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The Relationship between Color Preference and Consumer Products

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The study was conducted to determine if the color of an object had an effect on a person's motivation to purchase that product. The research hypothesis stated that color would have an effect on a person's motivation to purchase a product and that those differences would vary between sex as well. To test this hypothesis, the current study recruited participants to take a demographic survey and rate 60 colored products on a slideshow. The slideshow consisted of 60 pictures, 10 items colored in the 6 primary and secondary colors. The participants were given as much time as they needed to rate each item on a Likert scale from 0-would not buy to 10-would definitely buy. After the participants completed the study, the data were collapsed into color categories and each color had a score, per participant, from 0-100. It was concluded at the end of the study that the results supported the research hypothesis because the ANOVA revealed that there was a significant difference between men and women and their motivation to buy an item based on its color in 2 of the 6 colors.

In design, marketing, and advertising, professionals use color to evoke an emotion in their audience to buy their product. These professionals use color to establish the look and feel of their companies and their brand. Color choice is one of the most important tools to advertising professionals. A study done by Chandrashekaran (2004) about how color affects a person's perception of price information of a product found that a subject's processing of price information varied from color to color. Chandrashekaran (2004) studied what colors stores used for price advertising and found that many major retailers use red as a color to draw attention to reduced prices leading consumers to associate red with a low price.

A study conducted by Ko (2011) about influencing factors on color and product-function association revealed that participants did not just choose their favorite colors, they were drawn to certain colors depending on the item. The colors were defined by product functions, such as blue

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and deep cleaning or purple as soothing. For both males and females, blue was a general favorite but white was the favorite for product-function as a whole (Ko, 2011).

Seonsu and Barnes (1989) took an in depth look into color preferences in magazine advertising. They note that color has a certain psychological effect that plays a part in advertising; color can alter moods and instill a call to action. The most effective use of color reinforces the images and text, holds the attention of the reader, and awakens interest in the reader (Seonsu & Barnes, 1989). There is a stigma that men prefer blue and women prefer red. This stigma would suggest that magazines and advertisements targeted at different sexes would be focused on those colors, but they are not. Other variables that are less studied also affect color preference, such as race and culture. Seonsu and Barnes (1989) found that there is a lack of research and understanding about color psychology, what colors evoke which emotions, and what combination of colors is most effective for certain advertisements. It appears that there is a wide variety of advertising firms that are not using color to improve advertising response (Seonsu & Barnes, 1989).

Singh (2006) investigated color in marketing. She found that between 62-90% of the assessment of people and/or products is based on colors alone. Color is important in understanding attitude toward certain products and serves as insight into the marketing world by finding a color that evokes an emotion. Singh's research (2006) took an in depth look into the use of colors and advertising and touched on sex differences in color. She suggests throughout her article that men and women *perceive* color differently therefore leading to exclusive emotions which would impact their color preference. She makes no certain assumptions about sex differences and color perception.

Another marketing study conducted by Aslam (2006) looked to find cultural cues in color preferences for marketing. Color perception can be broken down into two cognitive categories: meanings and associations. Both facets are integral in the marketing world. Marketing and advertising professionals want to target their audience the most effective way possible and that involves making something that is meaningful and that can be associated with their product. This is often done in brands by the creative use of color. For instance, in some cultures, blue is seen as a predominantly feminine color. In that culture, a marketing professional should tailor their advertisements and products to colors that target their audience.

Color manipulation and application impacts a person's emotions and thoughts in a significant way and this leads to our present understanding of how the brain responds to color. Past research has looked at color perception, color associations, and color in a cultural view. By continuing research and testing more variables we can further study these processes by using new and different perspectives. The present experiment was designed to study the effect color has on consumerism. The study was conducted to try to determine if there was a significant variation in which colors are most desirable in consumer products. It was hypothesized that the results of the study would show a significant variability in color and that color would have an effect on whether the item would be purchased or not. To test this hypothesis the participants were shown 10 items colored in 6 different colors, using primary and secondary colors, and asked to rate their willingness to purchase the product on a scale from 0 (would not buy) and 10 (would definitely buy). These ratings were used to determine the effect of color on product consumerism.

Method

Participants

The participants were 52 undergraduate college student volunteers who signed up for the study through the Lindenwood Participant Pool (LPP) at Lindenwood University. There were 23 men and 29 women. The participants ages ranged from 18 to 31 (M=19.67, SD=1.948). Participants' majors included 9 from the School of Business, 6 from the School of Communications, 5 from the School of Education, 4 from the School of Fine and Performing Arts, 2 from the School of Human Services, 23 from the School of Sciences, and 3 undecided. Participants were asked in the demographic survey what their favorite color was; 9.6% answered red, 3.8% answered orange, 1.9% answered yellow, 17.3% answered green, 40.4% answered blue, 13.5% answered purple, and 13.4% answered a variety of other answers, black for example. All of the participants who signed up for the study through the LPP received extra credit for an introductory social science class they were enrolled in.

Materials

The participants were first given two copies of an informed consent form (See Appendix A), to give them information about the study and ask their consent to continue. After receiving consent, the participants were given a demographic survey (See Appendix B), which included questions regarding their gender, age, major of study, and favorite color. After completing the survey, the participant was given a product rank sheet (See Appendix C) and given directions to rank each item based on their motivation to purchase them, between 0 (would not buy) and 10 (would definitely buy). The slideshow consisted of 60 pictures, each colored in Adobe Photoshop. The previously colored pictures were white and then colored using the same digital RGB mix for consistency in color between items. The pictures consisted of 10 items: a pair of

sunglasses, a toothbrush, a spatula, a t-shirt, a bike, a laundry hamper, a chair, a book bag, a cup, and a pair of scissors. These products were colored red, orange, yellow, green, blue, and purple (See Appendix D). Each of the participants was given as much time as they needed individually, but usually needed no more than 10 seconds to rank each product on the product rank sheet (See Appendix C). The study was conducted in the psychology lab at Lindenwood University's Young Hall. The room consisted of a table with four chairs, a computer, and no windows.

Procedure

As participants entered the room in which the study was taking place they were asked if they had signed up for the study on the LPP board. Once it was confirmed that they were part of the study they were given two copies of an informed consent form, one for them to keep and one for the experimenter to keep. After they signed the two copies of the informed consent form the participants were given the demographic survey. When the participants finished filling out the survey it was explained to them that they were going to be ranking products based on their motivation to purchase them. Each participant saw the same slideshow in which the colors shown were counterbalanced. The participants saw each slide individually, with one item and the item number on the slide. They were not timed in this endeavor to control for inaccurate results due to rushing. Each of the participants was given as much time as they needed individually, but usually needed no more than 10 seconds to rank each product on the product rank sheet. Once the participants completed the product ranking sheet and the slideshow was over, they were debriefed about the purpose of the study and given a feedback letter thanking them for their time and participation. Participants were given a participant receipt to be turned into the LPP office to earn extra credit for their introductory social science class for their participation in the study.

Results

The research hypothesis states that color would have an effect on a person's motivation to purchase a product and that those differences would vary between sex. After finding each total color score from each participant, an ANOVA was conducted for analysis of sex differences in color preference in products. The results from the ANOVA revealed that the participants' color preference varied significantly based on difference of sex between blue, $F_{(1,50)}= 11.975$, $p < .05$ and purple, $F_{(1,50)} = 17.122$, $p < .05$. This finding supports the study's hypothesis that color would have an effect on a person's motivation to purchase a product and that those differences would vary between sex. Colors that did not reveal sex differences were red, $F_{(1,50)}= 2.736$, $p > .05$, orange, $F_{(1,50)}= .001$, $p > .05$, yellow, $F_{(1,50)}= 3.938$, $p > .05$, and green, $F_{(1,50)}= .926$, $p > .05$.

Discussion

The study was conducted to test the hypothesis that color would have an effect on a person's motivation to purchase a product. The results of the study showed that there was a significant difference in two colors, blue ($F_{1,50} = 11.975$, $p < .05$) and purple ($F_{1,50} = 17.122$, $p < .05$), between men and women and their color preference of products but no significant difference in four of the six colors. Blue was rated in the demographic survey as the most favorable color by 40% of participants and it was also the most favorable color based on the color ratings from the experiment (M=65.96, SD=19.55). There was also a sex difference in the color preference of blue; men rated blue products higher than women with men having an average score of 75 and women having an average score of 58. However, women rated purple higher than men with an average rating of 64 compared to 39 in men. Purple was the most significant difference but this could be due to gender stereotypes and color; in some cultures it is undesirable for a man to favor a feminine color such as purple.

The least preferred color rated by both men and women was yellow (M=40.75, SD=21.017). There were some sex differences in the color preference for yellow with an average rating from men at 34 and an average rating from women at 43. There was no difference in color preference for men and women for orange with average ratings from men and women at 43. Green had a very small difference in color rating between men and women with an average rating of 56 from men and 52 from women. Red, although with no sex difference, was rated high by both men and women.

It is not surprising that blue is the most favored color among men and women. Blue was ranked as the most liked color prior to the study by the participants and the data from the study supports that initial observation. Ko (2011) also found that his participants, both men and women, preferred blue overall. However, red was not even one of the top three favorite colors yet both men and women preferred red based on their color rankings. This may attribute to the idea that items that are red are less expensive than other colors. Red is primarily used to advertise sales and clearance opportunities, leading people to associate red with cost effectiveness. The cost associated with the color red is also supported by Chandrashekaran's research (2004). He found that participants perceived items advertised with red as less expensive than those advertised using other colors.

Although the present study produced significant results, there were limitations in regards to the study. These limitations include a short time period and a lack of hue and saturation variants. With a longer time period to conduct research there would be less constraints on participant number and it would be more possible to collect data from a large sample size. There also could have been more significance in the data if there were different hues and saturations of color involved in the study. In the future, it would be useful for researchers to include more

products and color variants. Color sets such as neons and pastels could be added to expand knowledge on color preference. Another interesting research direction would be toward color preference in advertising and not just in particular products.

References

Aslam, M.M. (2006). Are you selling the right color? A cross-cultural review of color as a marketing cue. *Journal of Marketing Communications, 12*(1), 15-30.

Chandrashekaran, R., Suri, R., & Grewal, D. (2009). Red squares and blue circles: How color affects processing of price information. *Advances in Consumer Research - Asia-Pacific Conference Proceedings*, 8372.

Ko, Y. (2011). Influencing factors on color and product-function association. *Psychological Reports, 108*(3), 861-873.

Seonsu, L., & Barnes, J. H. (1989). Using color preferences in magazine advertising. *Journal of Advertising Research, 29*(6), 25-30.

Singh, S. (2006). Impact of color on marketing. *Emerald Insight, 44*(6), 783-789.

Appendix A

Informed Consent Form

I, _____ (print name), understand that I will be taking part in a research project that requires me to rate items, presented to me on a computer screen, based on how likely I am to purchase each item and to provide simple demographic information about myself. I understand that I should be able to complete this project within 15 minutes. I am aware that I am free to skip any item rating in the unlikely event that I feel uncomfortable rating any of the items on any of the slides. I am also aware that my participation in this study is strictly voluntary and that I may choose to withdraw from the study at any time without any penalty or prejudice. I should not incur any penalty or prejudice because I cannot complete the study. I understand that the information obtained from my responses will be analyzed only as part of aggregate data and that all identifying information will be absent from the data in order to ensure anonymity. I am also aware that my responses will be kept confidential and that data obtained from this study will only be available for research and educational purposes. I understand that any questions I may have regarding this study shall be answered by the researcher involved to my satisfaction. Finally, I verify that I am at least 18 years of age and am legally able to give consent or that I am under the age of 18 but have on file with the LPP office, a completed parental consent form that allows me to give consent as a minor.

_____

(Signature of participant)

_____

(Signature of researcher obtaining consent)

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Appendix B

Demographic Survey

SUBJECT ID NUMBER: _____ (Assigned by Researcher)

Circle or check the answer for each question that best describes you.

E. Are you: MALE FEMALE

F. What is your favorite color?

G. What age are you? _____

4) What is your major area of study?

Appendix C

Participant Number: _____

Product Ratings

How likely are you to purchase each item, ranked on a 10 point scale,
where **0** is **would not buy** and **10** is **would definitely buy.**

1		16		31		46	
2		17		32		47	
3		18		33		48	
4		19		34		49	
5		20		35		50	
6		21		36		51	
7		22		37		52	
8		23		38		53	
9		24		39		54	
10		25		40		55	
11		26		41		56	
12		27		42		57	
13		28		43		58	
14		29		44		59	
15		30		45		60	

Appendix D

Color Preference in Products

Spring 2013

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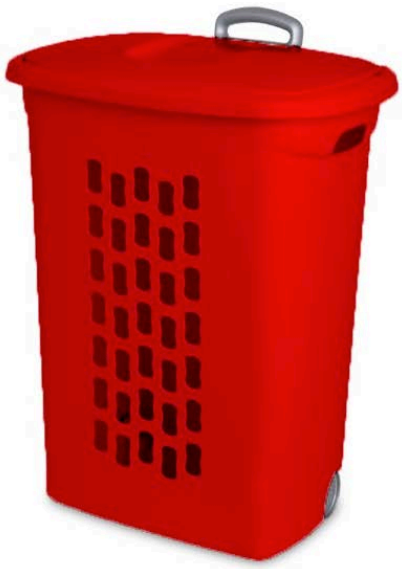

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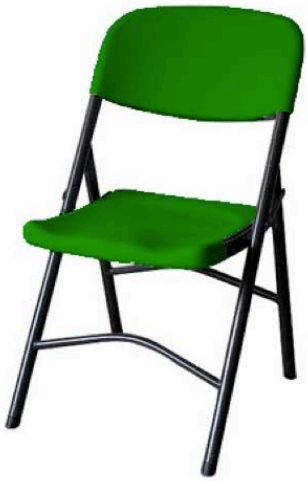

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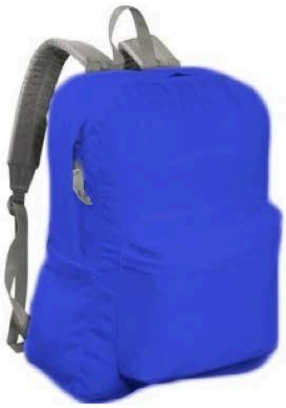

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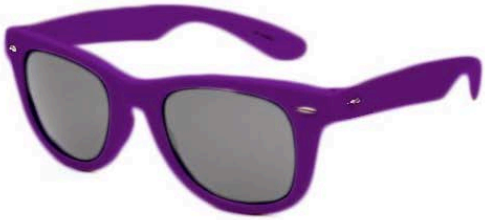

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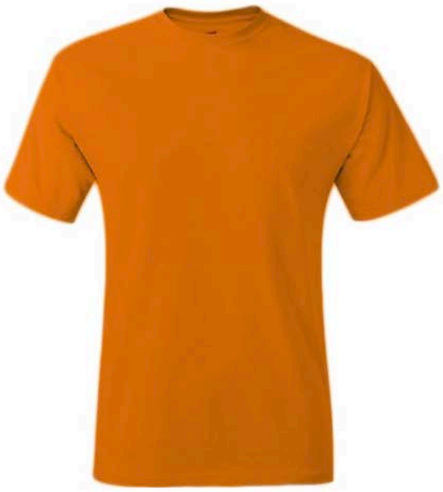

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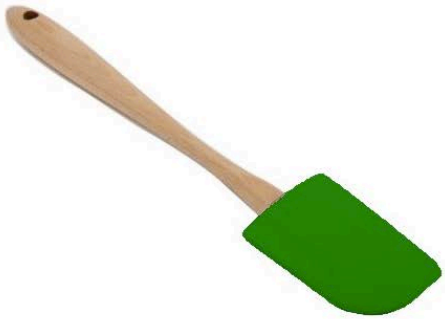

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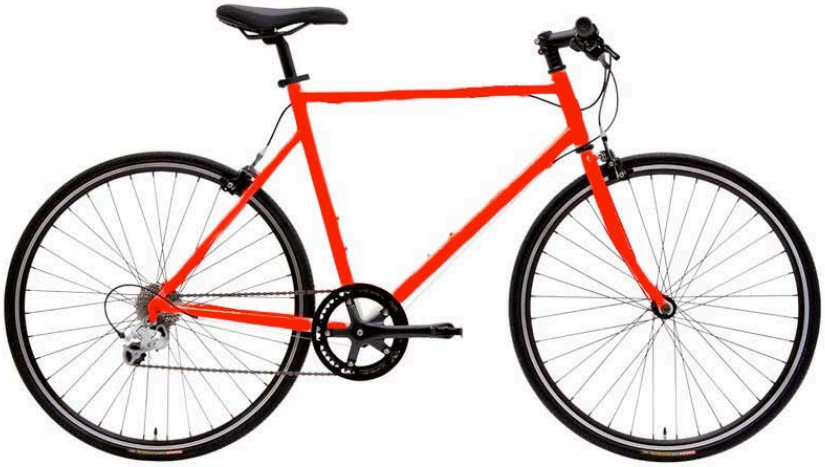

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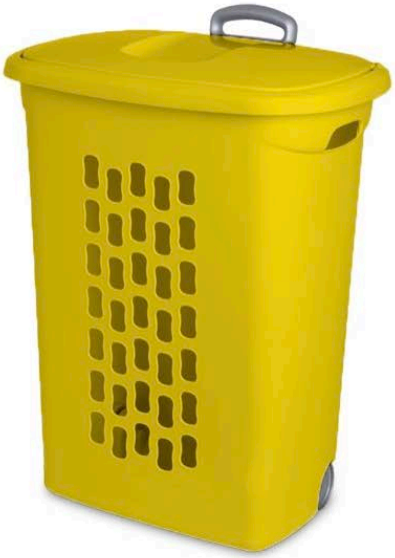

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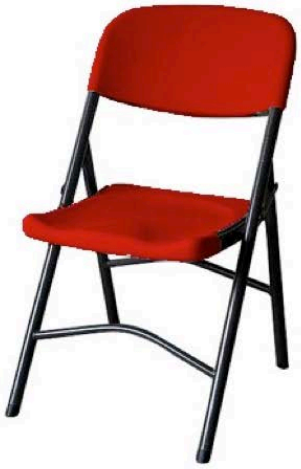

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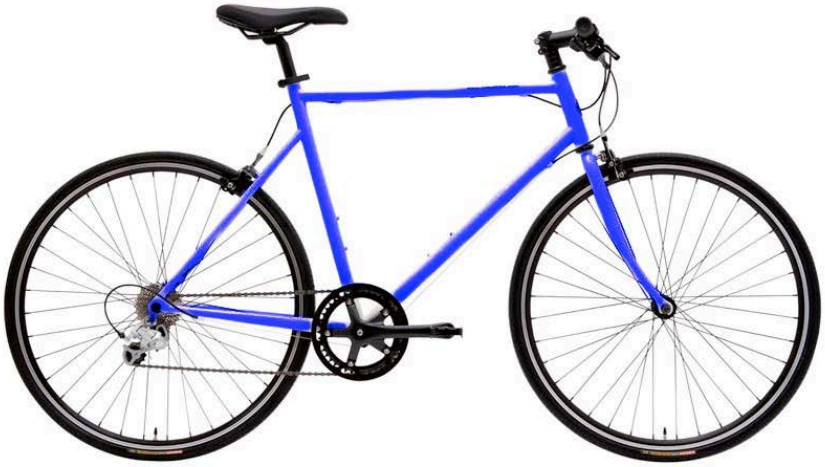

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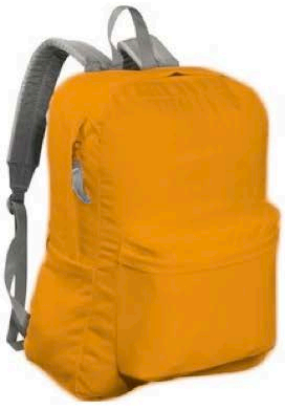

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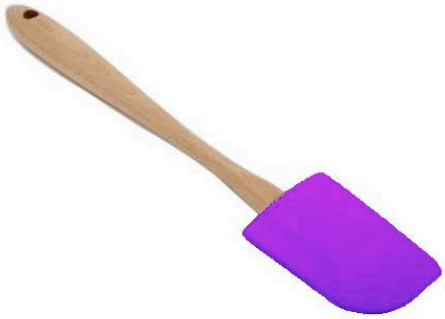

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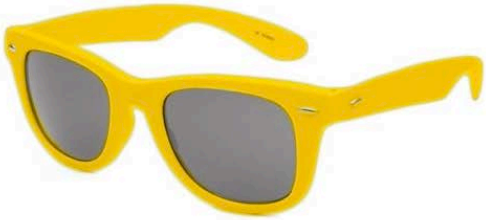

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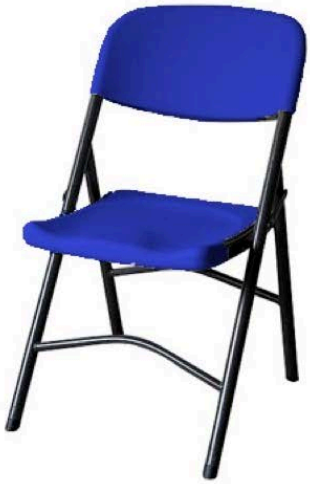

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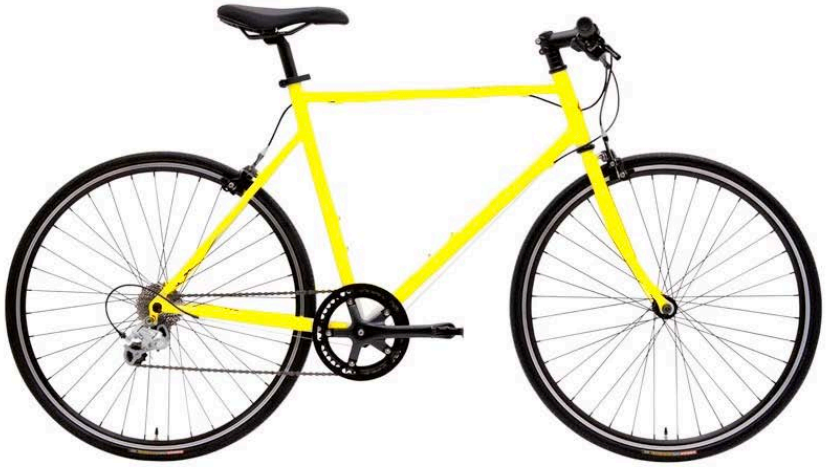

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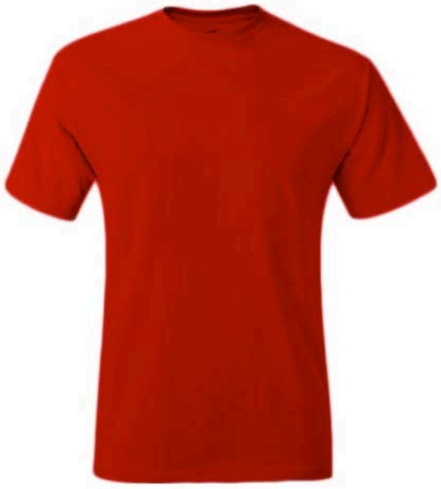

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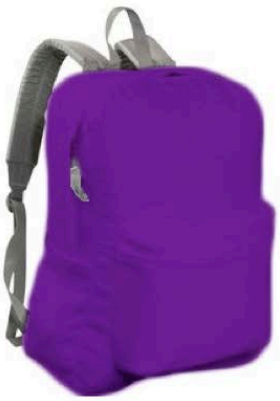

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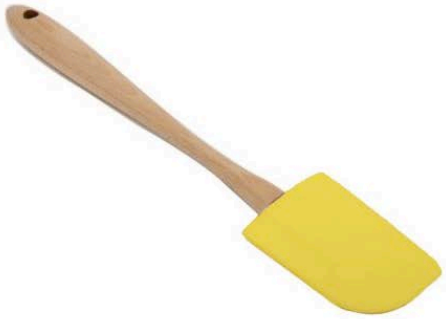

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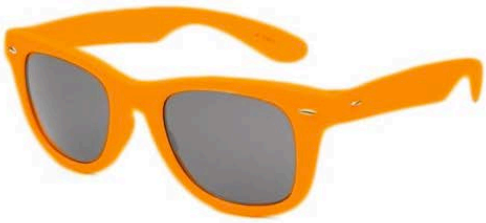

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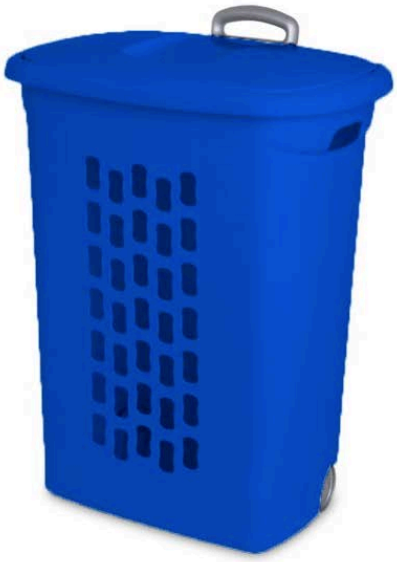

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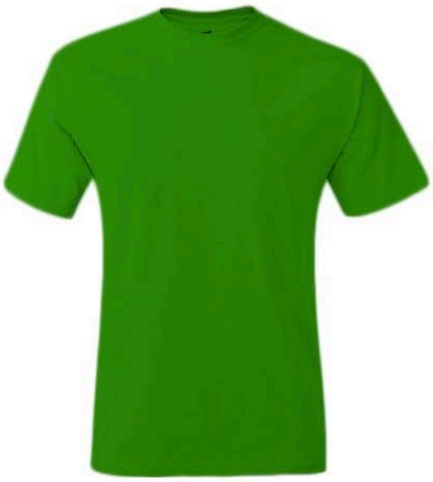

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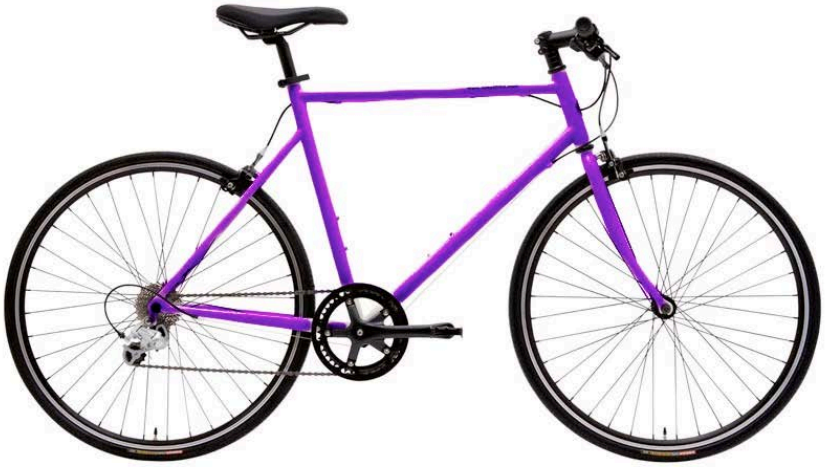

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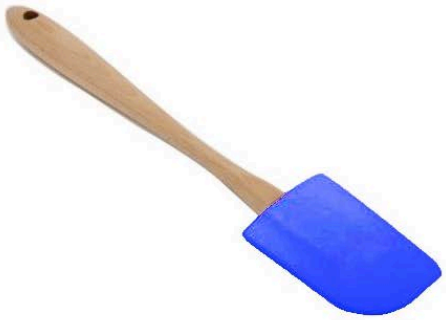

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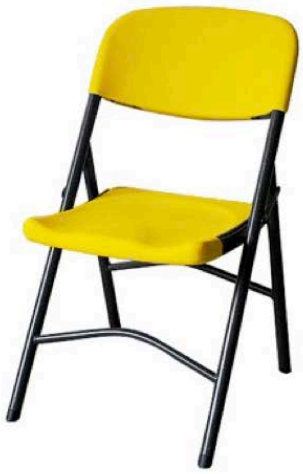

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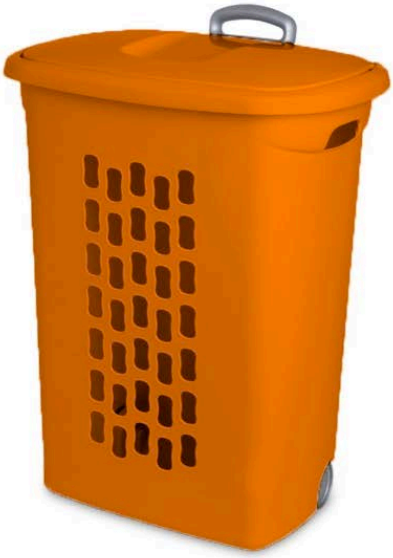

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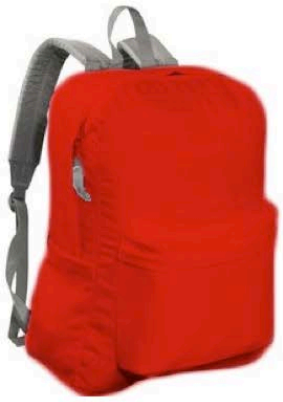

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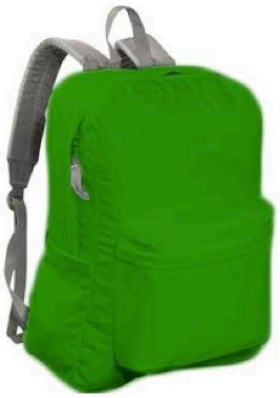

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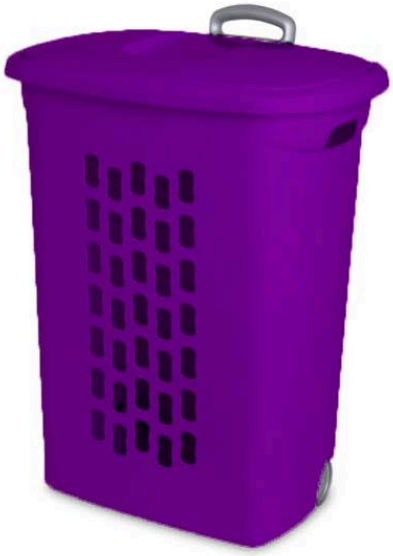

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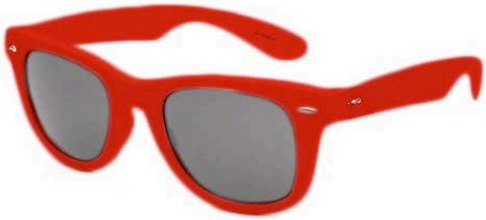

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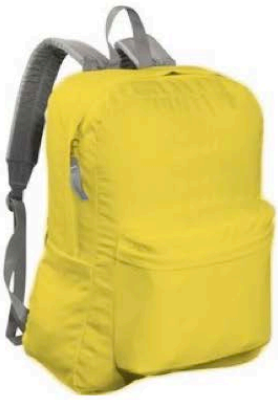

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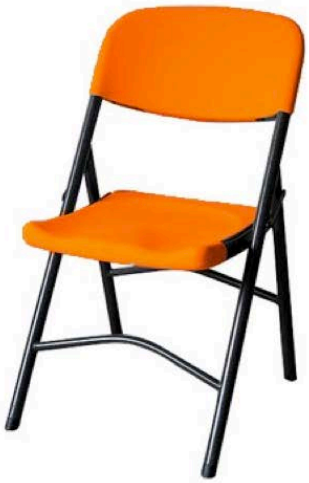

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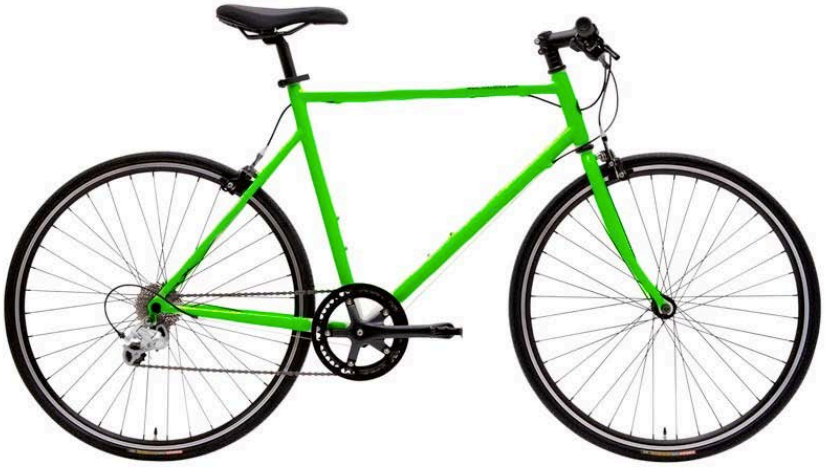

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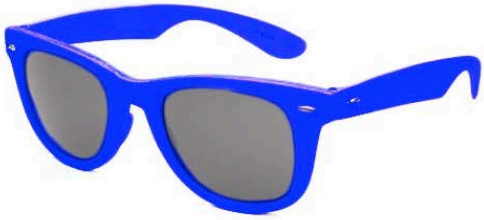

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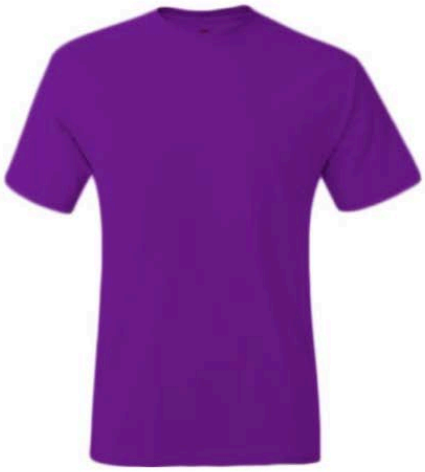

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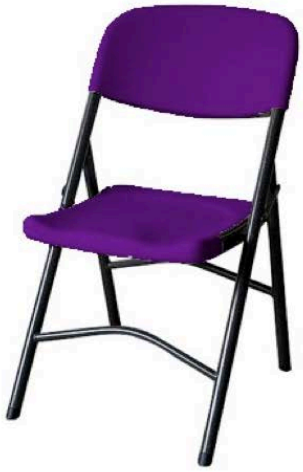

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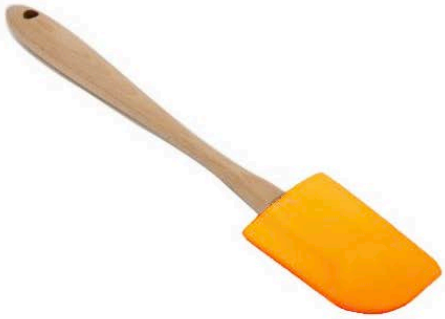

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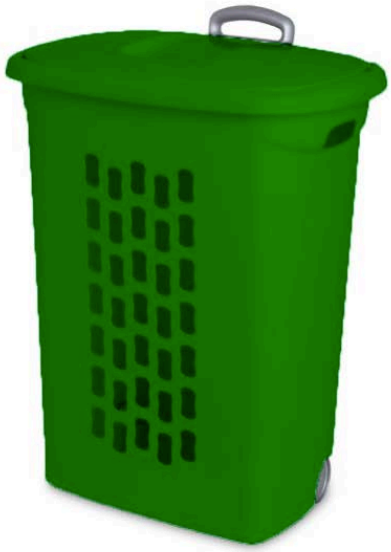

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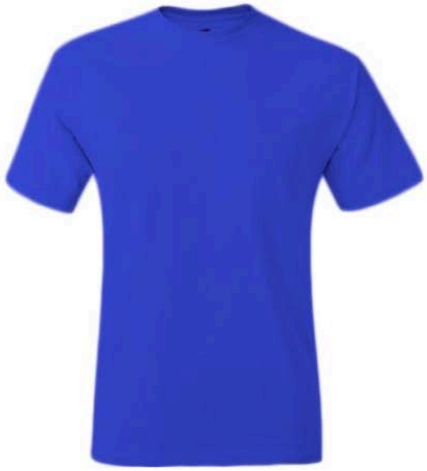

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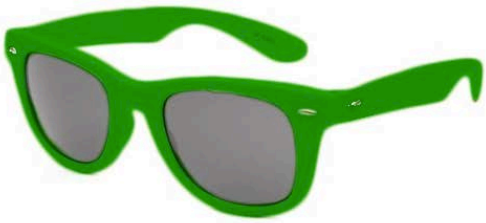

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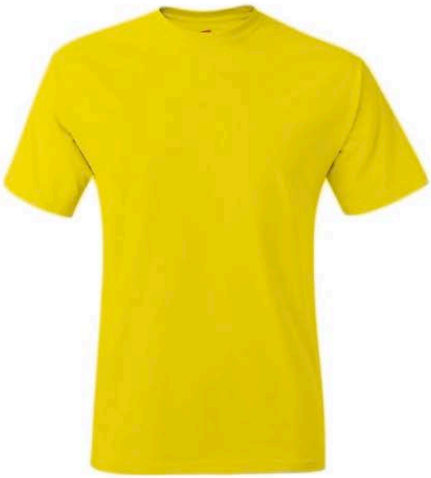

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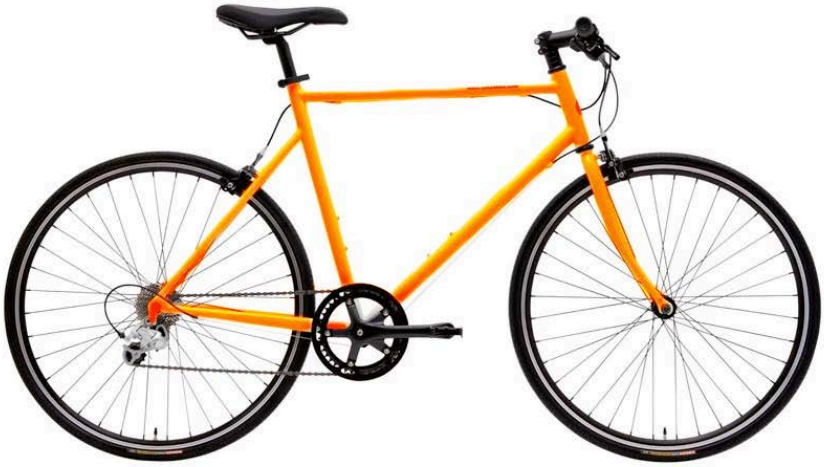

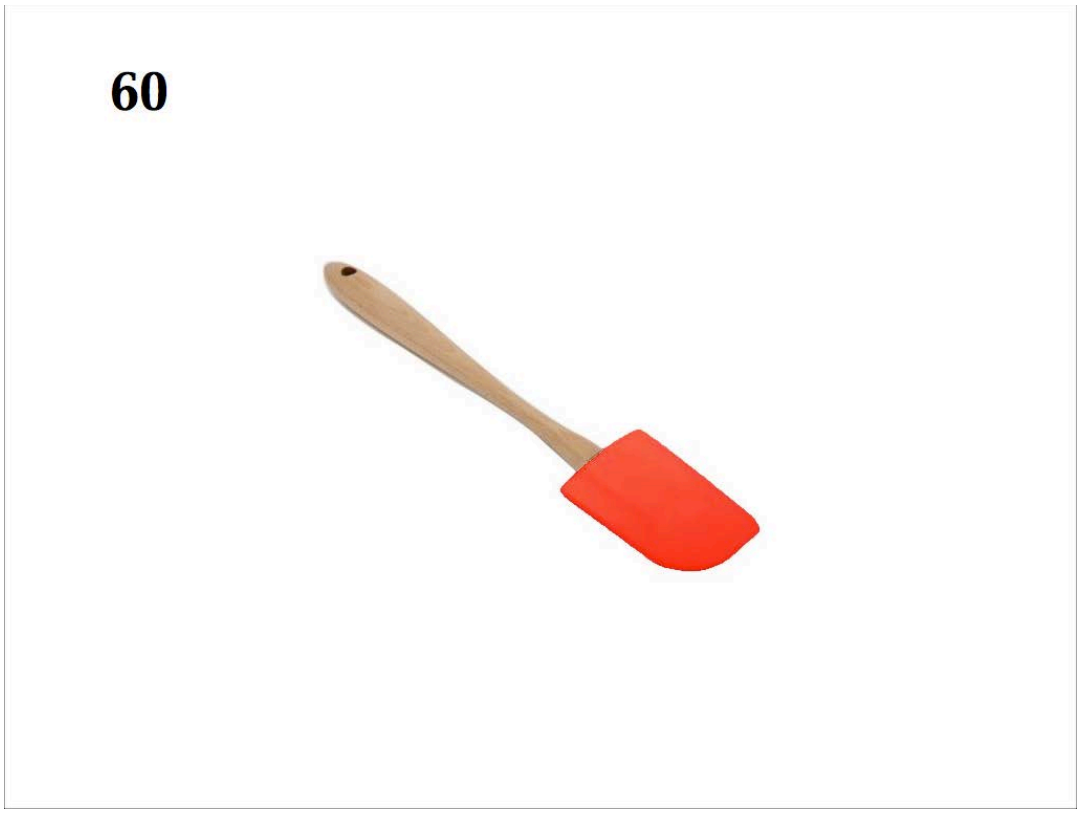
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