

THE IMPACT OF PSYCHOLOGY OF COLOR ON THE EFFECT OF THE PACKAGING ON CHILDREN'S BUYING BEHAVIOR

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Abstract

Purpose of this study is to explore the impact of psychology of color on the effect of the packaging design on children's buying behavior. The paper has attempted to find out the psychology of colors are included color preferences by gender, color coordination and conversion, and coloring (Pures, tints, shade, toner, the meaning of its colors, simplicity, and contrast) in packaging design is seem to strengthened by those effects in attracting children. In this research, the children's buying behavior, the factors influencing and the relevance of color element have been carefully examined. Result indicated that children's buying behavior is greatly effected by color and packaging. The final section gives suggestions on the increase of attracting children with regard to the functional nature of each product and its appropriate color.

Keywords: psychology of color, packaging design, children's buying behavior

INTRODUCTION

Marketing to children has come a long way since the days when "secret decoder rings" were sold on cereal boxes. A growing awareness was developed during the 1990s that children had enormous market potential (McNeal and Yeh, 1997). Now day consumer behavior especially children is a disputatious and challenging issue and involves the individuals and whatever the buy, why and how they buy, marketing mixed and market (Johan, Michiel; 2010). At the age of four or five, many children begin to make purchases on their own. By the time they are ten, they make more than 250 purchase visits to stores each year. Children today have their own gadget and social media id (Internet networks), magazines, tv channel, product clubs, banks, bookstores, and clothing shops. Changes in the family have also served to force children into the marketplace sooner. Working parents rely on their children to do more household chores, including shoppin. (McNeal, J.U. 1992).

Children's buying behavior is a very interesting field to study. Since it is children who buy goods and services, they still in stage to develop their mind. However they can use their daily experience in order to perceive the concepts and theories of this field. Perceiving children as consumer behavior and evaluation of the performance is of particular importance considering cultural differences in different societies. (Johan, Michiel; 2010).

Buying behaviors are the decision processes and acts of people involved in buying and using products. For understanding children's buying behavior, we need to understand why children make the purchases that they make, what factors control children purchases, and the altering factors in our society. A firm needs to examine buying behavior because buyer's reactions to a firm marketing strategy which satisfies customers and therefore need to evaluate that what, where, when and how consumers buy, (Seher, Arshad, Ellahi, and

Shahid ; 2012) has a great impact on the firm's accomplishment. Smart manufacturers and retailers recognize the children's market as a potential gold mine. (McNeal, J.U. 1992).

According to Brown in 1950 majority of buyers were mostly influenced by a number of factors, including prestige, advertising, and satisfactory familiarity in use, but in most occasions the authentic liking for a fastidious chief brand seemed pathetic. However, one significant factor is the psychological impact on consumer's mind of a particular product. (Brown ,1950). In market segments a lot of people were observed, having different intentions to purchase similar product. Color is one of the basic things, which have a psychological impact on consumers mind and in result on his buying behavior. (Milad, Mahnas,Alireza : 2015). The product's color may play a significant role in the purchasing decisions for certain products (Ogden et al., 2010 ; Akcay et al., 2011).

Human being has continuously been affected by colors either physically or psychologically. Human brain receives the color as signal thought eyes faster than others. Palmeri and et al explained that the visual appearance of objects first moves to neural activity within diverse brain areas and helps in the product acknowledgment and detection. By using different methods, we can increase the quality of visuals used in ads and packaging. (Palmeri et al.,2002). However humans are affected by colors has obviously a psychological nature which indirectly influences norms, reactions and individual behavior. (Elm, 2012). Color affects the mood in adults and more so in children, for children, they react to colors not-mostly on a physical level but each varies affects children differently. (Neil K, 2017). Color can help connect the neuropathways in the brain In an investigation of children's emotional associations with colors, Boyatzis and Varghese (1994) found that light colors (e.g., yellow, blue) are associated with positive emotions (e.g., happy, strong) and dark colors (e.g., black, gray) with negative emotions (e.g., sad, angry).

To attract children, color is considered to be a crucial factor. Being acquainted with psychological impact of colors and its different combinations would be of great help to Marketer. They could pick out a particular color based on the nature of the product (Rouland, 1999). In packaging design color strongly influences the product. Many companies in the world hire color consultants to help identify the best color for their product, one which would appeal to their potential buyers. 62-90% of a product purchase decision is based on the color of the product and the decision is made within minutes of seeing it (Singh, 2006; online, pcimag.com, 2002). Mention by Colm Tuite (2014), user experience designer, breaks down color into Pures, tints, shade and toner, the meaning of color, Simplicity , and contrast. There is a clear science to picking colors that work together. There is a definite element of subjectivity involved (culture, generational perspectives, and personal preferences), but there is also a set of best practices that psychologists and designers will stick to (Niel and Ritika, 2014). As research shows, it's likely because elements such as a personal preference, experience, upbringing, cultural differences, context, often muddy the effect individual colors have. To check accurate color effects and perception of consumers is difficult as there are many parameters such as culture, gender, age, socio-economic class, and religion etc. Importantly, cultures differ in their artistic expressions as colors represent different meanings and aesthetic appeals in different cultures.

The key color factor are : color preferences by gender, color coordination and conversion, and color theory (Pures, tints, shade and toner ; the meaning of color ; Simplicity ; and contrast). Accordingly this study investigate the impact of psychology of color on the effect of the packaging design on children's buying behavior.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Children's buying behavior

Blackwell, Miniard and Engel define consumer behavior as —activities people undertake when obtaining, consuming, and disposing of products and services. During the long history of marketing, consumer behavior has always been an attractive field for marketers who are market-oriented rather than product-oriented, since it is the study of why people buy. With the insights gained about the reasons people buy specific products/ services or brands, marketers can then develop strategies to influence purchasing behavior of consumers. (Blackwell, Miniard , Engel ,2006)

A consumer's buying behavior is influenced by cultural, social, personal and psychological factors. Most of these factors are uncontrollable and beyond the hands of marketers but they have to be considered while trying to understand the complex behavior of the consumers. Consumer is the study “of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires” (Solomon 1995, 7). In 1986 Engel, et al. define consumer behaviour as “those acts of individuals directly involved in obtaining, using, and disposing of economic goods and services, including the decision processes that precede and determine these acts”. Simple observation provides limited insight into the complex nature of consumer choice and researchers have increasingly sought the more sophisticated concepts and methods of investigation provided by behavioural sciences in order to understand, predict, and possibly control consumer behaviour more effectively. Psychology, social psychology, and sociology are the disciplines most widely employed in this endeavour which has become a substantial academic industry in its own right. Children are in the step that more independent and physically active than they were before. While children may progress at different rates and have diverse interests. They also are more involved with their decision to buy things and are learning to think in more complex ways.

Psychology of color

Color is a part of the electromagnetic spectrum. It is an energy having wavelength and frequency. Color originates in sunlight and is perceived through subtractive color theory. The various wavelengths of light shine on an object and the surface absorbs or subtracts all the colored light rays except for the ones reflected from the object. This color is reflected received through the cells of retinal wall of the eye (Morton, 1995).

The Standard Color-Wheel theory (Morton, 1995) is based on a conventional color wheel. Red, yellow, and blue are primary colors meaning that they cannot be mixed by the combination of other colors. Secondary colors are formed by mixing the primary colors and

tertiary colors emerge from mixing the secondary colors. Color can be distinguished in hue, brightness and saturation (Valdez & Mehrabian, 1994). Based on hue, colors are broadly divided into cool and warm colors. (Engelbrecht, 2003). Cool colors are also known as colors with short wavelengths (i.e. violet and blue). Warm colors are also known as colors with long wavelengths (i.e. red and orange). There exists a hierarchy in color from violet, blue and green (short-wavelength colors) to yellow, orange and red (long-wavelength colors) (Crowley, 1993). A study by Styne (1990) showed that Fast food restaurants use warm bright colors to stimulate appetite and the perception of noise. As a result, sales increase due to the fast turnover.

Brightness and saturation also play an important role in the perception of color. Brightness determines the lightness or darkness of a color. Much light reflection indicates a light color, low light reflection indicates a dark color. Saturation points to the purity of a color: high saturation represents a pure color and low saturation a pale, greyish color. Colors are seen as more pleasant by an increase of both characteristics (Camgöz, Yener & Güvenç, 2002; Crozier, 1996). Hemphill proved that bright colors are associated with positive feelings such as happiness, joy and hope. Grandjean also suggested that brighter colors are judged as being friendlier, more cultured, pleasant and beautiful. In contrast, dark colors can evoke negative feelings, such as boredom and sadness (Camgöz et al., 2002).

Color is a powerful design element that produces profound psychological and physiological reactions. Responses to color are both scientific (physiological) and emotional (psychological). Studies (Engelbrecht, 2003; Morton, 1998) related to physiological effects have shown changes in blood pressure, eye strain, and brain development. Psychological responses to color include changes in mood and attention (Engelbrecht 2003; Shabha, 2006). Color affects the mood in adults and more so in children. But some color responses are temporary and others may last for a long period of time. Many reactions are immediate (Morton, 1998).

Color psychology is a well-known, yet less explored branch of the study of how our brain perceives what it visualizes. As far as scientific research goes, there is not much to work with. However, the impact that colors have on our brains is used to manipulate our decision making by multiple facets of society. Elliot and Maier found that color may evoke associations and reactions. According to the researchers, the meaning of color is bipartite. First, the meaning of colors can be a result of learned associations, for example red, orange and green colors on traffic lights. Second, the meaning of colors can be determined by nature (i.e. associations between black and death). (Elliot, Maier, 2007) Tofle, Schwartz, Yoon and Max-Royale also argued that emotional reactions evoked by color are results of learned associations based on culture and characteristics of an individual. (Tofle, et al, 2004)

Wexner examined the associations between color and mood. Participants were faced with colored cards and asked to indicate associations with different moods. Cool colors were associated with calm, serene and comfortable moods. In contrast, warm colors were associated with stressful and exciting moods. However, the participants in the study were only exposed to colored cards and not actually located in a colored environment. According to Wexner there is a relationship between wavelength and level of arousal. (Wexner, 1954).

These findings were later confirmed by Valdez and Mehrabian who found that long-wavelength colors were more arousing than short-wavelength colors (Valdez & Mehrabian, 1994).

Colors have the ability to attract attention, this is called the approach orientation of color (Bellizzi, Crowley and Hasty, 1983). For retailers, shopping is the art of persuasion. Though there are many factors that influence how and what consumers buy. However, a great deal is decided by visual cues, the strongest and most persuasive being color. When marketing new products it is crucial to consider that consumers place visual appearance and color above other factors such as sound, smell and texture. Retailers can use this to elicit approach behavior. Research of Bellizzi and Hite showed that in a blue shopping environment, compared to a red one, people were more willing to look around and buy products. In a less distracting blue environment also less purchasing decisions are postponed and more money was spent. (Bellizzi, Hite, 1992) Bellizzi, Crowley and Hasty examined approach behavior and attractiveness of different colors in an experimental study. The study measured the distance and angle at which participants were sitting down relative to a colored wall. (Bellizzi, Crowley and Hasty, 1983)

How color is able influence children's decisions may be explained most fully from a biological as well as a psychological perspective. Because our perception of colors is actually based on photons of light and energy, they may induce biological changes. On a broader level, this energy can serve as stimuli and incite certain biological functions and responses in the human body. The induction of physiological changes is a partial reason for behavioral changes, as the brain and human physiology governs our decisions. Society has also implicitly established strong meanings and associations behind certain colors. Pink, for example, may be regarded as a more feminine color than blue in a Western society. Thus, analyzing the properties and effects of color from both disciplines can lead to valuable implications for the potential uses of color in marketing.

A review of color studies done by Eysenck in early 1940's notes the following results to the relationship between gender and color. Dorcus (1926) found yellow had a higher affective value for the men than women and St. George (1938) maintained that blue for men stands out far more than for women. An even earlier study by Jastrow (1897) found men preferred blue to red and women red to blue. Eysenck's study, however, found only one gender difference with yellow being preferred to orange by women and orange to yellow by men. This finding was reinforced later by Birren (1952) who found men preferred orange to yellow; while women placed orange at the bottom of the list.

Guilford and Smith (1959) found men were generally more tolerant toward achromatic colors than women. In children, Research conducted on the topic of gender and colors shows that there is no evidence asserting the fact that girls actually prefer pink and boys actually like blue over other colors. Thus, Guilford and Smith proposed that women might be more color-conscious and their color tastes more flexible and diverse. Likewise, McInnis and Shearer (1964) found that blue green was more favored among women than men, and women preferred tints more than shades. They also found 56% of men and 76% of

women preferred cool colors, and 51% men and 45% women chose bright colors. In a similar study, Plater (1967) found men had a tendency to prefer stronger chromas than women.

A group study conducted on subjects in the age range of 7 months up to 5 years, (both boys and girls), had the subjects pick objects of different colors. It was noted that only girls above the age of 2 years picked pink objects while boys over 2.5 years avoided the pink ones. It is evident from this study that: only through everyday observation are children more prone to becoming aware of ‘gender and colors’ stereotyping of this sort.

Color has a powerful psychological influence on the human brain. Color specification and conversion is a suprisingly difficult subject. Verghese (2001) discusses the process of visual search and attention in regard to signal detection theory. This theory states that the human mind continuously strives to organize visual information. Too much color, motion, or pattern functions as distracters making visual search more difficult. For a particular situation, getting more red just means increasing some number. But to accurately try to take a given color that shows up on one computer monitor screen, write down the color specification numbers and the illumination, and then figure out the corresponding color specification numbers in a different color system on a different device (a printer, a television) with a different illumination is actually an extraordinary art.

In order to utilize color in marketing activities, marketers ought to understand which emotions and also the needs behind that each color can trigger from the target customers. The meanings associated with colors vary from culture to culture; there are no absolutely universal meanings applied for any color. Nowadays, the most widely known researches about what feelings that colors represent and trigger are from North America. With the global spread of North American culture, the interpretation of color meanings by people around the world has been alternated and gradually shares some common points. The North American set of color meanings presented below is also rather similar to the Western world and it is the most closely applicable to the Finnish culture. (Scott-Kemmis 2013). Tints and shades can help influence the feelings that color conveys. For instance, a darker shade of blue would convey more security and integrity. Lighter shades of blue would convey more tranquility and peace. Some colors have developed a particular meaning over time due to use from certain organizations (i.e. a branding effective). For instance, the Catholic Church uses deep shades of purple and red, giving the colors a spiritual meaning. Pink has also become associated with femininity. Countries have also adopted certain colors as their own (for instance, Ireland and green)

Proposition 1: Psychology of color have a positive effect on children’s buying behavior.

Packaging design

According to varying marketing environments packaging is not just to helps identify product to the consumers but being used as an instrument for increasing sales, attracting customers and product communication to its consumers. In general packaging design are planning and fashioning the complete form and structure of a product’s package. In creating a new design or revamping an existing design, the following aspects of a product’s package are usually

reviewed: size and shape, color, closure, outside appearance, protection and economy, convenience, labeling, and the packaging material's effect on the environment.

The discipline of package design focuses on producing a container that will get noticed. By skillfully teaming colorful graphics, a unique shape, or any other eye-arresting method, the package designer is a key player in any company's marketing effort. No matter how beneficial the product inside the container may be, unless a consumer decides to pick it up, that product will never get tested. . In 2007 wells Farley & Amerstrong said that packaging is use for marketing communication purposes and they are the important element which influences the buying behavior of the individual (Shah, Ahmad & Ahmad ,2013).

Due to increasing self-service and changing consumers' lifestyle the interest in package as a tool of sales promotion and stimulator of impulsive buying behavior is growing increasingly. So packaging has an important role in marketing communications, especially from the point of sales and could be treated as one of the most important factors influencing Consumer's purchase decision (Shah, Ahmad & Ahmad 2013)

Silayoi and Speece (2004) carried out focus groups with adults and found that both visual and informational elements influenced purchase decisions. Although the study was not on children, there are other studies that argue that due to children's lower abilities to process information, they are likely to assess products and their packaging mainly on a visual level, in addition to informational elements. Marketers therefore constantly use attractive visual imagery, recognisable characters, colour and design to ensure their product stands out to children. This concept of children's ability to process mainly on a visual level is supported by Dammle and Middelman- Motz (2002) who asked readers to picture themselves in a foreign country where they could not read the language. In these circumstances, judgements about products would be made purely on a visual level in the same way that children judge all products and look for information that they can make sense of, e.g. are cognizable character.

Gelperowic and Beharrell (1994) were able to identify that children were definitely attracted by "nice looking" packaging. Hill and Tilley (2002) carried out an in-depth qualitative study with children to determine whether packaging was an important issue in child preferences and their related decision making process. Through focus groups they identified that all children had a justifiable preference in terms of cereal and could identify the character on the front of their favourite cereal box as well as others. This emphasises the strength of the use of characters in communication with children. They concluded that packaging played a significant part in the child decision making process with children having a preference for different characters. Marshall et al. (2006) also found that colour was an important element in food choice. Products marketed towards children are brightly coloured in order to attract their eye and make them seem fun and exciting; this is in line with Roberts (2005) concept of "eatertainment".

Proposition 2: Packaging design have a positive effect on children's buying behavior.

In a study by Choungourian it was found that variations in color preferences indicate individual differences. Choungourian's subjects were from four diverse national backgrounds—the United States, Lebanon, Iran, and Kuwait. There were 160 subjects, with

an equal representation of males and females for each nationality. Some marked variations in color preferences were noticed among the subjects from the different countries. Americans had the highest preference for red and blue, but these were not preferred by subjects from the other countries. "Blue-green, which is least preferred in the United States, takes as its preference value the first position in Iran and Kuwait" Choungourian's findings indicate definite cultural differences in color preferences.

Color can make a package stand out from other products on a shelf. It can grab a customer's attention even if they are too far away to see or read what the product is. Colors on packaging –if done effectively –have the potential to create a positive emotional response in consumers. For these reasons, knowledge of color psychology is essential in packaging communication. Consumer product companies study the affects of color on their target markets to decide how to design their product. Aslam (2006) states the importance of color in products and their packaging, as color reveals product attributes and influences customer perceptions of price, quality, and flavor of food. Color can also function as an association cue for consumers. Color also has symbolic meaning customers can relate to. Interestingly, the effect of color on consumers changes for different age groups. For example, in an article about color preferences in children, Lowenberg (1934) stated that preschool children usually preferred yellow and orange colored food (as cited in Walsh, Toma, Tuveson, & Sondhi, 1990, p.646). On the other hand, adults often will choose a package with a darker, simpler design.

Proposition 3: Psychology of color and Packaging design have a positive effect on children's buying behavior.

DISCUSSION

Relationship between psychology of colors and children's buying behavior is very profound. Product's packaging and color have direct and first impact on children psyche. Therefore, it is important to do research on this topic to distinguish which colors mostly impact positively and which impact negatively on children's choice and consequently on buying behavior. The conclusion of Brody et al. (1981) research shows that television advertisements have great impact on children consumerism. So the children do not know about the substantial components or quality of a product. They are only fascinated towards the colors of the product. Therefore, if an advertisement has good color scheme it will attract a lot of children and consequently buyers for the company. The good commercials attract children's attention and hence motivate their parents for buying the product (Brody et al., 1981).

Earlier studies show that roughly 80% of the hiring decisions are based on exterior factors, and that 65% of that involves clothing color. Brown and green seem to arouse confidence, and some designers use this information for intake interviews. In addition, black and deep blue colors imply authority. All this shows the importance of colors in human perception and hence decisions.

It is undeniable that color can help attracting childrens' attention since by nature we humans can quickly spot colorful items and on general level, color tends to grab the attention

more than monochrome. The reason is that our pre-attentive system of the brain has been designed and evolved to easily detect color from the external environment, and more importantly this system has the immediate function of selecting items for subsequent attentional processing. However, in the world, color never stays alone and it is impossible to be perceived on its own but in the symphony with other adjacent colors; thus using color to capture consumers' attention can face some obstacles of depending largely on the surroundings in which the item with target color(s) is placed and indeed different colors possess unique attention values. (Evans ym. 2006, 33; Jansson-Boyd 2010, 50.)

LIMITATION, AND SUGGESTION

Today, companies have realized the miraculous effect of colors. Colors can arouse the interest and thus increase the desire to purchase the product. The results of Bellizzi's study (1983) and his colleagues also confirm this issue. Colors in marketing directly affect the consumer behavior and the effects of colors determine the behavior of many consumers. The results of this study indicate that colors can stimulate the interest and increase the desire to purchase the product and the results of Elliot's study (2004) and his colleagues confirm this issue. Colors improve the business in increasing the advertising effectiveness to eliminate the ambiguities of brands and even creating the new income. Consumers consider some colors as associated with specific products which make the understanding of how people react to colors much more difficult. Each color must be used in a suitable product according to its psychological characteristics and the results of Scott-Kemmis's study (2013) confirm this issue. Manufacturing companies that intend to produce a product which boosts energy, sense of exhilaration, and excitement in people must use warm colors like red, yellow and orange such as the production of energy drinks, sport cars and chocolates that the lovers give to each other on Valentine's Day. On the contrary, when the companies intend to induce the tranquility, peace and comfort to their customers, they must use cool colors like blue and green in their products such as comfortable furnishings, bottles of mineral water, bed clothes, and so on. A study by Wexner (1954) confirms these results. The inappropriate use of colors in products not only attracts the customers but also may prevent them from buying the product. Today, due to the development of self-service stores and the fewer roles of sellers, the colors psychology has become more important in the production and packaging of products, so that it greatly guarantees the preservation of manufacturing companies. The use of attractive and eye-catching packaging makes our products to show off more among thousands of items in stores' shelves and encourage customers to buy. The results of this study show that colors can have different connotations in different cultures and ethnicities. Cultural differences play an important role in the interest or hatred towards various colors that are consistent with the results of Choungourian's study (1972). Colors in products for children play a significant role to attract them and the results of Brodly's study (1981) and his colleagues also confirm this issue. Manufacturing companies must consider the demographic characteristics of the target society such as gender and age in producing each product.

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