

## **Cross-cultural analysis of gender difference in product color choice in global markets**

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### **ABSTRACT**

The purpose of this paper is a cross-cultural analysis of gender differences in product color choice. Cross-cultural research has been increasing in importance in international business (Mitchell and Vassos, 1997). Relatively little research exists in gender differences in product color choice in global markets. This research study will shed light on this important area. Global marketing managers should know the favorite colors of different genders and the importance of color in consumer's product choices. The color of the product connects the consumer more quickly than any other identifying feature. Many studies have shown that when considering color preference, the difference between genders is significant. The authors have reviewed the literature and surveyed six countries to understand the color of choice for a variety of different products that are used by both genders on a daily basis. The data for this study was collected from six countries Canada, USA, the Netherlands, China, Turkey and India. The data will be analyzed to reach results and arrive at conclusions.

Keywords: Global Marketing, Cross-Cultural Analysis, Gender, Consumer Behavior, and Product Color Choice

## INTRODUCTION

Color affects every moment in life. It is an important marketing communication tool, a memorable visual element and carries key symbolic and associative information about products (Garber, et al., 2000). It strongly influences the clothes we wear, the car we drive, the backpack or hand bag we choose to use, the shoes or sneakers we wear and the furnishings in our homes. The product's color may play a significant role in the consumer's purchasing decisions for certain products (Ogden et al., 2010; Akcay et al., 2011). 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). Color is a highly noticeable attribute for presenting images. It improves recognition, memory and increases subjects' attention (Wichmann, et al., 2002). Color entices people to interact with and, quite possibly, purchase a product. Therefore it is essential to consider color when developing marketing communication strategies. (Akcay, et al., 2011; pcimag.com, 2002; Clarke and Honeycutt, 2000; Wagner, 1988). It is very important to understand consumer's color choices and update or change colors regularly, especially with high risk purchases such as cars and furniture. An understanding of a consumer's color choice is very complicated and probably based on wide range of color associations for different product categories (Akcay et al., 2011; Grossman and Wisenblit, 1991; Triplett, 1996). Companies could create a remarkably effective marketing communication message and support the company's overall strategy with a well-planned color program (Geboy, 1996). The use of color in branding has taken on new importance as more companies go global. Red is associated with Coke and Marlboro, blue with Pepsi and IBM, and yellow with Kodak and Caterpillar. Global companies use color to differentiate and strengthen their brand in domestic and international markets (Sable and Akcay, 2010; Madden et al., 2000).

## LITERATURE REVIEW

In many industries, product color has significant importance for sales of different products. For that reason, a lot of companies review the color choice of consumers periodically. The consumer's color choice and perception of color is learned and may change over time (Adams and Osgood, 1973; Hupka, et al., 1997, Trend, 1997). There are a number of studies that suggest that consumer color choice depends on demographic factors, such as age, gender, ethnicity and socio-economic factors (Boyatzis and Varghese, 1994; Sliver, 1988; Paul, 2002; Krishna, 1972; Choungourian, 1968; Yang, 2001; Sable and Akcay, 2010). In addition, color preferences can be affected by external factors such as the geographic location of consumers (urban vs. rural) and climate. There are also gender differences in the importance and perception of color (Sable and Akcay, et al., 2010; Funk and Ndubisi, 2006; Singh, 2006). Before new products are launched, marketing managers need to explore color perception in every target market that they have dealings with (Akcay, et al., 2011; Aslam, 2006; Madden, et al., 2000; Jacobs, et al., 1991; Wagner, 1988). They also need to find a color that makes a product beautiful, elegant, feminine or masculine - desirable. Women might be more aware of color and more diverse and flexible in their color choices, as compared to men. They are more likely to have a favorite color and to prefer softer colors than men. The most frequently mentioned favorite color for both females and males was blue (Akcay, et al., 2011; Sable and Akcay, 2010;

Funk and Ndubisi, 2006; Khouw, 2003). Color is perceived differently by people of different ages, genders, and ethnicity, and is powerful enough to create moods and brand images. According to studies there is a significant difference between men and women when they are asked to identify a color (Khouw, online) and they often attached different meanings to a particular color. Color and emotion are systematically related, and color has a certain psychological effect upon human beings. There are differences in color preferences between men and women (Lee and Bernes, 1990). One recent study found that color is much more important for women than men in certain product categories (Ogden et al., 2010). According to the Wagner color response report, men and women prefer different shades of a color. Turquoise gets the most positive response from women and men have a much higher acceptance of aqua than they do for turquoise. Men are attracted to yellow-based pinks such as apricot. Women are attracted to blue-based pinks such as ballet pink (Wagner, 1988). A recent study found that, product color is very important among young adults and more important for girls than boys (Akca, et al., 2012). There is a great need for research on the impact of color preference and customer loyalty according to gender (Ndubisi, 2006). A majority of the research in marketing evaluates the effect of gender as the result of biological differences (Garnt and Bodenhasen, 1997; Schertzer et al., 2008). Gender is one of the key variables for segmentation and is studied in marketing literature (Kotler and Keller, 2012; Schiffman, et al., 2010; Wolin, 2003; Palan, 2001). More than 85% of product purchase decisions are influenced by women who account for \$500 billion a year in sales in the USA. Women are the major purchaser of many goods for the household and they play a significant role in buying for a family's daily needs such as garments, food, drinks and on-line purchases. They have been called the household's "chief purchasing officer" (Schiffman, et al., 2010; [www.123HelpMe.Com](http://www.123HelpMe.Com)). Evidence shows that males and females have differences in Christmas gift shopping. Women have been said to dominate the Christmas season. Women are much more "active" Christmas shoppers and are more concerned than men with buying "appropriate" gifts. There is a communal nature ascribed to gift shopping and communal values are associated with women. They buy most of the gifts, wrap them, prepare and serve the meals and decorate the house during big shopping seasons such as Christmas in the U.S. (Fischer and Arnold, 1990). Research in this area will have significant importance for domestic and global markets, because close to half of the population is female (U.N. Statistics, 2008, Cateora et al., 2011).

## **METHODOLOGY**

The authors surveyed the U.S., the Netherlands and Canada which represent Western Culture (Anglo-Saxon). China, India and Turkey which represent a culture widely different from Anglo-Saxon were also surveyed. The survey questionnaire was printed in English. Target respondents spoke English or had been studying English in China, India, the Netherlands or Turkey. A random sample was utilized which was conducted with the help of foreign students who come from the surveyed countries, except for the U.S. The sample size for the U.S. was 120, for Canada 124, China's sample size was 112, India's was 156, and Turkey's, was 96. The respondent's ages ranged from 18 to 35 years old. The gender distribution for China and Turkey had more female respondents than males. In India and the US, the male and female ratio was more even. Canada had more males than females. Seven hundred fifty questionnaires were distributed and 565 were returned and useable. The response rate was 75%. The questionnaire was divided into four sections: (1) How important is color for the respondent when making

decisions about purchasing products? (2) Rating the importance of color for various products, (3) Demographic variables; such as gender, age, location and nationality.

A student's t test is performed to identify whether the differences in mean scores between female and male are statistically significant. The corresponding P values are reported in table 1. Below is the description of the student's t test.

### Dependent t-test for paired samples

The paired t-test was used to test the null hypothesis that the population mean is equal to a specified value  $\mu_0$

$$t = \frac{\bar{X}_D - \mu_0}{s_D / \sqrt{n}}$$

Where  $X_D$  is the sample mean,  $S_D$  is the sample standard deviation of the sample and  $n$  is the sample size.

### HYPOTHESES

H1: When making a product choice in general, color is more important to women than to men

H2: Men believe color is more important to them for the products that they are more interested in or use more frequently regardless of the nature of the products.

H3: The magnitude of gender effect (difference) varies across countries.

### Gender Effect Analysis

Here are the scores indicating the importance of color in the purchasing process. : 1: Extremely important, 2: Very important, 3: Somewhat important, 4: Not very important, 5: Not at all important.

The means for females and males for each country respectively, was calculated. A student's t test is performed to identify whether the difference in scores between female and male are statistically significant. The corresponding P values are reported in table 1. Additional comparison and summary are also presented in table 1. Some implications for practitioners are offered in the conclusion.

Here is the analysis of six countries' mean scores of females and males in purchasing of various products in China, Canada, the USA, Turkey, India and the Netherlands. (Figure 1-6)

As indicated in Figure 1, in China, color is very important for females in most of the product categories - especially clothing, back packs, watches, hats, house paint, bathing suits and sun glasses. The products that are more important for men are digital cameras, candy, beverages and tooth brushes.

As indicated in Figure 2, in Canada, color is very important for females in all product categories - especially clothing, shoes, house paint, sun glasses and bathing suits, but not game systems, digital cameras, tooth brushes or mouthwash.

As indicated in Figure 3, in USA, color is important for females. But there are fewer gaps in the importance of color between genders as compared to China, Canada and the Netherlands. The gap is also very narrow in some product categories such as clothing, shoes, iPods, digital cameras, watches, hats and sun glasses. Color is also important for men for cell phones, computers and game systems.

As indicated in Figure 4, in Turkey, color is very important for females but the gap is very narrow with importance of color for genders; especially clothing, cell phones, watches, hats, house paint, beverages, computers, tooth brushes, mouth wash, bathing suits, umbrellas and sun glasses. The gender gap is very wide for back packs, iPods, digital cameras and candy.

As indicated in Figure 5, in India, there is a small gap between genders, but color is very important to females when making purchasing decisions about products such as clothing, shoes, game systems, watches, digital cameras, hats, house paint and sun glasses. There is a wider gap between genders when making purchase decisions for computers, back packs, iPods, umbrellas, school supplies, beverages, mouthwash and bathing suits.

As indicated in Figure 6, in the Netherland, there are huge gender differences in importance of color when making purchasing decision about products. For women color is very important for the following products; clothing, shoes, back packs, watches, hose paint and sun glasses. For men computers, game systems, hats and school supplies are important.

## EMPIRICAL RESULTS

As indicated in Table 1:

- 1) The findings are consistent with the prediction from hypothesis 1 across all countries. In general, women believe color is more important to them in purchasing products than to men.
- 2) The findings lend support to hypothesis 2 in which men believe color is more important to them on the products that they are more interested in or use more frequently. It's worth noting that India is the ONLY country where color is more important to females than to males in any aspect of products under this survey.
- 3) The student's t- test indicates that the magnitude of gender effect varies across different countries. The gender effect is statistically significant and being strong in China (P-value: 0.002), Canada (P-value: 0.001), the Netherlands (P-value: 0.042) and India (P-value: 0.071) but not significant in the US and Turkey. Figure 7 shows that the importance of color is very strong between genders for Canada, China, India and the Netherlands but there is a weak gender effect for the USA and Turkey.

## Marketing Practices

According to the literature women are the decision makers for products such as clothes, toys, groceries, furniture, gifts, rugs and other household goods most of the time. A recent study for the Consumer Electronic Association found that most of the electronics purchased recently have been bought by women for themselves. They are also most interested in buying electronics such as computers, cell phones, digital cameras, DVD players, printers and HDTVs (Schiffman, et al., 2010). Women consider themselves to be early adopters (30%) of the latest technology and

spend \$55 billion on electronics every year. Retailers like Best Buy, Radio Shack and Office Depot have changed their marketing strategies to hire more women managers and train employees, change store design to make the stores more functional and feature friendly for specifically female consumers (<http://adage.com>).

According to the literature review, there are some products such as pants, work clothes, ties, cigars, shaving equipment, cars, tools and technical products that are generally considered male products. But male and female roles in shopping have changed and the gap between gender differences is closing in recent years. Men around the age of 40 and younger are more likely to believe that the purchase of clothes, cars, groceries and technical products are appropriate for both genders in the USA (Schiffman, et al., 2010). Similar situations might be seen throughout western cultures. But in other areas of the world such as the Middle East, South America and Asia the gender gap is still large.

## CONCLUSION

Research findings show that color is a very important characteristic for women when they are making product purchase decisions. The results of the study's survey indicate that product color is very important for females for most of the product categories. The products that are self-expressive were very important for women such as clothing, back packs, hats, bathing suits and house paint. Color was more important for men in products such as digital cameras, candy, game systems, beverages, tooth brushes and mouthwash.

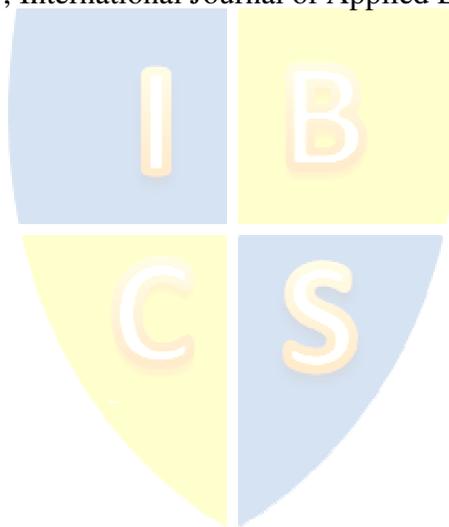
It was found that color gender influence is very strong for Canada, China, India and the Netherlands. These countries should be treated differently than the USA and Turkey where there is a weak gender effect. But color is a very important feature when making purchase decisions for both genders in all of the countries surveyed. The gap for color choice between genders varies country by country in different product categories. Global marketers should study the culture of the country and understand their consumer's choice of color in different products. It is a smart decision to tailor their product's color to fit well with customers of both genders in global markets.

## REFERENCES

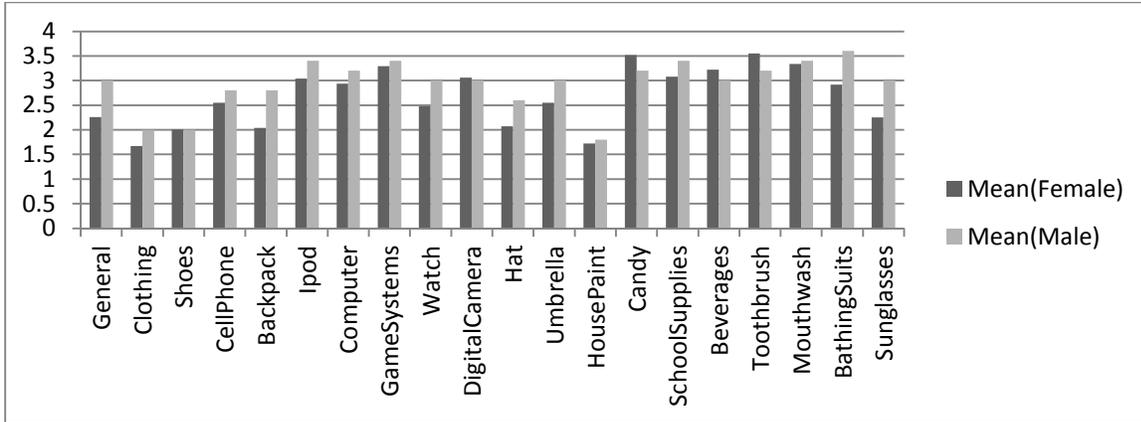
- Adams, F.M. and Osgood, C. E. (1973), "A Cross-Cultural Study of the Affective Meanings of Color", *Journal of Cross Cultural Psychology* 4 (2).
- Akcay, O., Dalgin, H. and Bhatnagar, S. (2011), Perception of Color in Product Choice among College Students: A Cross-National Analysis of USA, India, China and Turkey, *International Journal of Business and Social Science*, Vol. 2 No. 21 [Special Issue-November].
- Aslam, M. (2006), Are You Selling the Right Colour? A Cross-cultural Review of Colour as a Marketing Cue, *Journal of Marketing Communications*, 12 (1), pp. 15-30.
- Cateora, P. R., Gilly, M. C., Graham, J. L., (2011), *International Marketing*, McGraw-Hill/Irwin, Fifteen Edition, p. 77.
- Boyatzis, C. J. and Varghese, R. (1994), Children's Emotional Associations with Color, *Journal of Genetic Psychology* 155(1), pp. 79-85.
- Choungourian, A. (1968), Color Preferences and Cultural Variations, *Perceptual Motor Skills*, 23 (3), pp. 1202-1207.

- Clarke, Irvine and Honeycutt, Earl D. (2000), Color Usage in International Business-to-Business Print Advertising, *Industrial Marketing Management* (29), pp. 255-261
- Fischer, E. and Arnold, S. J. (1990), More than Labor of Love: Gender Roles and Christmas Gift Shopping, *Journal of Consumer Research*, Vol. 17, pp. 333-345.
- Funk, D. and Ndubisi, N. O. (2006), Colour and Product Choice: A study of Gender Roles, *Management Research News*, Vol. 29, No. 12, pp. 41-52
- Garber, L. L., Hyatt, E. M., Starr, R. G., (2000), The Effects of Food Color on Perceived Flavor, *Journal of Marketing Theory and Practice*, pp. 59-71.
- Geboy, Lyn Dally (1996), Color makes a Better Message, *Journal of Health Care Marketing*, Summer, Vol. 16, No. 2, pp. 52-54.
- Grossman, R. P. and Wisenblit J. Z. (1999), What we know about consumers' color choices. *Journal of Marketing Practice*, 5 (3), pp. 78-90.
- Mitchell, V. W. and Vassos, V. (1997), Perceived Risk and Risk Reduction in Holiday Purchases: A Cross-Cultural and Gender Analysis, *Journal of Euromarketing*, Vol. 6 (3), pp.47-79. [http:// adage.com/article/news/electronics-retails-woo-women/101210/](http://adage.com/article/news/electronics-retails-woo-women/101210/)
- Hupka, R. B., Zaleski, Z., Otto, J., Tarabrina, N. V. (1997), "The Colors of Anger, Envy, Fear, Jealousy: A Cross Cultural Study", *Journal of Cross-Culture Psychology*, 28 (2), pp. 155-172.
- Jacobs, L., Keown, C., Worthley, R. and Kyung G. (1991), "Cross-Cultural Comparisons: Global Marketers Beware", *International Marketing Review*, 8 (3), pp. 20-31.
- Khouw, Natalia (online), The Meaning of Color for Gender, [www.colormatters.com/khouw.htm](http://www.colormatters.com/khouw.htm)(Retrieved March, 2012).
- Kotler and Keller (2012), *Marketing Management*, 14th Edition, Prentice-Hall, p. 76, 80.
- Krishna, K. P. (1972), "Colour Preferences as a Function of Age and Sex", *Journal of Indian Academy of Applied Psychology* 9 (1), pp. 10-14.
- Lee, Seonsu and Barnes, JR. (1990), Using Color Preferences in Magazine Advertising, *Journal of Advertising Research*, December 1989/January 1990, pp. 25-30.
- Madden T. J., Hewett K. and Roth, M. S. (2000), Managing Images in Different Cultures: A Cross National Study of Color Meanings and Preferences, *Journal of International Marketing*, 8 (4), pp. 90-107.
- Ndubisi, Neson Oly (2006), Effect of Gender loyalty: A Relationship Marketing Approach, *Marketing Intelligence & Planning* 24. 1, pp.48-61
- Ogden, J. R. Ogden, D. T., Akcay, O., Sable, P. and Dalgin, M. H. (2010), Over the Rainbow- The Impact of Color on Consumer Product Choice, *Journal of Business and Behavioral Sciences*, Volume 22, Number 1, pp. 65-72.
- Palan, K. M. (2001), Gender Identity in Consumer Behavior Research: A Literature Review and Research Agenda, *Academy of Marketing Science review*, Vol. 32, available at: [www.amsreview.org/articles/palan10-2001.pdf](http://www.amsreview.org/articles/palan10-2001.pdf).
- Paul, P. (2002), Color by Numbers, *American Demographics*, February, pp. 30-34.
- Pcimag.com. Color the silent Language, (Retrieved September 10, 2010), from Paint and Coating Industry Website: [www.pcimac.com](http://www.pcimac.com)
- Sable P. and Akcay O. (2010), Color: Cross Cultural Marketing Perspectives as to what Governs Our Response to it, *Proceedings of ASBBS*, 17 (1), 950-954.

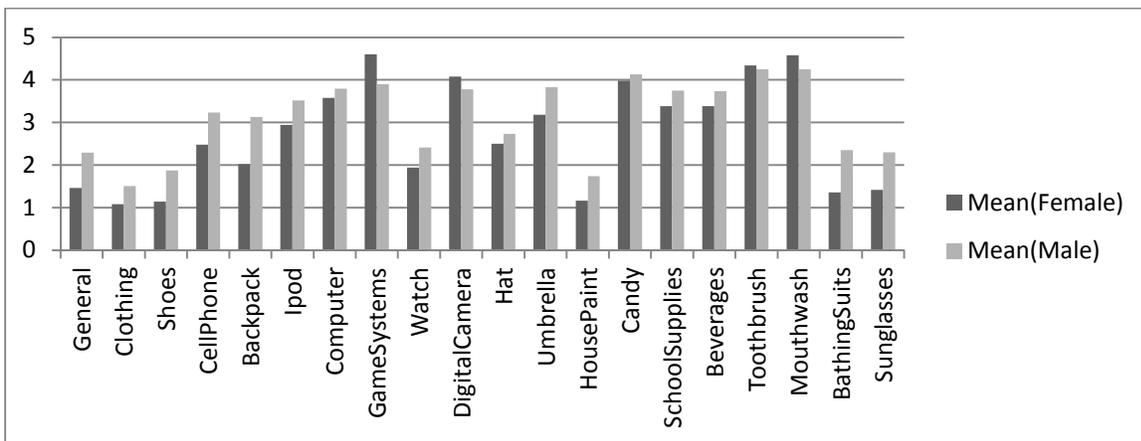
- Schertzer, Susan M. B., Laufer, D., Silvera, D. H., McBrite, J. B., (2008), A Cross-Cultural Validation of a Gender Role Identity Scale in Marketing, *International Marketing Review*, 25. 3, pp. 312-323.
- Schiffman, L. G., Kanuk, L. L., and Wisenblit, J. (2010), *Consumer Behavior*, Tenth Edition, Pearson/Prentice Hall, pp. 398-401.
- Singh, S. (2006), Impact of Color on Marketing, *Management Decision*, Vol. 44, No. 6, pp. 783-789.
- Sliver, N. (1988), “Sex and Racial Differences in Color and Number Preferences”, *Perceptual and Motor Skills*, 06 Feb., pp. 294-300.
- Wagner, C. (1988), *The Wagner Color Response Report*, Revised Edition, The Wagner Institute for Color Research, pp. 29-95.
- Wolin, L. D. (2003), Gender Issues in Advertising: An Oversight Synthesis of Research 1970-2002, *Journal of Advertising Research*, Vol. 43, pp. 111-129. [www.123HelpMe.com/view](http://www.123HelpMe.com/view), (Retrieved March, 2012), Gender Importance in Marketing.
- Yang, Y (2001), “Sex and Language Proficiency Level in Color – Naming Performance: An ESL/EFL Perspective”, *International Journal of Applied Linguistics* 11 (2), pp. 238-257.



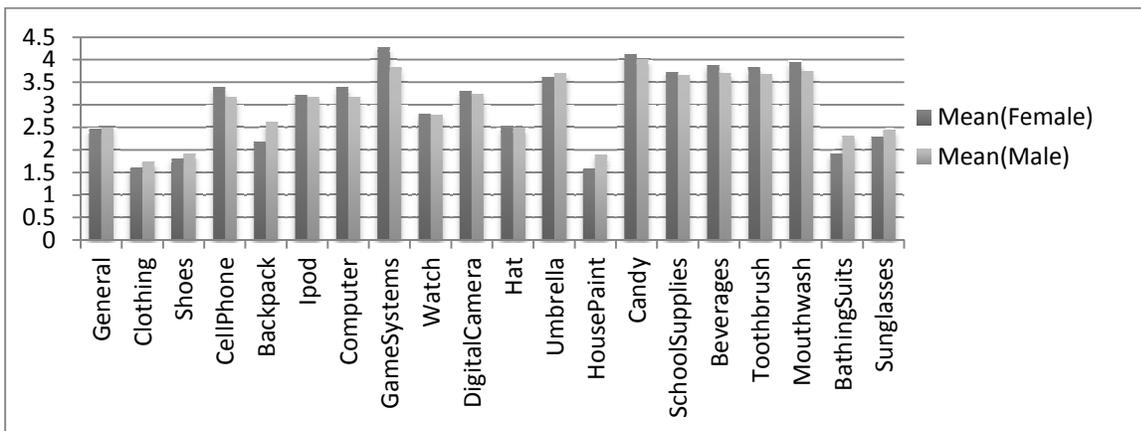
**APPENDEX:**



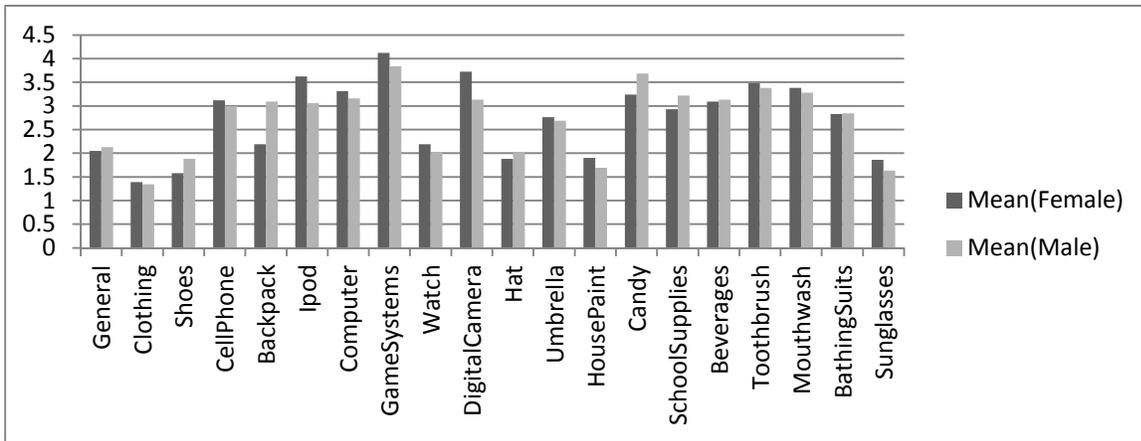
**Figure 1: (China):** Shows the mean scores for females and males in purchasing various products in China.



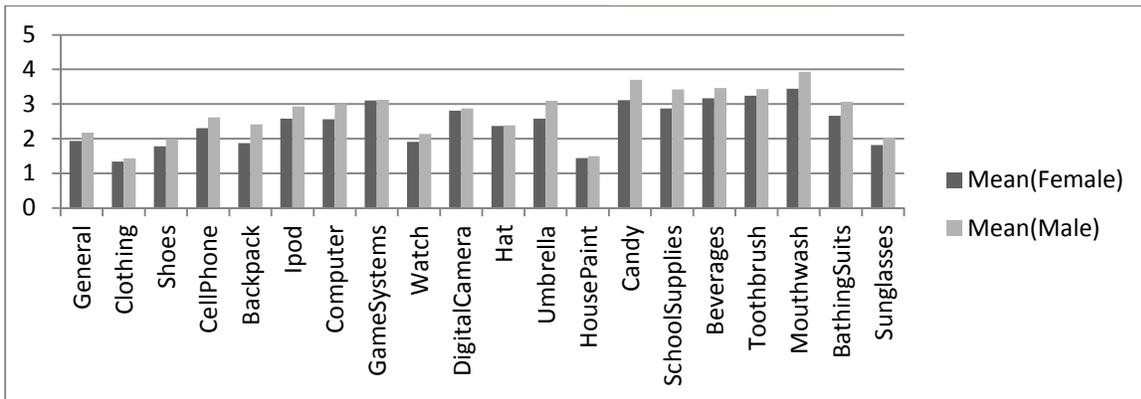
**Figure 2 (Canada):** Shows the mean scores for females and males in purchasing various products in Canada.



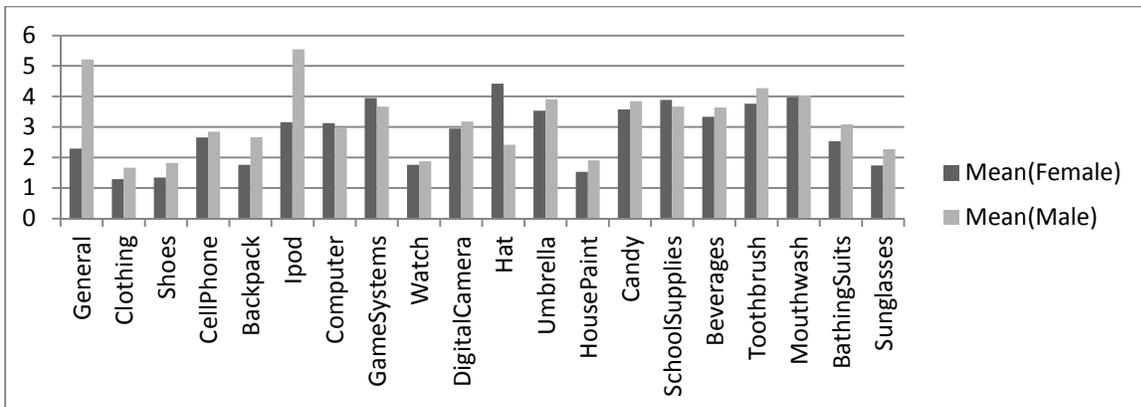
**Figure 3 (USA):** Shows the mean scores for females and males in purchasing various products in the US.



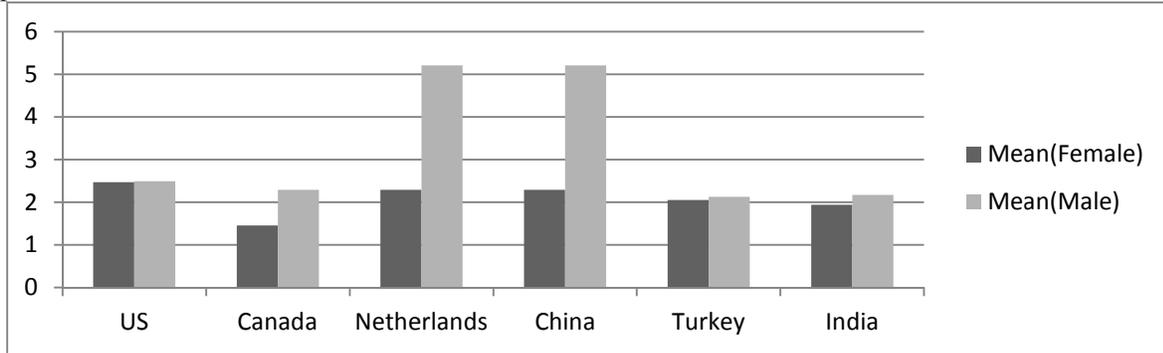
**Figure 4 (Turkey):** Shows the mean scores for females and males in purchasing various products in Turkey.



**Figure 5 (India):** Shows the mean scores for females and males in purchasing various products in India.



**Figure 6 (Netherlands):** Shows the mean scores for females and males in purchasing various products in the Netherlands



**Figure 7 (General):** Shows a summary of the mean scores for females and males from the six countries surveyed in purchasing various products.

**Table 1: Summary of hypotheses testing results**

Country	H1 (Color is more important to Females)	H2 (Exceptions: Items of which color is more important to Males)	H3 (Difference in Scores between female and Male) Student's T-test P Value is reported
China	supported	Digital Camera Candy Beverages Toothbrushes	0.002**
Canada	supported	Digital Camera Game System Toothbrushes Mouthwashes	0.001***
USA	supported	Cell Phone IPOD Watch Game Systems Digital Camera Hat Beverages Toothbrush Mouthwash	0.426

<b>Turkey</b>	Supported	Clothing Cell phone IPod Computer Game Systems Watch Digital Camera Umbrella House Paint Toothbrush Mouthwash Sunglasses	0.394
<b>India</b>	Supported	No exception	0.071*
<b>Netherlands</b>	Supported	Computer Game System Hat School Supplies	0.042**

\*, \*\* and \*\*\* denote significance level at 10%, 5% and 1% respectively.

