A Comparison of Color Schemes and Images in the Package Design of Sweets in the US and Japan

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ABSTRACT

This study compares the color schemes and design of packages of sweets in the US and Japan from the viewpoint of the cultural history of color. To visualize this comparison, color charts representing typical Japanese and American sweets packages are presented. The central aim of the comparison is to clarify cultural differences in color that characterize appetizing sweets, between the US and Japan. The research method was as follows: I purchased a total of 120 items, 20 items each of hard candy, chocolate, and chewing gum sold nationally, both in the US and Japan in 2013-14. Using ColorMunki Design of X-Rite, I measured the color scheme of these packages and listed the data in the form of color charts. These data are significant in revealing the fundamental cultural differences in the package design in these nations, a valuable insight for the field of international marketing and graphic/package design. Generally, there is a strong tendency for Japanese sweets packages to use a warm and light color scheme, whereas American ones apply a vivid multicolor scheme. Japanese sweets manufacturers produce various novelty items that promote seasonal and regional marketing, whereas American mass-produced sweets and its coloring are generally aimed at children and their dreams. Therefore, the color scheme of and the images on packages of US sweets resemble American comics.

KEYWORDS

Color Scheme, Sweets, Packaging, Color Culture

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1. INTRODUCTION

This paper compares the color schemes of the issue of how people choose color [3].

The research method was as follows. I purchased 120 items: 20 items each of hard candy, chocolate, and chewing gum sold nationally, both in the US and Japan in 2013-14. The names of stores were Wegmans, ACME, and Hudson News in New York and New Jersey; and 100 Lawson, Aeon, and Okashi-no-Machioka in Tokyo and Kanagawa. Both in the US and Japan, retail stores displayed an average of 18-30 competing products on the same shelves. (Figure 1 and 2) Using Color Munki Design of X-Rite, I measured the color scheme of these packages and listed the data in the form of color charts. From 20 items I selected 3 representative colors^c each: background, main subject motif, product name logotype. Figures 3-8 represent the hues of hard candy, chocolate, and chewing gums, which are frequently used.

For reference, I compare the typical colors of the sweets packages in the US and Japan in Munsell notations and RGB variables (Figure 9 and Tables

Moreover, as an example of the cultural image influencing color, I mention American comics (Figure 10).

the package design of sweets in the US and Japan from the the cultural studies of color perception and representation^a. To visualize this comparison, color charts representing typical Japanese and American sweets packages are presented. The main objective of this paper is to clarify the cultural differences in color that characterize appetizing sweets between the US and Japan. Hues in the color scheme of these package designs are primarily examined. Sugita reported that colors that infants see everyday largely influence the human color perception^b. Considering Sugita's biological experimental result [1], I hypothesized that the color scheme of the packaging of sweets can be a root cause of forming color culture since human beings habitually see packages of sweets from childhood. The result of this comparison can expose the cultural distinction in the color perspective and will be valuable in international marketing when exporting Japanese sweets. As precedence research, Birren published a series of books on color and consumer psychology [2]. Kawasome presented a paper examining the relation between food color and human appetite. lyenger, in her book, "Art of Choosing", wrote on

2. METHOD

3.2 CHEWING GUMS

Both Japanese and US chewing gums frequently use yellow-green to blue-purple and silver (gray) for their packages. These hues represent cool, refreshing sensation of menthol flavor. On the contrary, they scarcely apply orange and brown for their overall background. Figure 7 shows that the most frequent hue in Japan is silver (gray). Japanese chewing gums use metallic colors and do not apply many hues to give an impression of a cool, sharp feeling. Black is also often used to express a sharp stimulus. Moreover, Japanese have an image of healthiness in green color. A unique Japanese chewing gum flavor is

comments. b - Sugita experimented color perception of four monkeys by exposing them under various colored light for extensive period of time, and then he proved lighting and experience during infancy considerably change

a - This paper is based on the

presentation in AIC 2015 Tokyo:

Hidaka, K. "A Comparison of Color

Schemes and Images in the Package

Design of Sweets in the US and

Japan", Poster presentation with

the proceedings, AIC 2015 Tokyo,

2015, p. 426-431. However, in

this paper I have redone the color

analysis, revised the text and added

some figures based on the reviewers'

c - There are also some cases that only 2 colors can be seen in the design.

their color perception.

3. COLOR SCHEMES

3.1 HARD CANDY

Figure 3 shows that Japanese hard candy packages tend to use warm hues, such as red to yellow and light gray; however, they use less green to purple. The use of warm hues and gravish colors gives bright and soft impression overall. Furthermore, the Japanese data show middle ranges of value and chroma.

Figure 4 shows the similarity with the Japanese data, which also use warm hues. However, there are two differences: first, there is no use of gray, and second, there is frequent use of green. The tendency of not using gray in the US hard candy packages makes it look very colorful and vivid. The US hard candy uses low value (brightness) and high chroma (vividness).

3.2 CHOCOLATE

Figure 5 shows that the colors frequently used in Japanese chocolate packages are red, brown (orange and red-purple low in value and chroma), black, and light gray. Moreover, they use gold frequently for product logos. In the data, gold appears as yellow and silver appears as gray since RGB colorimetric device does not consider metallic surface. Red, brown, black, and gold are four hues that seem to be typical colors for Japanese chocolate. In Japan, black reminds bitterness and red reminds sweetness. Additionally, brown is in between red and black; to make brown hue, people mix these two colors. Typical products such as Glico's Pocky and Lotte's Ghana milk chocolate also use red packages. The bitterer taste and more cacao ingredients the products have, the darker are the hues of the package from brown to black.

In contrast, Figure 6 displays the frequent color scheme in the US. They use brown, dark gray, yellow-green, and blue. The Hershey chocolate currently uses brown in red-purple hue and silver gray. American traditional chocolate snacks, such as Milky Way and Reese, use orange and green, which are not found in the Japanese color scheme.



Figure 1 - Japanese Sweets (left) Figure 2 - US Sweets (right)

Japanese plum, and its red packaging reminds one of ripe plum.

American chewing gums use more blue-green than those of Japanese. In terms of value, Japanese chewing gums use high to medium range of colors, whereas the American package applies low range of colors. Furthermore, Figure 8 shows that the use of orange in the US is more frequent than in Japan.

4. BLUE COLORED SWEETS AND PACKAGE

Quoting the article from Birren, Kawasome reported that blue food reduces appetite [4]. It seems that previous research papers have spread such stereotype to the public, especially package designers and food manufacturers. Therefore, food packages in Japan frequently use warm colors, such as red, which is confirmed in this study. However, in the US, even though "blue" and "fluorescent color" in food rarely exists naturally, this survey found that these colors are widely used in both the packaging and food.

5. RESULTS AND DISCUSSION

5.1 THE TYPICAL PACKAGING COLORS OF THE US AND JAPAN

This section compares the typical colors from the result of this survey and examines the cultural distinction. Here the term "typical" means that these list of colors are happening in the usual way since these are selected as the most frequent colors each nation use. Figure 9 illustrates a list

of typical colors used in packages, sequenced from the first to fifth place. The left column is of the Japanese hard candy, chocolate, and chewing gum, and the right column is of the US. Comparing these three types of sweets, the divergence of hue is remarkable, particularly in chocolate.

In Japanese packages, the illustrative images of fruits, green tea, or milk are often used to inform and evoke these flavors. Accordingly, the colors of these items reflect the color of the packages. In Japan, the use of color in packages of long sellers, basic items versus seasonal, limited, or regional novelties are poles apart. The seasonal, limited ones use more drastic color schemes, whereas the long sellers do not often change the design and colors.

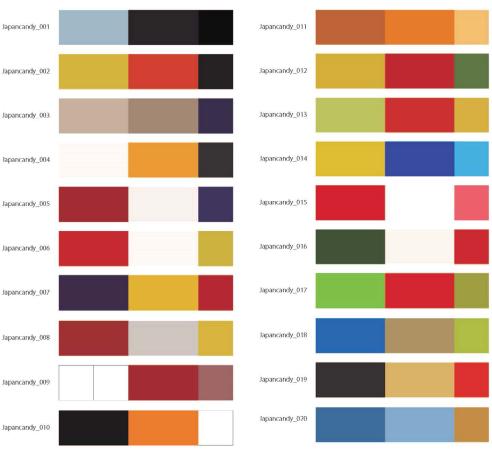
American package design generally applies colors in high chroma and low value. Unlike Japanese, American sweets tend to use illustrative images of contents rather than ingredients. Seasonal and limited novelties are also popular in the US, but it seems that these are rather event based, such as Halloween, Easter, and Christmas with its symbolic colors^d.

5.2 AMERICAN COMICS AND SWEETS PACKAGE

The mass-produced snacks and sweets sold in American supermarkets and convenience stores are mostly for children, and its coloring is generally aimed at children and their dreams. Professor Story of University of Minnesota pointed out a tendency to use toys and cartoon characters for food advertisement to make

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Japan Candy



U.S. Candy



Figure 3 - Japanese Hard Candy (above) Figure 4 - US Hard Candy

Japan Chocolate



U.S. Chocolate



Figure 5 - Japanese Chocolate (above) Figure 6 - US Chocolate



Figure 7 - Japanese Chewing Gums (above)

Figure 8 - US Chewing Gums

The Typical Colors in Packages #1-5

Hard Candy Hard Candy 1 2 3 4 5 Chocolate 1 2 3 4 5 Chewing Gum 1 2 3 4 5 Figure 9 - Typical Colors in Packages

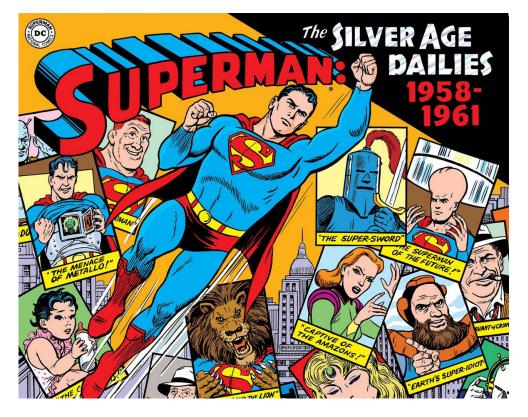


Figure 10 - "Superman: Silver Age Dailies Vol. 1: 1959-1961" the Library of American Comics, 2013, Superman TM and © DC Comics, Inc

children recognize brands [5]. In particular, M&M, Kellogg's cereal, and Oreo cookies use this marketing strategy [6].

Thus, it is predictable that the color scheme of these snacks and sweets packages resemble toys and cartoons. In Figure 10, Superman's color, which are blue, green, and red shows similarity to the one used in the US sweets. In Japan too, children purchase sweets because of bonus toys and the popular anime cartoon characters that are seen on the package. Yet, the colors of Japanese toys and cartoons may not be as vivid as those of the US.

Table 1 - Comparison of the Typical Colors of Hard Candy in Japan and the US

| Japan | Munsell (HVC) | RGB | USA | Munsell (HVC) | RGB |
|-------|---------------|---------------|-----|---------------|--------------|
| 1 | 6.6R 4/11 | 179: 57: 44 | 1 | 7.6R 4/12 | 195: 67: 45 |
| 2 | 4.9Y 6/7 | 187: 158: 66 | 2 | 1.9G 4/6 | 72: 134: 82 |
| 3 | 3.5YR 5/9 | 213: 122: 57 | 3 | 9.2R 4/10 | 197: 83: 46 |
| 4 | N 8.0 | 207: 205: 199 | 4 | 4Y 7/9 | 234: 187: 65 |
| 5 | 1GY 6/7 | 153: 161: 60 | 5 | 1.2B 6/5 | 88: 161: 176 |

Table 2 - Comparison of the Typical Colors of Chocolate in Japan and the US

| Japan | Munsell (HVC) | RGB | USA | Munsell (HVC) | RGB |
|-------|---------------|---------------|-----|---------------|---------------|
| 1 | 6.2R 4/11 | 180: 57: 50 | 1 | N7.0 | 180: 181: 159 |
| 2 | 8.6YR 5/5 | 173: 130: 72 | 2 | 0.2GY 6/7 | 164: 163: 59 |
| 3 | 6.7R 1/3 | 72: 35: 29 | 3 | 1YR 1/1 | 49: 38: 32 |
| 4 | N8.0 | 207: 199: 195 | 4 | 7.6PB 3/8 | 65: 81: 142 |
| 5 | N1.0 | 32: 28: 24 | 5 | 7.3YR 4/5 | 137: 96: 47 |

Table 3 - Comparison of the Typical Colors of Chewing Gum in Japan and the US

| Japan | Munsell (HVC) | RGB | USA | Munsell (HVC) | RGB |
|-------|---------------|---------------|-----|---------------|---------------|
| 1 | 5.1GY 7/1 | 176: 181: 168 | 1 | 9.2G 4/3 | 82: 129: 117 |
| 2 | 1.7PB 3/4 | 66: 96: 124 | 2 | 8GY 3/4 | 69: 98: 50 |
| 3 | 9.2GY 5/8 | 78: 140: 59 | 3 | 1.3P 2/2 | 56: 54: 74 |
| 4 | 3.3R 3/7 | 128: 50: 40 | 4 | 7.9RP 5/9 | 188: 93: 136 |
| 5 | 9GY 3/4 | 61: 92: 49 | 5 | 1.2GY 7/1 | 183: 185: 169 |

6. CONCLUSIONS

The packages of long seller sweets can become the evidence of perception and representation of color in every country. In Japan, warm and light colors are used in the basic long sellers, and color scheme variations are seen in seasonal, regional, and limited items. In the US, marketing to children and color scheme of American comics deeply influence the design and colors of sweets packages. Humankind forms the color culture—perception and representation by looking at these items on a daily basis since childhood.

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