Perception of Color in Product Choice among College Students: A Cross-National Analysis of USA, India, China and Turkey

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Abstract

This study will examine color in product choice among college students in a cross-cultural context. Surveys were conducted for the target group in the USA, India, China and Turkey. Color plays a major role in buying decisions of consumers for different products. The authors will carry out a review of the literature and discuss cross-cultural meanings and associations of color among consumers in different nations, to find out if color is important across all product categories. The survey results were analyzed for implications for marketers and to reach conclusions for our research.

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I. INTRODUCTION

Color is a visual attribute of things resulting from the light they emit, transmit or reflect. It is a highly important product attribute because color is what differentiates similar kinds of products. Color acts as the visual stimulus, attracting people to touch and feel the product and to some extent even buy it. Color is an integral element of corporate marketing communications strategy. It is an important tool for shaping customers feelings and responses (Clarke & Honeycutt, 2000). It induces moods and emotions, influences consumer perceptions and behaviors and helps companies position or differentiate themselves from the competition (Grossman and Wisenblit 1999; Aslam, 2006). Color can stimulate emotional response, affect persuasiveness and reflect prestige. In general, color has the potential to affect a consumer's overall perception of a product (Sable and Akcay 2010). If a picture is worth a thousand words, a picture with natural colors may be worth a million, memory-wise. Psychologists have documented that "living color" does more than appeal to the senses. It also boosts memory for scenes in the natural world (Wichmann, et al., 2002). Color connects the viewer with an object more quickly than any other identifying characteristic. Color is used as a simple code to signify complicated concepts and systems. For example: The color red is universally used to stop moving objects or people. Hence, there are color specific international codes for the travel & tourism industry (pcimag.com, 2002) Products are manufactured with the help of designers and colorists following various empirical guidelines. For example, product designers know that an average consumer's decision to purchase a product is based, up to about 60%, on its color (Wagner, 1988; pcimag.com, 2002).

Another empirical guideline is that color popularity has a defined cycle which lasts about seven years. Further, color popularity cycles are a function of industry. Color cycles change more quickly in the high fashion industry compared to the home furnishing industry. In the later, color preferences change every seven to ten years, since it is not economical to change colors within homes more often (pcimag.com, 2002). Fashion trends symbolize the varying decades and so does color; bright, clean pastel colors dominated the 50's, earth tones the 60s and 70s and natural colors in the new millennium (Ogden, et al., 2010; Parmar, 2004). Promoting or selling a product in the same color around the world may not be the best option. Colors have different meanings and perceptions in different cultures (Wagner, 1988; Aslam, 2006; Madden, et al. 2000).

The meaning associated with a color is a strong function of a region's social fabric, culture and history. There is a strong relationship between the geographic location of a country and the color of its national flag. People tend to have strong positive associations with the colors of their national flag (pcimag.com, 2002). It is therefore imperative to explore the meanings and perceptions of a chosen color in every target market before launching a product or promotional campaign (Aslam, 2006; Jacobs, et al. 1991). Global marketing managers must recognize how their company and product color are perceived across national markets (Madden, et al. 2000). Advertisers should select colors that maximize attention, provide a more realistic and appealing portrayal of the products and services (Gorn, et al. 1997).

II. LITERATURE REVIEW

Our brain converts light of different wavelengths into colors that are perceived by us. Light is made up of seven colors: violet, indigo, blue, green, yellow, orange and red. Red has the longest wavelength while violet has the shortest wavelength. An object appearing green absorbs all light except green and this unabsorbed light is reflected back from the object into the eye. It then travels to the brain where it is interpreted as green. The eyes are comprised of cones and rods that allow us to perceive color and light, respectively (Wagner, 1988; Singh, 2006; Sable and Akcay, 2011). The knowledge of consumers' color preferences enables marketers to identify the most popular colors and offer product offerings with the right colors.

Color is also used to attract or draw customer's attention and certain colors create a purchase intention and desired atmosphere in retail stores (Bellizi et al. 1983; Kerfoot et al. 2003). This in turn helps companies to consolidate their offerings and control manufacturing and inventory costs (Grossman and Wisenblit, 1999). However, the task of understanding color responses of consumers for various products has become very complicated because consumers have developed a wide range of color associations for various products (Ogden, et al., 2010). In general, humans are born with an ability to respond to colors - Red is the first color which a child relates to. Color becomes one of the strongest influences in the child's life from the age of two months. A child's color preferences are impacted by his or her emotional life. By the time a child evolves into a teenager, his or her brain contains a fully developed color response map. This color response map will not change throughout their lives. In adulthood, color preferences and responses change only in response to major life changing events. These events may be personal, cultural, global or environmental in nature (Wagner, 1988; pcimag.com, 2002). Color bears cultural association leading to different perceptions and evaluations. They have different meanings and aesthetic appeal in different part of the world (Schmitt and Simonso, 1997).

Color is an important tool for shaping customers' feelings and responses. It is a tool which can do more harm than good if used inappropriately. Advertisers who choose color on the basis of brand generalizations or personal bias run the risk of actually alienating customers (Hattwick, et al., 1950). Online retailers should pay attention to screen color of the web site that affects perceived download quickness and user evaluation of the web site (Gorn, et al., 2004). The importance of color as an attribute is also a function of the average life and price level of a product. In general, consumers are more likely to be more focused on a color of their choice for high priced, high involvement and long life products. In contrast, for low involvement products consumers are more flexible in their color choice (Grossman & Wisenblit, 1999). Many researches have indicated that there are differences between genders in preferences for color. The women might be more color conscious and their color tastes more flexible and diverse then men. Women are more likely then men to have a favorite color. They prefer soft colors and men prefer bright colors. (Khouw, 1995; Funk and Ndubisi, 2006).

III. CROSS CULTURAL MEANINGS AND ASSOCIATIONS OF COLOR PREFERENCES

Color preference can be a result of associating colors with various experiences, objects or images. As people grow they associate colors with good or bad experiences. Since these associations are personal, they differ from person to person (Ogden, Akcay and Sable, 2010). Color is found to be a useful and powerful tool in the creation of international brand identity and product awareness (Grimes and Doole, 1998). In general, differences in color associations arise from differences in latent philosophical religious attitudes (Cozier, 1996). Color has a considerable effect on shaping our response and influencing the manner in which we perceive the world around us. There are many cross-cultural similarities as well as dissimilarities that exist and marketers need to be aware of them (Madden, et al. 2000; Sable & Akcay, 2010). Certain colors are preferred in different cultures and color choice and meaning are learned and can change overtime (Wagner, 1988; Grossman and Wisenblit, 1999). Red, white, brown are associated with Valentine's Day, green with St. Patrick's Day: white, silver and gold are associated with New Year's Eve: and red, white and blue the Fourth of July. These holiday colors are pretty much set in stone in the U.S. (Speichert, 2005). Following are some meanings and associations of ten different colors from multiple sources:

1. **Red:** Red stimulates appetite and energy levels, raises blood pressure and makes a person feel hot. It is the first color, a child relates to (pcimag.com, 2002). The color red is associated with power, energy, warmth, Christmas, love, excitement, daring, sexiness, intensity, activeness, aggression, passion, danger, desire, strength, violence, lust, courage, rage and anger. It is preferred by high-powered active women (Paul, 2002). Red as a wardrobe color has had limited use by men. It can be found in recreational clothing, but there is little true red used in business attire (Wagner, 1988).

Red is an effective color to use in restaurants because it leads people to eat more and also make people lose track of time. It is also an effective color to use in casinos (Gorn, et al., 1997). In Chinese culture, red has been appreciated for centuries as the most appealing and luckiest color and in India it is the color of purity. Red appears frequently on packaging, on awnings of fine Chinese restaurants, and on buses and taxis (Schmitt and Simonson, 1997). The color red has been used by Asian Americans, Koreans and Indians for everything from cars to lingerie, cosmetics and bridal wear (Paul, 2002).

2. **Blue:** This color is non-threatening and is a color of trust and dependability. Blue provides a sense of coolness and hence people who enjoy being alone choose blue. Blue is the stated color preference of the majority of people in the United States (Wagner, 1988). It is also America's most frequently used corporate color, it is considered to be a cold color in Chinese culture, connoting evil and the sinister (Schmitt and Simonson, 1997). It represents peace, tranquility, calmness, stability, harmony, unity, trust, truth, confidence, conservatism, masculinity, authority, security, cleanliness, order, loyalty, coldness, technology, depression, sky, and water (Paul, 2002; Jacobs et al., 1991). Blue can "slow the pulse rate, lower body temperature, and reduce appetite." Blue is considered a business color because it reflects reliability. Blue is often considered to be the safest global color and variations of blue are the most popular of all the colors (pcimag.com, 2002). Blue is associated with immortality in China, the color of Krishna in Hinduism, symbolizes holiness for Jews and is a protective color in the Middle East.

3. **Black:** This is a color of non-commitment. It suggests dignity, sophistication and it is the ultimate power color when it comes to clothing (Wagner, 1988). It can be associated with death and mourning, although now it is considered sophisticated and elegant (pcimag.com, 2002). Black represents power, sexuality, formality, wealth, mystery, fear, evil, anonymity, unhappiness, sadness, remorse, anger, mourning and death. Black is the number one color for business clothing and number two for casual clothing (Paul, 2002; Nicholson, 2002). Most government offices around the world use black cars and transportation vehicles.

4. **White:** It is what we see when all colors come together in perfect balance. Nicholson, 2002 writes that it represents reverence, purity, simplicity, cleanliness, peace, humility, sophistication, joy, precision, innocence, youth, birth, winter, snow, goodness, sterility, death and marriage. It is preferred by intellectuals, by those in the medical profession, and by modern types (Paul, 2002). White signifies death in Japan and symbolizes coldness and sterility in Eastern Cultures.

5. **Purple:** This color represents royalty, spirituality, nobility, superiority, richness, art, creativity, passion, complexity, intrigue, ceremony, mystery, transformation, wisdom, enlightenment, cruelty, arrogance, and mourning. As per Nicholson, 2002, purple is considered an exotic color. It is number three in popularity among 18-29 year olds and is loved or hated more than any other color (Paul, 2002). Originally, purple dye was made from the mucous gland of a snail. It required thousands of snails to yield 1 gram of dye, causing it to be a color only nobles could afford. Today purple is a trendy color targeting creative types. In China and Korea purple is perceived as expensive but thought of as inexpensive in the U.S. (Jacobs et al. 1991).

6. **Green:** It is one of most-often cited favorite colors. It represents nature, environment, health, good luck, renewal, youth, vigor, safety, sourness, spring, generosity, fertility, Christmas, jealousy, inexperience, envy, money and misfortune. It's cool quality soothes, calms, and has great healing powers. It is often worn in operating rooms by surgeons. Green has religious significance in Ireland and is a sacred color in Muslim countries. It is associated with Christmas in the U.S., but in some tropical countries is associated with danger or disease (Nicholson, 2002; Paul, 2002; Singh, 2006). The smell of outdoors and fresh scents, are associated with the color green (pcimag.com, 2002).

7. **Yellow:** This color represents warmth, joy, happiness, optimism, idealism, hope, dishonesty, jealousy, betrayal, cowardness, prosperity, spirituality, success, caution and royalty/grace. It is the first color kids reach for but the least preferred color overall and is associated with low prices (Paul, 2002). Yellow is the best color to draw attention to a display of products (Wagner, 1988). It represents infidelity in France, jealousy in Russia but pleasantness, happiness, good taste, and royalty in China (Sable & Akcay, 2011).

8. **Orange:** This is a safe color and alerts our attention. Orange is a combination of yellow and red. It is stimulating but less so than red.

It represents energy, balance, warmth, vibrancy, adventure, and inexpensiveness. It has luminous qualities and is used for attention-grabbing purposes, such as on caution signs. It symbolizes that a product is inexpensive and it has favorable associations with autumn, Halloween, and Thanksgiving in the U.S. (Wagner, 1988; Speichert, 2005). It should be avoided when designing sites that are expressing sophistication, elegance and luxury. It is a very popular color in the Netherlands and India (Paul, 2002; pcimag.com).

9. **Brown:** This color is usually quite neutral and associated with nature. It has been traditionally associated with earth, warmth, comfort, reliability, stability, harmony, neutrality, comfort, home, steadiness, and simplicity, and endurance. It is a color with strong and positive food associations in the U.S. but discourages sales in Colombia (Paul, 2002; pcimag.com, 2002). Varieties of brown toned natural colors are highly utilized for furniture and floor coverings. Brown is a very common government and official correspondence color in Turkey, such as for envelopes.

10. **Gray:** This color suffers from a lack of assertiveness so it suggests confusion, as in "gray area". But it is also associated with intelligence, futurism, modesty, boredom, coolness, sadness, safety, conservatism, security, practicality, dependability, elegance, and decay. Gray is a color in men's business attire and is growing in popularity with business women (Wagner, 1988). There is particular shade of gray silver with very positive connotations of sophistication (Paul, 2002; pcimag.com, 2002). Gray is highly acceptable in government offices in Turkey. In China and Japan gray has inexpensive connotations but in the U.S. it is thought of as expensive as well as high quality and dependable (Jacobs et al., 1991).

IV. SAMPLE

A sample survey was conducted in four countries: India, China, USA, and Turkey. 90% of the respondents were college students attending universities in near major cities. The sample size for India was 112; for the USA 120; Turkey's sample size was 96; in China, the size of the sample was 112. Demographic: The age group considered for this study is between 18 and 24 year old undergraduate university students. China and Turkey had more females as respondents than males, whereas in India and US, the male-female ratio has more even.

V. METHODOLOGY

The survey questionnaires were printed in English, since the respondents in the foreign universities were all studying English. Six hundred surveys were distributed and 440 were usable. The return rate on the research was 73%. The respondents were asked their color choices for various products. The questionnaire was focused on the importance of color perceived by people for various products. The questionnaire was divided into three sections: The first section asked respondents about how important color was to them at the time of buying certain products. The second section asked the respondents for the color that they most associated with various products. The third section asked respondents about specific emotional words associated with various colors.

VI. RESULTS

The following observations were made after analysis of the survey questionnaires.

1. People in different cultures perceive colors differently.
2. The importance of color choice for the same products differs from country to country.
3. Color is more important for self-expressive products such as clothing, hats, shoes/sneakers, backpacks, bathing suits, and sunglasses.
4. There are some similarities among different cultures about product color choice in utilitarian products such as computers, cell phones, and watches. The results from the survey indicate that different cultures have different perceptions of colors.

Table 1a & b shows the difference in perception of a color from country to country.

In China, black is perceived to be associated with mystery, death and fear while in India it is perceived to be associated with evil, power, and death. In Turkey it is associated with evil, sexuality and unhappiness while in the U.S. it is associated with death, power, mystery and fear.Blue is associated with calm, cleanliness and trust in China, India, Turkey and the U.S. Brown is associated withearth in China, India, Turkey and the U.S., and maturity in India, China and the U.S. Green is associatedwith nature and health in China, India, and Turkey and nature, Christmas, and good luck in the US. Gray is associated with sadness and modesty in China, India and the U.S. It is also associated with intellect in Turkey, China and India.

Table 1a:Color Associations for different countries

Country	BLACK	BLUE	BROWN	GREEN	GRAY
CHINA	55% Mystery 49% Death 38% Fear	76% Calm 51% Cleanliness 28% Trust	58% Earth 27% Reliability 26% Endurance	91% Nature 73% Health 65% Youth	62% Sadness 23% Modesty 18% Intellect
INDIA	34% Evil 31% Power 27% Death	71% Calm 26% Trust 24% Cleanliness	74% Earth 24% Nature 17% Endurance	78% Nature 26% Money 27% Health	36% Sadness 31% Modesty 29% Intellect
TURKEY	82% Evil 33% Sexuality 29% unhappiness	65% Calm 32% Trust 22% Cleanliness	64% Earth 39% Endurance 35% Maturity	71% Nature 30% Health 26% Money	56% Decay 38% Modesty 26% Intellect
U.S.A	67% Death 48%Power 46% Mystery 45% Fear	84% Calm 55% Cleanliness 29% Trust	73% Nature 65% Earth 35% Maturity	93% Nature 38% Xmas 36% Good luck	49%Sadness 40%Modest 29%Decay 27%Intellect

Orange is percieved as warmth, energy and balance in all of the surveyed countries. Purple is associated mystery, royalty and spirtuality in all ofthese counries. In China and Turkey red is associated with passion, energy and love, while in India with love, anger, danger and passion. In the US, it is associated with love, danger, anger and power. White is perceived to be associated with purity and joy all of the surveyed countries, with death in all but the U.S., neutrality in India and the U.S. Yellow is associated with optimism, hope and happiness in China, India and Turkey, while in the U.S. it is associated hope, happiness and caution.

Table 1b:Color associations for different countries

Country	ORANGE	PURPLE	RED	WHITE	YELLOW
CHINA	84% Warmth 54% Energy 19% Balance	72% Mystery 32% Spirituality 27% Royalty	69% Passion 64% Energy 62% Love	87% Purity 23% Joy 19% Death	45% Optimism 41% Hope 38% Happiness
INDIA	46% Energy 44% Warmth 26% Balance	58% Royalty 36% Mystery 25% Spirtuality	63% Love 40% Anger 37% Danger 31% Passion	87% Purity 33% Joy 14% Neutrality 12% Death	36% Hope 37% Happiness 28% Optimism
TURKEY	39% Balance 16% Energy 6% Warmth	52% Mystery 29% Royalty 18% Spirtuality	43% Love 35% Energy 31% Passion	28% Purity 24% Death 12% Joy	29% Happiness 27% Hope 24% Optimism
U.S.A	75% Energy 63% Warmth 28% Balance	65% Royalty 42% Mystery 36% Spirtuality	68% Love 57% Danger 58% Anger 52% Power	89% Purity 53% Neutrality 41% Joy	64% Happiness 57% Caution 39% Hope

On the question of the importance of color when buying products, more than 50% of respondents said that it was very important. Respondents were asked to specify the color that they preferred for various products and also how important color was as a factor while buying specific products. The responses enabled us to analyze the importance of color for self-expressive products and utilitarian products. The Chinese assign a significant importance to color while purchasing shoes, while Indians and Turkish people assign very high importance to color for clothing. Americans assign a very high importance to color for home paint. The importance of color for some chosen products can be seen in table 2.

Table 2: Importance of color for some products

Products	China	India	Turkey	U.S.
Clothing	42% Extremely Important 46% Very Important	70% Extremely Important	66% Extremely Important	51% Somewhat Important 42% Very Important
Shoes/Sneakers	60% Very Important	44% Very Important	46% Extremely Important 42% Very Important	54% Extremely Important 35% Very Important
Cell Phones	46% Somewhat Important	34% Somewhat Important	33% Somewhat Important	37% Somewhat Important
Backpack	53% very Important	43% Very Important	33% Very Important	37% Somewhat Important
Watch	43% Very Important	50% Very Important	43% Very Important	30% Very Important
Hat	56% Very Important	40% Very Important	40% Very Important	43% Very Important
Paint for House	51% Very Important	68% Extremely Important	56% Extremely Important	70% Extremely Important
Bathing Suit	46% Very Important	31% Very Important	36% Somewhat Important	40% Very Important
Sunglasses	46% Very Important	44% Very Important	44% Extremely Important 41% Very Important	37% Very Important 30% Extremely Important

While color choice for different products should vary from country to country, we found that the choice for some sample product type remains the same. Since most respondents of the survey questionnaires are young college students we can say that globalization has changed people's association with color and it is more or less very similar as we travel from one part of the world to another. Table 3 tabulates the preferred color choices of respondents.

VII. CONCLUSION

With an increase in globalization, the world is becoming a smaller place. Color choices across the world seem to be converging for specific products. From the analysis above it can be seen that people in different countries prefer similar colors for many products. The associations of color also tending to converge. Nevertheless, color association shows some variability across the world because of cultural, religious and experiential differences. In light of these trends, businesses should identify the right color options for products in different countries depending on the preferred choices. The respondents of this survey serve as a representative sample of future buyers. Hence, product specific color preferences identified by this study can serve as a useful guideline for new product designers. Finally, the study also indicates that there have been gradual changes in color perceptions and preferences over a decade.

Table 3:Preferred colors of the respondents for some products

Products	China	India	Turkey	U.S.A
Clothing	42% White	40%Black 23% Blue 21% Red	30% Black 18% Blue 12% Red	40% Black
Shoes/Sneakers	70% White	53% Black 20% White	58%Black 17% Brown	38% Black 37% White
Cell Phones	42% Black	66% Black	53% Black	68% Black
Watch	30%White 19% Black	37% Black 16% White	50% Black 20% Gray	38% Other 25% Black
Hat	23%Blue 23% White	31% Black	41% Black	33% Black
Umbrella	39% Blue	30% Black	40% Black	55% Black 11% Blue
Paint for house	28%White 18% Blue	32% White 16% Blue	28% White 17% Yellow	40% White
Bathing Suit	38%White 16% Blue	26% Blue 21% Black	33% White 14% Blue	26% Black 23% Blue
Sunglasses	26%Brown 17% Black	53% Black	68% Black 22% Brown	66% Black 14% Brown

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