Color Psychology and Its Influence on Consumer Buying Behavior: A Case of Apparel Products

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Abstract

The relationship between color psychology and consumer behavior is at the centre of most marketing activities in the business environment. Empirical and theoretical literature asserts that color psychology is instrumental in determining the effectiveness of marketing activities, particularly when properly integrated in the organization's manufacturing and distribution strategies. There are different interpretations of color as determined by consumers' beliefs, culture, and attitudes. The purpose of this research is to investigate the relationship between color psychology and consumer buying behavior within the apparel market. The apparel market was chosen due its distinctive cultural dynamics and consumer psychological beliefs compared to other markets. There has been an increase in consumer buying behavior variations across the globe as a result of varying interpretations of marketing mix elements. The article submits that color psychology is one of the main features that determine consumer behavior in the apparel market. Data was collected through secondary sources such as journals, articles, and empirical sources such as existing researches regarding color psychology, consumer behavior regarding product color, and cultural perceptions on color within the apparel industry. Color psychology plays a bigger role in effecting emotional and intellectual influence among consumers. Color perception and color psychology affects people's behavior in such a way that the symbolism of the colors resonates with people's perceptions, hence linking it with information from their cultures. Through the color perception of different cultures, the research concluded that using a color that is associated with something negative will negatively affect the customers' retrieval cues, therefore repelling them from purchasing the product or service.
Keywords: Color, Color Psychology, Consumer Behavior, Emotional Influence, Intellectual Influence.

INTRODUCTION

There has been a marked increase in the studies focusing on the relationship between color psychology and consumer buying behavior in most emerging markets. Color psychology plays a significant role in determining not only consumer buying behavior, but also the growth of firms. Consumer buying behavior is at the center of marketing activities of most apparel firms in the 21st century [1]. Color psychology studies the different reactions of people on certain colors and how color allows people to assess certain aspects of an object [2]. Color can be seen when light passes through an object whose atomic structure causes it to produce a distinct color. As the atoms vary from one object to another, so does the color they produce. A research by Wright [3] explained that the interpretation of colors and what people associate with varies from market to market due to numerous external influences.

Consumer buying behavior refers to the overall attitude of a consumer based on personal preferences, beliefs, objectives, and perceptions when buying a product or service. Wright [4] explained that

understanding customers' buying behavior including their opinions toward certain products and services is extremely important for a company to survive in a highly competitive market. Change in consumer attitudes when traced to the source, will allow companies to learn emerging trends and apply this knowledge to enhance marketing strategies.

The clothing industry consists of the activities and processes to create apparel such as garments, clothes, dresses, etc. using raw materials taken from the textile industry. The textile industry focuses on processing and producing fabric from raw materials such as wool, fur, synthetic fiber, threads using sewing machines, looms, or cotton gin. Clothing industry activities start with the textile industry, followed by the fashion industry, which are responsible for creating patterns, cutting fabric, and sewing it together to create unique silhouettes.

The purpose of this research is to study the relationship between color psychology and consumer buying behavior in the apparel market. This research

seeks to expand more on available empirical literature regarding the connections between color psychology and consumer behavior. It also aims to create a deeper understanding on how colors affect the human psyche and attracting consumers into buying a particular product or service. Psychological theories on consumer buying behavior, as well as psychological theories used in branding and marketing are discussed to show that colors play a bigger part in creating sales and are essential in creating an impact in developing strong business reputation.

Statement of the problem

There seem to be a lack of effective strategies and information regarding the effects of color psychology on consumer buying behavior. This has resulted in most companies producing seemingly unattractive apparel products, thereby losing customers. Color psychology plays an important role in determining consumer buying behavior and revenue growth. In contemporary markets, consumers are easily influenced into purchasing certain items because of celebrity endorsers despite products being unattractive. According to Weinswig [5], it seems most consumers are being manipulated through celebrity brands, which do not take into consideration the role of color psychology in marketing and product development.

The seemingly exclusive reliance on celebrity endorsers deviate from holistic marketing practices and product development strategies that conventionally-created businesses pursued. However empirical literature indicates that color psychology should be at the center of marketing activities and product development. The increasing influence of celebrity endorsers hinders emerging businesses from surviving in the highly competitive market. This also affects indigenous producers and businesses from booming despite having better features than celebrity-endorsed brands. Therefore, this research seeks to investigate the influence of colors on consumer's buying behavior with the view to influence businesses in the apparel industry to integrate color psychology in their marketing and product development roadmaps.

Research Objectives

The general objective of this explorative study is to critically investigate the influence of apparel products' color on consumer purchase decisions. To achieve this broad objective, the research pursued five specific objectives:

- To critically explore the role of color psychology in influencing the consumer behavior.
- To determine the effects of product or service colors on the consumer's psyche.
- To determine the standard color that customers generally find appealing on apparel products.
- To evaluate the effects of specific colors of apparels on the consumer's buying behavior.

- To assess factors that influence apparel companies into choosing specific colors for their fashion line.

Literature Review

This section covers related literature, empirical, and theoretical explanations to color psychology and its influence on consumer buying behavior. Related literature refers to existing information as sources for review and evaluation of the research topic [6]. It is through reviewing related literature that researchers determine the information gap that the current research may be able to fill. Galvan [6] also discussed that empirical literature relates to other researches that have already been conducted with similar topic as the current research. Theoretical literature involves the use of models and theories to support the evaluation and analysis of the current research problem [7].

Color – Definition, History, Characteristics

It is best to understand how colors work in order to come up with ideas on what materials to use on the design so as to achieve the desired color of the clothing.

Colors

Colors can be seen when the objects reflect the wavelengths of light that does not match its atomic structure. These reflected wavelengths also pass our eyes where the cones at the back of the retina convert the wavelengths into impulses that influence people's perceptions. According to Pappas [8], the cone cells at the back of our retinas are one of 2 photoreceptors that are sensitive to light. The other photoreceptor is called *rod cells*. While cone cells work best when there is a bright light, rod cells on the other hand are more receptive to dim light. The ability of some humans to navigate in a dim or dark area better than others may be due to their eyes' sensitivity to dimmer areas or they are already familiar with the area and having a darker version can be an inconvenience but not a disability.

Colors can be categorized under names like red, orange, yellow, green, blue, or violet [9]. There are two special colors, which are white and black where one is the absence of color while the other is the combination of all colors respectively. Black is also the resulting color when light is unable to pass through or is absorbed by the material; such is the case of the artificial substance called *vantablack*.

Humans can discern more colors than most mammals, however there are other animals such as birds and some insects that can see through ultraviolet light where the light wavelengths are shorter than what humans can see. The only known animal that has superior eyes that can perceive color more than most animals and humans is the *mantis shrimp*. Usually animals have four photoreceptors, while humans have three, in the case of the mantis shrimp it has twelve

photoreceptors making it able to distinguish wavelengths of light that are twenty-five nanometers apart [10].

The shrimp can also be one of the supporting proofs that colors and recognition of such colors is our own natural signaling system [3]. Change of color from what we perceive as natural can alert us that something must be wrong and something must be done in order to revert the situation to normal. For example, in the medical field, professionals examine patients' skin color to determine their sickness; such that when the skin is yellow in color, medical practitioners indicate that the patient has *jaundice.*

According to Girard [11], colors have an important task in design, as it is the first characteristic that people easily distinguish. The use of color unsuitable for a particular object can deviate the company from what they intend to portray to

consumers. Wright [4] mentioned that atoms reflect a color that is unique to that atom, which then gives people the impression of its physical characteristics and eventually what substance it is. Since no two objects have the exact same atoms, so does the color that objects manifest.

According to Munsell [12], color variations have three components that are hue, value, and warmth. *Hue* refers to the general name of the colors, which are also considered as solid colors; red, orange, yellow, green, blue, and purple. *Value* is the brightness of the color, for example from light blue to dark blue. Low value colors are darker (shades) and high value colors are brighter (tints). *Chroma* refers to the intensity of a color. As shown in Figure-1, the level of Chroma depends on how intense or how washed out the color is; higher Chroma means intense color, and lower Chroma means it's more washed out.
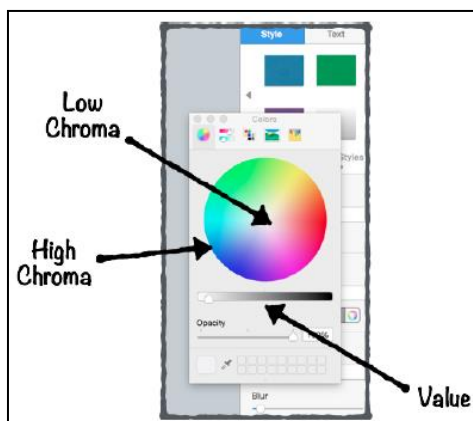

Fig-1: Level of Chroma

Source: Kolenda (2016) [13]

Color Psychology – definition, brief history

Colors may have different interpretations but color psychology is commonly defined as the analysis of human behavior and their cognitive interpretations of a specific color. This definition is related to Wright [4] definition; color psychology is the perception and various feelings, ideas, moods, and physiological behavior associated with every color. Through analyzing the causes of such moods in a certain study group, researchers were able to pinpoint what kind of emotions which color can cause on a particular group of people.

Color psychology studies various shades and its effects on human behavior [14]. It helps determine what feeling is being influenced when a color is presented to people. The reactions, opinions, and other perceptions associated with the color vary from person to person since people are exposed to different situations, experiences, and other external factors, thus

experiments are conducted on people within a specific geographical location to further determine these external factors.

According to Jung *et al.,* [15], Carl Gustav Jung is a prominent psychologist who is greatly associated for his works that resulted in what is now known as color psychology. The idea of behind color psychology started from Jung's interest in the meanings and components of colors and how they can be utilized for psychotherapy. Psychotherapy is a practice of interactions between people with psychological problems or traumas in order for them to improve or overcome problems in preferred ways [16]. It is through Jung's extensive research and various comparisons between artworks and its symbolisms that he was able to construct codes and language using these colors.

Wright [4] indicated that humans have an innate ability to recognize colors as warnings, signals,

or basically stimuli to react in a certain way. For example, when choosing beef meat in a grocery store, people usually go for the cut that looks fresh [17]. The redness of the meat shows that it's fresh and has not been exposed for a long time otherwise it will change in color due to exposure to oxygen.

Carl Jung's researches on colors introduced color psychology in the modern world, which is based on six basic theories. First, colors have the ability to convey a specific meaning. Second, the associated meanings and interpretations are based on the biological makeup of the individual or organism, which are also based on the information they learned overtime. Third, individuals evaluate color as soon as they see it causing them to behave in different ways towards the given stimuli. Oftentimes, color automatically influences the individual viewing the item. However, two different items with the same color does not trigger the same reactions since the effects and meaning of the color varies depending on the context.

Color Perception – general; differences between cultures

This section reviews why certain colors are perceived as such and what made people associate a particular emotion, experience, or object to that color, which will then give businesses an idea on what color best appeals to the target customers.

Lamancusa [18] defined color perception as the association of opinions, feelings, and overall attitude towards a specific color. Bailey [19] interprets color perceptions as something very subjective, which means it varies from people to people since people have different experiences, ideas, and preferences. According to Davis [20], color perception is a study of the influence of color on human behavior and perceptions that we are commonly unaware of such as the taste of food or smell of items. This is often taken advantage of by advertising teams of food products making sure the product is shown in such a way that it entices the viewer's appetite.

Placebo Effect

Kleijnen *et al.,* [21] has made studies on the effectiveness of drugs when it's of a certain color on their patient's perception and overall health. Such a phenomenon has been called the *placebo effect* [22] where patients believe their health is getting better due to the positive feeling they associate unconsciously with the color of the pill or tablet they consumed despite the lack of any actual substance that will impose any effects to their health. In the medical field, the placebo effect is commonly used to understand how the mind affects the body, thus they deduced that placebo effects are based on people's anticipations on a certain treatment [23]. Placebo effects happen when the person consumes a "pill" with the mindset of it having an effect on their body, thus the person's body gets tricked into getting better even though this pill is simply composed of saline, water, and sugar. The effects of the "fake" treatments are based on the individual's mental perception where positive mindset cause positive effects and negative mindset begets negative effects.

Cultural interpretations of Color

Graphic designers and publishers utilize color symbolism in order to evoke specific emotions [24]. Empirical studies states that people of different demographics associate diverse emotions, behaviors, moods, and physiology with certain colors. Although interpretations of colors vary, the general interpretation of the colors can be categorized under warm colors (red, yellow, and orange) and cool colors (blue, green, purple). The perceptions and emotions associated by people towards each color can be summarized in Table-1.

Table-1: Color Classifications and Perceptions

Color	Background	Associated interpretation
Red	India	• In Indian culture, the red color symbolizes purity and usually associated with the planet Mars, thus it is commonly used in weddings to symbolize fertility and good fortune (Kapoor and Arora, 2015).
	China	• In China, ornaments, lanterns, clothing, and other items are often seen in red during celebrations particularly Chinese New Year since it is believed to bring in good luck and a more prosperous new year (Girard, 2018). • In relation to the popular belief of Feng Shui, red not only brings in good luck in life, but in money as well, which is why during holidays they give away money in red envelopes, which includes special occasions such as weddings.
	Australia	• Particularly the Australian Aboriginals, associate red to land or earth due to the red sand in the outback parts of Australia.
	Thailand	• Red is associated with one of Thailand's God, namely Surya who is said to be born on a Sunday. Thus, Thais wear red clothing on Surya's birthday.
	Russia	• In Russian culture, red color is widely associated with communism, revolution, and the Bolsheviks.
	Western	• In western culture, red color is associated with a variety of meanings, which includes excitement, love, danger, or stop.

	Cultures	
Orange	Netherlands	• In the Netherlands, orange color is associated with wealth as it mainly embodies the Dutch Royal family.
	Japan and China	• In both Japanese and Chinese cultures, orange color symbolizes happiness, good health, courage, and love (roses).
	Western Culture	• Orange often represents happiness, "fun in the sun", which is why it's a common idea in western culture that in order to brighten your wardrobe, put in a bit of orange.
	Thailand	• The color can be associated with the color of the lanterns during the lantern festival.
Yellow	Germany	• Symbolizes jealousy
	Western Culture	• Similar to the orange color, it represents warmth, cheerfulness, and energetic like activities done under the sun
	Egypt	• Yellow conveys wealth and happiness
	France	• In French culture, it is associated with traitors or criminals
	Japan	• In Japan, the yellow color symbolizes courage as seen in their history where soldiers are adorned with yellow chrysanthemums.
Green	Eastern Culture	• In eastern culture, the color symbolizes youth similar to young plants that are bright green in color, which can also be associated with new life. • However it also has a negative meaning such is the case in China where men in green hats mean their wives are cheating on them
	Western Culture	• The green color represents a lot of things in western culture such as jealousy (Green monster), spring, luck (St. Patrick's Day), wealth (Green dollar bill), or lack of experience (greenhorn)
	Mexico	• The green color is added to the country's flag symbolizing their independence
	Ireland	• The green color represents the whole country thus earning it a nickname of "The Emerald Isle"
Blue	Europe	• The color is commonly used on security uniforms, which leads people to perceive others wearing blue uniforms to be some sort of authority. • It is also associated with sadness or depression, thus they have a saying "the blues".
	Middle East	• In the Middle East, they sell stones called *evil eye* that has a blue eye-shape in the middle, which is said to be good for amulets to ward off evil.
	Eastern Culture	• Eastern countries such as India that practice Hinduism correlates blue with the deity Krishna, who is a symbol of love and happiness.
Violet	Western Culture	• In western and European culture, purple or violet has been a symbol of royalty because back in the day violet fabrics are the most expensive due to the process of creating one. Royalties are often adorned with violet satin fabric, as they are the only ones able to purchase the items.
	Easter Culture	• With regards to Buddhism, purple garment symbolizes the highest-ranking monk. • It's also associated with Catholicism, symbolizing penitence, and faith. The association of purple with mourning is similar in both the Catholic faith in Thailand culture.
	Brazil	• For Brazilian culture, purple is also commonly used during funerals instead of the common black (western culture) or white (eastern culture/ China), thus is it inappropriate to wear purple if one is not going to attend a funeral.
Pink	Korea	• In Korean culture, the color pink symbolizes trust.
	Japan	• The pink color is widely associated with the country's national tree, which is the cherry blossom that blooms pink flowers during spring. • In terms of fashion sense, both genders wear the color and is rarely considered as gender specific unlike in western culture.
	Western	• In western culture, the pink color is mostly associated with the feminine gender thus baby girls are bought pink items. This then gives western children the idea that pink are mainly

	Culture	for women and men that wear or have pink garments can sometimes be thought of as a homosexual. • However, changing trends in the market and a more open-minded community has allowed men to wear certain shade of pink without people questioning their sexuality.
White	Eastern	• Countries such as China, Korea, and Japan use white clothes instead of black during funerals in order to somewhat "light a path" for the death towards the next life.
	Western	• Western countries on the other hand use the white color on special occasions such as weddings. • Since it's associated with cleanliness, elegance, and purity, thus the white wedding gown is ideal for such occasions
	Peru	• White symbolizes angels, health, time, which are also similar to the Catholic religion
Black	Western	• Since the black color is the opposite of white, so are the perceptions of the western culture on the color. It symbolizes funerals, mourning, rebellion, and can be negatively perceived.
	Eastern	• The same goes for the Eastern Culture where black is seen as evil, death, bad luck, or magic. • Although not all eastern countries view black as negative, it creates positive impressions as well such as knowledge and mystery.
	African	• The color shows an individual's maturity or age.

Table-2 depicts color interpretations according to Willard [25], which summarizes the common interpretation of different cultures, including the outcomes of older researches conducted on color psychology, to particular colors:

Table-2: Color Interpretations

Color	Examples of psychological Interpretations
Red	• Blood, health, action, energetic • Good fortune, celebration • Wrath
Orange	• Autumn • Sacred (Saffron) • Dutch Royal Family • Happiness, Humility, Good Health
Yellow	• Energy, counters sadness and depression, vibrant attitude • Sacred, against evil, bright, hope • Cowardice, weak, hazardous
Green	• Spring, something new, Life, hope • Money, wealth • Health, calming, relaxing
Blue	• Depressed, feeling down • Professional • Peaceful, trustworthy, soothing
Violet	• Royal, Wealthy • Prestigious • Mysterious
Pink	• Feminine, Infants (Baby Girls) • Relaxes the muscles, removes anxiety • Calming, dainty, soft
Black	• Dark, Death, Mourning • Rebellious, Evil • Power, Confident
White	• Purity, Innocence, serene, faith (Catholicism) • Ghosts, death, mourning, angels • Marriage • Peace

Brown	• Earth, Dirt, Land • "Down to earth"

Brand Application

In marketing, specifically brand marketing, the interpretation of colors affects the way people perceive the product and the brand differently [13]. A color that is generally seen as negative can turn positive due to the different context and application of that color. When applied on products such as apparel, people tend to evaluate the product and brand based on their choice of color for the particular product line. Figure-2 and Table-3 represents color perceptions when applied on brands and how people react towards the brand and to the company.

Fig-2: Color Emotion Guide
Source: Moorthi (2002) [26]

Table-3: Colour Emotion Guide

Color	Symbolism	Effects/ Perception
Red	• Danger • Fire • Love • Strength	• Warmth • Desire • Powerful • Evokes hunger
Orange	• Energy • Vibrant • Youth • Freshness	• Healthy • Youthful • Fresh • Creative
Yellow	• Smiley face • Entertainment • Electricity • Smart • Clever	• Optimistic • Cheerful • Playful • Happy • Energetic
Green	• Vitality, abundance • Wealth • Prestige	• Natural • Healthy plant • Rich

		Nature, environment		Wealthy
				Fresh
Blue		Depression		Reliability, Dependable
		Sadness		Sad, depressing
		Trust		Calm atmosphere
		Reliable		
Purple		Royalty or nobility		Luxurious
		Mystery		Feminine
		Femininity		Nostalgic
Pink		Little girls, Sweetness		Purity
		Roses, Romance		Innocence
		Teen years		Girly
				Fun, Youthful
Black		Sorrow		Sadness
		Onyx Stones		Sophisticated
		Formality		Professional
				Serious
White		Purity		Straightforward
		Innocence		Simple
		Simplicity		Pure
		Transparency		Honest, nothing to hide
Brown		Ground, Dirt, Ceramic		Organic
		Coffee		Wholesome, Honest
		Natural		Simple
		Tree trunk		Durable

Influencers of Color Psychology

This section reviews the main theories explaining why individuals prefer a certain color for a specific material or context. Although majority of the people in the world considers blue as their favorite color [27], why individuals have varying reactions to specific colors may be due to three theories: Biological, Gender Schema Theory, and Ecological Valence Theory.

a. Biology and Evolution

Grossman and Wisenblit [28] articulated that humans first associated cool colors such as blue or dark blue with the night sky, thus inactivity since it is during the night that most organisms sleep. On the other hand, warm colors such as yellow, orange, and red are associated with warmth from the sun and awakening; thus, warm colors usually signify energy and something exciting. Our color preferences can be traced back to our oldest ancestors where color biases were developed through the evolutionary years of man where the male is the hunter and the gatherers are females [11].

Females somehow accustomed themselves to distinguish shades of red to yellow from green, as this will allow them to pinpoint fruits, berries, and other natural food sources for their survival. This could also mean that the reason behind the female's preference on redder tones is due to their innate duties as gatherers of resources where red means good, and red will lead them to food. Such is a statement from Alexander [29] can be

seen as supporting information on Wright's [4] statement in her research that humans have this behavior in the biological makeup that allows us to recognize colors as signals in order to survive.

b. Gender Schema Theory

The Gender Schema Theory has been introduced by Sandra Bem, Bem [30] states that as children become more aware of their gender, the more likely they are to seek information that is related to their sex. The gathered information related to their gender allows them to be influenced [31] into preferring various things that are usually associated to one's gender. Stereotypes are developed and passed on from generation to generation where items and clothes for boys are blue in color while girls are stereotypically adorned in pink. Due to this mindset of the parents, the children then assimilate this information to their gender thus they are able to distinguish items from male to female. Therefore, boys prefer blue items more and girls are more drawn to pink things because of their need to match these items with their gender. According to another research on Bem's Theory, LoBue and DeLoache [32] conducted a study on the preferences of children who are 7 months to 5 years of age, for pink colored items over time. The study concluded that boys are more detached from pink colored items while girls are otherwise more attracted to the color.

c. Ecological Valence Theory

The ecological valence theory explains why people prefer not one color exactly, but a variant or different hue of that particular color [33]. For example, there are people who like colors between blue and green, which can be classified as turquoise, cerulean, royal blue, dark blue, or light blue. The difference between the Ecological Valence Theory and the other two theories is that even though we humans are composed biologically alike, our experiences is what influences use to associate colors to a specific emotion during the course of a certain time. In an article by Radeloff [34], a test was conducted on the preferred season of extroverts and introverts where summer and winter season is most preferred respectively. Activities in summer allows extroverts to stay out of the house socialize for longer periods as compared to winter seasons. The opposite can be said for introverts that prefer winter seasons as it allows them to stay away from excessive human interaction. It can be deduced that due to the experiences of both groups, they favor colors associated with their season of choice.

Consumer Buying Behavior – Definition, History

Kotler and Armstrong (2018) explained that understanding the customer's buying behavior including their opinions and outlooks towards certain products and services is extremely important for a company to survive in a highly competitive market. The change in consumer attitudes when traced to its source will allow companies to learn emerging trends and apply this to their marketing strategies.

a. Social Cognitive Model – Definition in relation to Color Perceptions of Cultures

Social Cognitive Model is the advanced version of Social Learning Theory [35], which was developed by Albert Bandura between the 1960s and 1986. The Social Cognitive Model focuses on how

b. Acculturation and its stages

people behave, what lead them to choose a particular action, and the influences that incite them to behave in a particular manner. The model is sub-categorized into six parts: reciprocal determinism, behavioral capability, observational learning, reinforcements, expectations, and self-efficacy.

- *Reciprocal determinism* occurs when an individual learns what behavior to perform in a given situation, usually based on past experiences, environment, and personal responses in order to achieve desired results.
- *Behavioral capability* refers to the person's abilities to successfully do an action. Lacking the knowledge and skills to perform such behaviors will produce negative results.
- *Observation learning* affirms the idea that people repeat actions done by others so long as that behavior has led to positive results. They are inclined to follow the "model" behavior in order to perform effectively.
- *Reinforcements* can be based on past experiences of the individual allowing them to determine whether a behavior should be continued or discontinued in order to fulfill their aims. The suitability of behaviors in a given situation can be based internally (self) or externally (environment) wherein a person checks their morals and what is accepted in society respectively.
- *Self-efficacy* is added in the categories of the social cognitive model after it was developed from the social learning model. It refers to the self-assurance of an individual's regarding their capability to behave effectively.

The social cognitive model tells about how cultures came to be, and how certain behaviors become a norm in a society. It can also be related to how cultures perceive a particular color on a garment. As cultural behaviors are passed down from generation to generation, so are the perceptions of colors on apparel
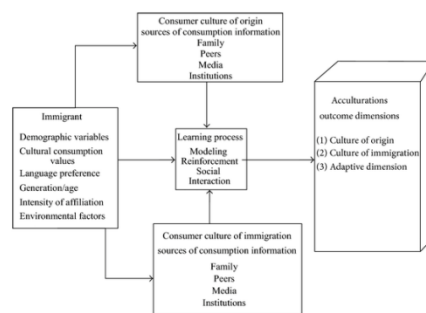

Fig-3: Acculturation Stages
Source: Berry (1990) [36]

Acculturation is an approach an individual undertakes through accustoming their values, beliefs, and cultural norms to that of the new location, which is often different from what they grew up with [37]. As shown in Figure-3, this can be commonly observed occurring among immigrants. It was discussed in an article by Berry [36] that acculturation can be

categorized under assimilation, separation, integration, and marginalization. *Assimilation* occurs when the individual implements the new culture as a whole into their daily lives. With regards to clothing preferences, an immigrant that assimilated the new culture will most likely prefer clothing different from the traditional garment from their original country. *Integration* is a

mix of the new culture but still influenced by the individual's cultural origin. *Separation* or *Marginalization* on the other hand refers to more of a lack of acculturation since the individual is more likely to hold onto their cultural origin, ethnic beliefs, and values with little to no interaction with the new culture. With reference to clothing for example, majority of Indians in another country tend to practice separation as they more likely prefer to wear the traditional red sari during weddings despite the common western practice of white gowns for the occasion [38].

Theoretical Underpinnings of Consumer Behavior
a. Marketing Mix – Product Mix

Marketing, according to Kotler and Armstrong [1], is the activity of creating a product to fulfill a need of customers in a particular market or global market and selling these products in order to earn a profit. Kotler and Armstrong [1] also discussed that how the product is presented plays a key role to successfully capture the attention and interest of the customers to therefore incite them to action and buy the item.

b. Product Levels and how product color is used to incite favorable consumer behavior

Kotler [39] also discussed in his book that a product has five levels, comprising of the core product, generic product, expected product, augmented product, and potential product. These five levels significantly

influence consumer buying behaviour based on emotional or intellectual influence.

- **Core Benefit** – pertains to the benefit the customer gets when using the product. It's the main purpose of the product which according to the design mix is termed the 'function' of the product.
- **Generic Product** – refers to the overall characteristics and qualities of the product such as material, color, design; basically, the physical properties of the product. This is related to the design mix's aesthetics. For example, a white shirt made out of cotton.
- **Expected Product** – it is what the customer assumes the product to do after purchase. Since the shirt is made of a white cotton material, it will be cool to the skin and doesn't easily absorb heat making it suitable for summer season.
- **Augmented Product** - refers to the additional characteristics that allow customers to distinguish that product from its competitors through price differences, installation, after sale services, delivery, customer care, and/or warranties. In the case of the white t-shirt example, the store offers promotions where customers get a choice of accessory for free if they choose to purchase the shirt.
- **Potential Product** – refers to the versatility of a product and how it can be transformed into a different item thus extending its function. The fabric from the white shirt can be reused as a cleaning cloth once it can't be used as a clothing anymore.

Conceptual framework: Relationship between color psychology and consumer behavior
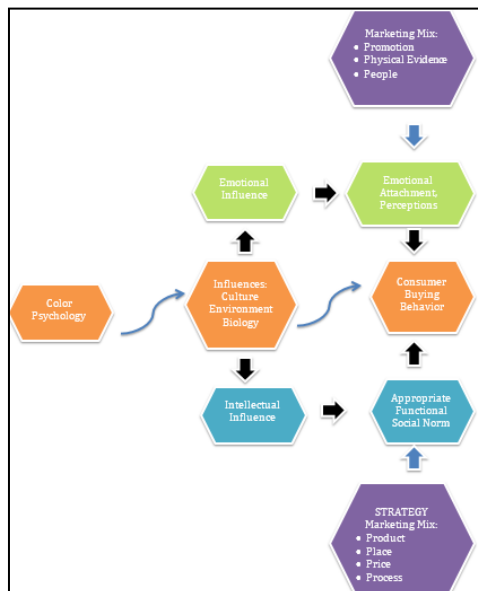

Fig-4: Relationship between Color Psychology and Consumer Behavior

The Conceptual Framework in Figure-4 depicts the proposed relationship between color psychology and consumer buying behavior when purchasing clothing and any apparel products. The idea is that customers rarely directly buy any clothing from retail stores without going through a purchasing process due to the view that customers are influenced by certain

factors that leads them to determine which product to purchase.

Generally, purchasing behavior is influenced by cultural background, be it of the new country or ethnical origin, and biological makeup; such is supported by the biological and evolution theory. The three aforementioned influences can be summarized

under two factors, which are emotional dominance and intellectual dominance.

- *Emotional Dominance* is when consumer buying behavior is strongly based on emotional attachments or associations to the color of the garment, personal sense of style, and individual perception. The consumer's favorite color of garment allows them to have a more unique appearance therefore allowing them to be distinct from the others. For example, uniforms of teachers in a Philippines school are comprised of pastel colors. However, teachers are allowed to wear a piece of jewelry so long as it won't distract students from paying attention to the lessons. The color of the jewelries is often bought based on that teacher's personal preference. The colors that teachers are allowed to wear during work follow a pattern wherein the colors are perceived as appropriate for that teacher's gender. Such is the case why male teachers are more discouraged from wearing bright to neon pink colored shirts. This claim is supported by the Gender Schema Theory. Although society today is slowly breaking the stereotypical barrier where pink is inappropriate for males by offering a different shade of pink for men's wear.

- *Intellectual Dominance* is more heavily influenced by the rational and cultural norms of an and individual. The intellectual influence takes into consideration the appropriateness, functionality, and social norm facilitation of a particular color on a garment. Customer purchasing decisions are based on whether the clothing is fitting for its purpose. For example, most corporations encourages their employees typically wear neutral colored dresses and business suits such as gray, black, brown, or the occasional navy blue so long as it makes them look professional. This idea is corroborated supported by the Ecological Valence Theory. The theory also supports the idea where males are given the choice of a different shade of pink to make it more gender appropriate. This can also be the reason why pastel colors such as baby blue, pink, or bright, neon colors are perceived as inappropriate in a corporate scenario since these colors are more associated with parties rather than business.

Ideally a balance must be achieved where the clothing serves its function, it's appropriate for the occasion, and it also appeals to the customer's personal preferences specifically when it comes to the color of the garment. The conceptual framework elements are supported by the marketing strategy, wherein the marketing mix should be aligned to emotional and intellectual influence.

Research Methodology
Research is a systematic practice of collecting information for analysis and evaluation in order to arrive to data that answers the research questions and fulfills research objectives [40]. It is through rigorous research from empirical, related, and theoretical resources that one can deduce answers to satisfy the purpose of the research [41].

Research Philosophy
The research philosophy refers to the theory, beliefs, conventional means in which the researcher will undergo when gathering information in order to provide quality results [42]. Research philosophy aims to guide the researcher in order to obtain the needed information to create fitting outcomes for the study [43]. Epistemology is part of philosophy used on ideas that are known to be true, factual, and is knowledge accepted in a field of study. Epistemology, coming from the Greek word episteme means "logical discourse", thus an epistemological research philosophy means the study is conducted in a logical manner.

Doxology, on the other hand, refers to ideas, beliefs, opinions that are true but with no factual evidences as proof. Therefore, the philosophy behind research is to conduct certain procedures in order to provide proof that a certain belief can be accepted as true. In this study, a subjective interpretivist strand was followed where the research aims to insist a relative change in how companies perceive and use color psychology on consumer buying behavior to gain more sales and eventually profits. The subjective interpretivist strand helps to understand the retrieval cues that consumers attach to certain colors.

Research Design
Research design refers to how the whole investigation will be conducted and structured in order to function effectively [44]. *Quantitative* research mostly contains perceptions, ideas, and how these are constructed in order to arrive at a suitable conclusion [45]. *Qualitative* research is predominantly composed of statistics, modes, frequencies, and ranges of data in order to support the purpose of the research. In the context of the present research, qualitative study is considered ideal [46] as it helps to interpret the participant's perceptions about color psychology and consumer behavior. Color psychology and consumer behavior are behavioral issues, which calls for qualitative inquiry in order to get in-depth understanding of the relationship between these two variables. This research predominantly used qualitative data, as it is a desk-based type of paper where majority of the data was collected through secondary sources such as other researches, magazines, articles, newspapers, journals etc.

Data Collection Methods: Content Analysis
Secondary data from previously conducted researches will be considered in this research, making it a suitable source of secondary information aside from books, journals, articles, and other empirical literature. Since this is a desk-based research, data was collected through secondary sources of data such as journals, articles, and empirical sources such as existing

researches regarding color psychology, consumer behavior, and cultural perceptions on color.

DISCUSSION AND ANALYSIS

Color psychology was derived from the perceptions, beliefs, and emotions that people associate on a certain color. It occurs when the color acts as a stimulus for the person to then link it with one of their memories, thus emotion is attached. The same principle is what marketing and advertising firms use in their designs and promotional campaigns in order to appeal to the public and capture their target markets as per the research of Singh [2] about the impact of color on marketing.

In application to apparels, clothing companies create apparel that allows the customer to own a look that matches their style. Like any other customer, they go through certain buying behaviors before ultimately purchasing the item. Often times inspecting a piece of clothing and having sufficient knowledge on the store's production process also supports their decisions. For example, blue colored, hand-made fabrics are perceived to be of high standard because of the added value in producing that blue textile and the labor in hand-stitching the clothing.

Out of the nine (9) colors presented in the reviewed literature, four (4) are the most common colors used in various apparels after much deduction. These colors are red, white, blue, and black, which are used for various occasions such as weddings, mourning, and other occasions.
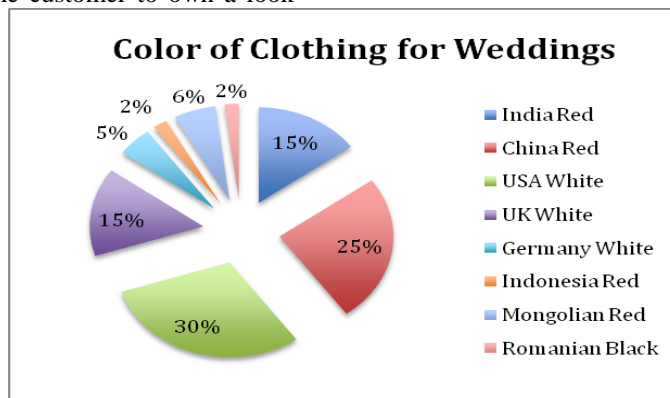

Fig-6: Weddings & other celebrations colors

Wedding and other Celebrations

Figure-6 depicts the percentage of the most commonly used colors for weddings. Brides often wear the traditional white colored dresses to symbolize purity, innocence, and the sacredness of the ceremony. However, according to Powell [47], Zoi and Maria [48], the eastern culture mostly use the traditional red colored wedding dresses, which is often associated with love, celebration, and passion. Although colors red and white are the most prominently used for weddings, other cultures such as in Africa tend to move away from the popular culture thus using a wider variety of colors in a more intricate pattern. The popular notion of the two colors may be due to the higher percentage of cultures promoting the use of either red or white during weddings. The USA is considered the most influential culture in the world [50].
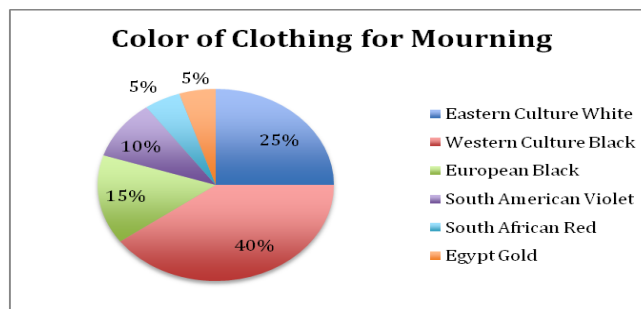
Fig-7: Mourning colors

Mourning

In Figure-7, it can be seen that the eastern and western cultures use black and white as the mourning colors. Black is also adopted as a mourning color in most African countries. As depicted in Figure-7 there are other colors aside from the two that are considered traditional mourning colors in other cultures. This claim has been supported by researches conducted by Wright [4], Reis and Gledhill [50]. Similar to wedding dress colors, the western culture has such a huge influence on other cultures making black the more popular color for mourning.

National Colors Worldwide
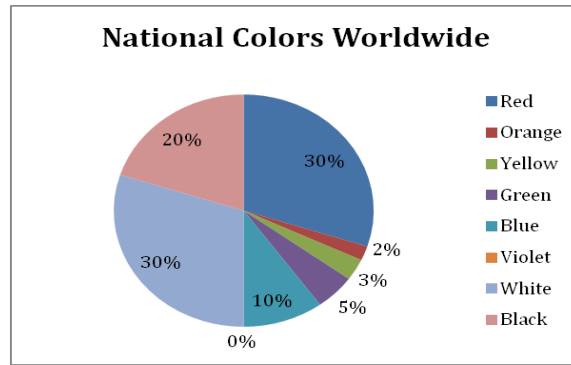
Red, Orange, Yellow, Green, Blue, Violet, White, Black

30% Red, 2% Orange, 3% Yellow, 5% Green, 10% Blue, 0% Violet, 30% White, 20% Black

Fig-8: Worldwide National colors

National Colors

It can be seen in Figure 8 why the colors red, white, black, and blue are the most popular choices among the different countries. The perceptions and choices of a countries indigenous people are closely related to their national colors therefore influencing their choices when buying clothing or apparel products. Wearing clothes adorned by national colors gives people a sense of individuality as well as pride when people are able to associate the person with their country of origin. The review of literature pointed out that although not everyone chooses their country's national colors for their clothing, at some point there is a certain level of cultural influence on their fashion sense. This is also connected to why certain colors of clothing are more attractive to a specific group of people. According to the reviewed literature, Kallen [24] discussed that colors evoke emotions. With white symbolizing purity, and red for passion, it's no wonder why national colors or flag colors specifically are often with these two colors since it stimulates patriotism in people.

Other national colors are considered as such because of other factors that are unique to that country. For example, in Korea and Japan, pink color is not exclusively for females since it's more commonly associated with cherry blossoms considering these trees are common in Korea and Japan. This is corroborated by Bem's [30] research regarding gender schema as well as an article by LoBue and DeLoache [32] about the early development of color stereotypes.

Thematic Analysis

This research follows two main themes, which are *color psychology* and *consumer buying behavior.* The purpose of the thematic analysis is to further analyze the connection between the two main themes with support from empirical literature.

The relationship between color psychology and consumer behaviour are summarized in Table 3 and Table-4.

Table-4: Relationship between the study themes

Theme 1	Theme 2
Color Psychology	**Consumer Buying Behavior**
Source of Color	Social Cognitive Model
Color Perception	
Placebo Effect	Acculturation and its stages
Interpretations per Culture	
Brand Application	
The connections are supported by the three cited theories in the reviewed literature.	

Table 5: Thematic Analysis supporting Theories
1.   Biology and Evolution
2.   Gender Schema Theory
3.   Ecological Valence Theory

According to Wright [4], color psychology is the association of color to emotions, objects, and other occasions. Color differs from item to item because of the uniqueness of each item's molecular structure. This molecular structure gives the viewer an idea of the object's physical properties therefore being able to identify what type of item it is. Color psychology and color perception encompasses how the individual metaphorically associate that item [15], and its color to emotions. For example, diamonds are one of the toughest minerals on earth and are commonly brilliantly white in color. By associating diamonds with tough love, and something that can withstand all other elements, it has become a popular symbol of one's love for a partner. This is why diamonds are so popularly used for engagement rings, and why the white color in weddings are more commonly used and has a bigger impact than that of other colors.

These symbolism and metaphorical associations of an object's colors to certain emotions can also be seen through Kleijnen *et al.,* [21] research on the placebo effect, as well as Grossman and Wisenbilt's [28] research on how biology and evolution of humans affected perception of things. Included in the evolution stage is how humans drifted from area to area until they find permanent settlements. Each area has different culture. The development of these cultures depended on the amount of people who are willing to accept that type of culture, which is further explained by Campassi and Presley's [37] process of acculturation. Along with the development of cultures is the development of people's perceptions and symbolism of colors and objects.

The reason behind the differences between popular associations of colors per culture to that of individuals is further supported by the Ecological Valence theory [33] wherein the uniqueness of each person's experiences with each color is what made their perception of the color that distinct. In addition to this is the rise to popular beliefs about colors and which color is considered gender appropriate as supported by the Gender Schema Theory [30]. The themes and their connections confirm the conceptual framework explaining the connection between consumer buying behavior and how it's influenced by color psychology.

In relation to the research problem, some clothing companies are more dependent on the influence of celebrities and social media icons in order to sell undesirable, otherwise inappropriately styled apparel, which then hinders newly established businesses from growing. Through extensive reading

and comparison of the empirical literature, smaller companies will be able to capture the public's interest and their target market's attention through the effective utilization of colors on apparel given that they have more concrete understanding and knowledge of the cultures in that target market. Although color psychology is heavily influenced by the individual's cultural background, acculturation allows new market entrants to further appeal to their target market. This knowledge or strategy can be seen being taken advantage of by local textile or tailoring shops where designs and techniques are very much closer to the cultural norm. Foreign companies can also adopt similar strategies but with a twist of modern influences in order to keep up with the current trends in the market.

Interpretation of Findings

Color psychology plays a significant role in the consumers' buying behavior and can be considered as one of the core elements of the marketing mix, particularly product mix, when applied to clothing. Color perception and color psychology affects people's behavior in such a way that the symbolism of the colors resonates with the people's perceptions therefore linking it with information from their cultures. A certain color becomes popular in a certain area, even for people who are not from that area, because of how these outsiders tend to adapt the culture of that area with their own, therefore giving way to the process of acculturation.

Although acculturation manifest in most countries, there are still hints of personal preferences with regards to the color of the garment. For example, wedding dresses are traditionally white in color since according to the cultural norm, it represents purity. However, brides include an accessory of a color they favor giving it a more personal touch.

Among all colors in the spectrum, blue is considered the safest since it's one of the colors that are truly neutral and did not have any negative associations according to cultural preferences. Since it is most commonly associated with water, which is the most vital resource for survival with every living thing, thus the blue color is almost always considered good.

These views supports the conceptual framework that although customers choose colors that are more appropriate for the garment's function, they still look for clothes with designs that incorporate their

favorite colors. By providing clothes that are seen as unconventional for its function alongside garments that are more appropriate and functional, organizations can maximize sales and profits. Apparel producing companies should provide a wider array of available designs and colors for customers to be able to mix and match outfits successfully. For example, corporate wear often consists of neutral to dark toned colors such as grey, white, black, or navy blue, thus making it more appropriate and functional. Customers are given more freedom to choose their more preferred colors by providing different colored apparels; some can be bright colored, neckties, therefore giving their attire a more personal touch.

CONCLUSION

Color psychology plays a bigger role in affecting consumer-buying behavior in such a way that choosing the right colors to incite desired emotions from customers will then convince the customers more into buying the product. The effects of colors on a person's psyche may differ from person to person, however there are similarities between personal association of the color with an emotion and the popular symbolism of color in culture.

The reviewed literature shows that color blue is deemed the safest color, which is why it's used for security uniforms. This is supported by the three theories: biology and evolution, ecological valence, and gender schema theory. According to Biology and Evolution Theory, the blue color means there is a source of water, which is the most important source of nourishment and most abundant source of life. Ecological Valence and Gender Schema Theories states that blue color is the most neutral color where both genders can fashion a wide range of blue hues from

light blue to navy blue making it appropriate to most occasions.

Through the color perception of different cultures, the study shows that using a color that is associated with something negative will in turn negatively affect the customer's psyche, therefore repelling them from purchasing the product rather than attracting. Although certain color of clothing for a specific occasion may be seen as unconventional, it can still attract a certain number of customers, thus better advertised to a niche market.

The study also indicates that apparel companies often base their designs and color schemes according to weather, environment, and culture. The change in clothing trends is one of the results of acculturation in that market. With the increasing pace of immigration happening in the world, so does the occurrence of acculturation in most countries. Apparel companies therefore create clothing designs that will attract indigenous people as well as immigrants in that market. This means including dress patterns that are similar to the immigrants' traditional clothing in order to appeal to them and in the end, attract them into purchasing the company's products.

Newly established clothing companies can survive longer and have competitive advantage through extensive research on various color combinations that are appealing to different consumer segments, appropriate for the garment's function, while making their product unique in the market even without the influence of celebrities. Therefore, this study concludes that color psychology significantly influences consumer buying behavior within the apparels market.

REFERENCE

1. Kotler, P., & Armstrong, G. (2018). *Principles of marketing.* Upper Saddle River: Pearson.
2. Singh, S. (2006). *Impact of Color on Marketing.* Univeristy of Winnipeg: Canada.
3. Wright, R. (2004). The colour affects system of colour psychology. *Colour Research and Application.* 29:381-389.
4. Wright, R. (2006). *Consumer behavior.* London: Thompson.
5. Weinswig, D. (2016). *Influencers Are The New Brands.* [online] Forbes.com. Available at: https://www.forbes.com/sites/deborahweinswig/2016/10/05/influencers-are-the-new-brands/#74981f0e7919 [Accessed: 3 March, 2016].
6. Galvan, J. L. (2006). *Writing literature reviews.* Glendale, California: Pyrczak Publishing, 20, 23.
7. Fink, A. (2005). *Conducting research literature reviews.* Thousand Oaks, California: Sage Publications, 30.
8. Pappas, S. (2010). *How Do We See Color?.* Live Science. South Carolina, Santa Cruz: University of South Carolina.
9. Raffaele, R. (2012). *Research at RIT: The Science of Color.* Rochester, New York: The Rochester Institute of Technology, 4-6.
10. Pappas, S. (2014). *Aggressive Mantis Shrimp Sees Color Like No Other.* Live Science. South Carolina, Santa Cruz: University of South Carolina.
11. Girard, J. (2018). *Visual Color Symbolism Chart by Culture.* [online] ThoughtCo. Available at: https://www.thoughtco.com/visual-color-symbolism-chart-by-culture-4062177 [Accessed 10 Mar. 2018]
12. Munsell, A. H. (2014). *Munsell book of color.* Grand Rapids, Michigan: Munsell Color.
13. Kolenda, N. (2016). *The Psychology of Color.* Kolenda Entertainment LLC.
14. Bleicher, S. (2012). *Contemporary Colour: Theory & Use.* New York: Delmar, 46-50.
15. Jung, C., Neumann, E., & Liebscher, M. (2015). *Analytical Psychology in Exile.* Princeton:

Princeton University Press, 60-70.

16. Riley, C. A. (1995). *Colore Codes: Modern Theories of Color in Philosophy, Painting, and Architecture, Literature, Music, and Psychology.* Hanover: University Press of New England, 306-310.

17. Maffei, Y. (2012). *How to Check Red Meat for Freshness in Three Easy Steps.* My Halal Kitchen. Ohio.

18. Lamancusa, K. (2016). *Emotional Reactions to Color.* Creative Latitude. Seattle: Phoenix.

19. Bailey, F. G. (2018). *Stratagems and spoils: A social anthropology of politics*. Routledge.

20. Davis, S. (2000). *Color Perception.* New York: Oxford University Press, 15-20.

21. Kleijnen, J., de Crean, A. J., Roos, P. J., & Leonard de Vries, A. (1996). *Effect of colour of drugs: Systematic Review of perceived effect of drugs and of their effectiveness.* Lancet: PubMed.

22. Russell, G. (1999). *Placebo Effect.* London: BBC Books, 20.

23. Scott, J. (2011). *The Placebo Effect*. Auckland, New Zealand: Jocelyn Horan.

24. Kallen, S. (2009). *Graphic Design.* Detroit: Lucent Books, 6-10.

25. Willard, C. (2000). Color and meaning: Art, Science, and Symbolism. Wiley Online.

26. Moorthi, Y. (2002). Branding Principles-Application to Business-to-Business Branding. *SSRN Electronic Journal,* 8.

27. Valdez, P., & Mehrabian, A. (1994). Effects of color on emotions. *Journal of experimental psychology: General*, *123*(4), 394-409.

28. Grossman, R. P., & Wisenblit, J. Z. (1999). What we know about consumers' color choices. *Journal of Marketing Practice*, 5(3):78-90.

29. Alexander, B. (2003). *Color Perception in Human History.* Melbourne, Australia: University of Melbourne.

30. Bem, S. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review,* 88(4), 354-364.

31. Schmitt, B. H., Leclerc, F., & Dube-Rioux, L. (1988). Sex typing and consumer behavior: A test of gender schema theory. *Journal of consumer research*, *15*(1), 122-128.

32. LoBue, V., & DeLoache, J. (2011). Pretty in pink: The Early Development of Gender-Stereotyped Colour Preferences. *British Journal of Developmental Psychology,* 29(3), 656-667.

33. Schloss, K. B., & Palmer, S. E. (2009). An ecological valence theory of human color preferences. *Journal of Vision*, *9*(8), 358-358.

34. Radeloff, D. J. (1991). Psychological types, color attributes, and color preferences of clothing, textiles, and design students. *Clothing and Textiles Research Journal*, *9*(3), 59-67.

35. Howe, H., & Keasey, C. (1978). *Social Cognitive Development.* Lincoln: University of Nebraska Press.

36. Berry, J. (1990). Psychology of acculturation, in Nebraska Symposium on Motivation, J. J. Berman, Ed., vol. 3:201-234, Lincoln University Press, Lincoln, Neb, USA.

37. Presley, A. B., & Campassi, W. U. (2013). Measuring Clothing Color and Design Symbolism Preferences and Purchase Intentions of Asian Indian Females at Different Levels of Acculturation. *ISRN Textiles*, *2013*.

38. Kapoor, K., & Arora, S. (2015). Colour image enhancement based on histogram equalization. *Electrical & Computer Engineering: An International Journal*, *4*(3), 73-82.

39. Kotler, P. (2003). *Marketing Management.* Upper Saddle River, N.J: Prentice-Hall.

40. Kumar, R. (2005). *Research Methodology: a step-by-step guide for beginners.* London: Sage Publications.

41. Bechhofer. F. (1974). *Current Approaches to Empirical Research: Some Central Ideas.* In J. Rex (ed.) *Approaches to Sociology.*

42. Denzin, N. K., & Lincoln, Y. S. (2003). *The Landscape of Qualitative Research.* Thousand Oaks, CA: Sage.

43. Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Los Angeles: Sage Publications.

44. Dawson, C. (2002). *Practical research methods: A user friendly guide to mastering research techniques and projects*. UK: How to books Ltd.

45. Cohen, D., & Crabtree, B. (2006). *Qualitative and Quantitative Research Guidelines Project.* Available at: http://www.qualres.org/HomeTyp!-3809.html.

46. Hulley, S. B., Cummings, S. R., Browner, W. S., Grady, D., & Newman, T. B. (2006). *Designing clinical research: An epidemiologic approach.* Philadelphia: Lippincott Williams and Wilkins.

47. Powell, C. (2004). Wedding Dress Across Cultures. *The Journal of American Culture,* 27(2), 255-260.

48. Zoi, A., & Maria, G. (2014). The traditional evolution of style and especially of color of bridal dresses in different cultures during the centuries. *Journal of Educational and Social Research*, *4*(4), 264.

49. Insprich, B. (2009). The World's Most Influential and Powerful Countries. *Strategic Direction,* 25(7).

50. Reis, J., & Gledhill, H. (2003). *Death is a Festival.* Chapel Hill: University of South Carolina Press.