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Preference for Colour in Food Packaging among Children in Selected Schools in Ibadan Nigeria

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Abstract:

This Paper explores the use of colour in Children's food packaging. It provides an overview of colour as it relates to packaging design. Survey questions were administered to 100 children in some selected private schools in Ibadan Metropolis Nigeria. The preference for colour in food packaging among children was analysed. Results indicate that majority of the children prefer the colour yellow as the primary colour on their food packages. Furthermore, these results are essential to packaging designers in Nigeria because it will enable them to design food packages which are relevant to their target audience. Conclusively, further research could be carried out amongst children in Public Schools in the same environ to evaluate their preference for colour in food packages.

Keywords: Colour, food packaging, perception

1. Introduction

Colour has many conventions attached to it and can portray messages to children. It is a significant feature in a package. They trigger the fastest response among packages features and have developed into one of the essential visual design elements for the package (Farhana 2012). It is the perceptual characteristic of light described by a colour name.

Wenzel, Langer, Kassar and Bencze (2012) define the preference of colour as the tendency to prefer specific colours to others. Some colours, while to others appear less pleasant or neutral, sometimes even repellent, are perceived as pleasant and attractive to another. In a variety of populations and cultures, the colour preference among children has been explored. There is, however, little understanding of colour psychology and literature, especially on colour preference among Nigerian children in Ibadan. Also, factors identified as being responsible for colour preference in populations from industrialized countries may not be the same for people in developing countries, such as Nigeria. Consequently, the present study was conducted to evaluate colour preference in food packaging amongst a group of children in schools in Ibadan, Nigeria.

The effects of colour on food choices were investigated by Walsh, Toma, Tuveson, & Sondhi (1990). The test was conducted on 120 children, and the results showed that a significant colour effect indicated that in that order, children preferred foods that were red, green, orange, and yellow.

When determining possible colour options for children's product, packaging professionals must keep the children in mind. The type of message the product should give must be established to bear in mind children as the target audience. The appropriate colour scheme must also be used. A package could be considered successful if it instils a certain image or message into the mind of the kids. For many years, this would keep them loyal. Packaging professionals should use the appropriate colour scheme for effective designs. Colour is one of the brand's most convincing aspects and conveys a message. Furthermore, colour is a powerful visual cue for attracting children's attention and influencing purchasing decisions. Although the colour is only one attribute of product packaging and does not work in isolation, marketing research emphasizes the significance of colour as a communicator of product and corporate messaging (Won and Westland 2017).

The colour of packaging was also recognized as an essential element in children's food choices. Different colours offer different meanings (Madden, Roth and Hewett 2000) and have both symbolic and aesthetic meanings. This is important for marketers trying to convey certain messages about their brand or product. Colour affects whether children will be attracted to the product or not.

Packaging constitutes an essential form of marketing communications. Furthermore, Liao et al. (2015) opine that apart from its functional properties, packaging conveys relevant product information and influences children's mood about a product. In packaging, colour is one of the essential components for attracting children. Visible from a greater distance than other elements such as illustrations or graphics, it is often one of the first things children notice. It plays a crucial role in making kids see what you want them to see, feel what you want them to explore and do what you want them to do. In the preoperative stage, children tend to focus on a single stimulus, such as the stimuli found in the colour of the packaging. Perception is a vehicle through which the meaning that a person attaches to a specific stimulus, such as colour, could be determined (Visser 2006).

It is impossible to overemphasize the importance of knowing colour preference among children. This is because the colour is highly informative in the identification of objects, and when locating an object, people rely more on colour than on other perceptual features. Based on this fact, the study will be of most relevance to designers, industries that produce children's materials; kindergarten teachers, playgroups and schools.

The problem being addressed in the present study, therefore, is to identify the type of food that children frequently consume and to know children's selection of their favourite product/packaging and favourite colour.

2. Literature Review

Colour is a part of human existence and reality. Colour in nature dating back to an early man motivated the first ability of man to choose safe foods. The natural colour of food is an inherent teaching method for the brain to recognize acceptable and safe food. The saying that 'the eyes are the first to feast' has far more meaning than people realize first. The taste mechanism must be understood to include how it relates to colour before one can study colour in all its facets. Our taste, mood, and inner comfort are affected by colour. The stimulation of hunger causes the act of eating (Widjayanti and Pare n.d).

2.1. Packaging

The packaging is described as the 'silent salesman' within a store. It has a dual role in branding strategy and also, of course, its functional role in preserving products. Chrysochou et al. (2014) note that the communicative role of packaging is also important as it promotes brand values and product messages. It also communicates the colour, shape, materials, and size of a brand. Hence, Parleen (2013) argues that the features of a package also influence children.

The package associations are also created through TV advertising, which helps to raise awareness, facilitate the identification and differentiate the brand in stores. However, Ulger (2009) observes that packages strengthen the logos, jingles, price discounts or other promotions highlighted in advertisements and are also better remembered by children. Furthermore, apart from branding, packages can also communicate value (Yaro 2015).

Consequently, packaging must be aligned with messaging, value proposition and communication to achieve the following: Value proposal, which is the primary purpose of packaging, is to emphasise why a user would buy a given product. This could be very simple, such as describing what the product is. This can also be emotional, communicating the product's meaning. For example, an informed consumer might want to buy local food. A creative marketing strategy for local production organisations would be to highlight this in large letters on the package. Brand recognition is also a vital packaging objective. It can build brand recognition. Brand awareness is slightly different from recognition; the opportunity to be memorable is about building brand awareness. The creation of packaging that draws a consumer's attention will increase the ability of the brand to convert the customer in this case and later (Lumen, n.d.).

2.1.1. Types of Packaging

The food that is processed is held by primary packaging while Secondary packaging combines the primary packages into one box, and Tertiary packaging combines all of the secondary packages into one pallet.

2.1.2. Functions of Packaging

Packaging can serve other purposes, such as a premium carrier (e.g., the inclusion of a gift, additional product or coupon) or household containers. The possibility of use/reuse of packaging eliminates or delays the entry into the waste stream. Packaging often functions in three ways: protection, containment, and communication (Marsh and Bugusu 2007).

2.1.3. Food Packaging

Food packaging is defined as a coordinate system of preparing food for transport, distribution, storage, retailing, and end-user to satisfy the ultimate consumer with optimal cost. Many authors discuss how children rely on extrinsic information to help them decide if they do not have a prior product or brand knowledge. Extrinsic cues are stimuli external to the product that influence the way children perceive the product. Orth et al. (2010) state that when a product is hard for them to judge, especially when it is new, or a brand is unfamiliar (meaning that the children have no knowledge or history on which to base his or her judgment), then the children will use extrinsic cues to help get a better idea of the product.

Dawar and Parker (1994) further opined that children do not have unlimited time or willingness to do comparative studies of products before making a purchase, so they rely on other cues or signals to determine which product to purchase. The four extrinsic cues help children discover the quality of the products. Dawar and Parker use the term "signals," as opposed to "extrinsic cues," because of the cues signal product quality to children. One of the four signals discussed by the authors is physical appearance. Therefore, a package's visual appearance is used by children to help them decide to purchase a product.

3. Colours in Food Packaging

Colour in food packaging is a useful tool to promote and sell products. It can influence people's understanding of a product and can work to create association e-g (green =healthy). However, it is a specific extrinsic cue that has many conventions associated with it and can portray messages to children. Colour is the first package cue noticed by consumers (Kauppinen-Raisanen & Luomala 2010) and can work to increase brand recognition by up to 80%. It affects the food packaging of children not only at the conscious level but also at the subconscious level.

According to Connolly (2013), the main food colours are red and yellow, which evoke taste buds and stimulate the appetite. Red and yellow are also effective in capturing attention. Orange, a mixture of red and yellow, is naturally an appetising colour for food. Green is eco-friendly, healthy. Blue and purple are cool tones. Cool tones do not stimulate appetite as much. White connotes clean and pure, but it can also look sharp, plain and sterile-so this is another colour that must be carefully exercised. Black signifies elegant, sleek and high-end. For food packaging, however, the colour brown often takes the place of black as a more appealing colour which can still be portrayed with the same descriptors as black for example, Coffee and Chocolate Packages (Figures 1 and 2).



Figure 1: McCafe Package
Source: McDonalds 2014



Figure 2: Packaging Design for Milk Chocolate
Source: Laura Dreyer N.D

Bright colours connote flavour pops- sweets, for example. Colour is regarded as the primary communicator of the intended packaging message and is used to maximize attention(Connolly ibid).

According to Grimes and Doole (1998), food packaging influences the attitude children to have towards a product. That is, children show a preference for a colourful package. Colour once part of the complex area of psychology, took its place as one of the most powerful ways to make products further than merely the promotion of tangible, functional and salient benefits and into the mystical dominion of emotion, perception, and image. Visser (2006) therefore, concludes that colour is then a powerful medium by which the child can be influenced in the purchase of a specific product for the child. Furthermore, the food packages for children are one of the best products available, through which a better understanding of colour in food packaging can be achieved. In particular, food packaging is known for the use of bright, colourful packaging, which often depicts favourite characters.

We often utter statements that describe character traits or human behaviour using colour references. These colour references are symbolic. Colour is not tangible, such as fire, grass, water or even sunlight. They represent conceptual, mental qualities. The colour chosen to symbolize different ideas is often arbitrary, or the first reasons for their choice are so deeply buried in history that we don't remember them anymore. But we can explain why green means 'go', 'red means 'stop' according to Lauer and Stephen (2005). Food packaging colours give consumers different meanings and interpretations. Packaging professionals must determine which message the product is intended to deliver and match the significance of the colour with the message of the product.

Roberge (2017) opines that in the colour spectrum, yellow is seen as the most visible colour. In packaging, when yellow is used as the main colour, it often brings out excitement and positivity. In retail displays, yellow is a good colour to draw shoppers to products. It also connotes happiness and light-hearted in a product.

Consequently, the emotions and attitudes about a product can be induced by the colour scheme of a package even before the customer gets information about it. The colour yellow, with its positive and happy energy, attracts children.

3.1. Children's Food Packaging

Ning (2015) note that food packaging for children requires uniqueness. Children are more curious and imaginative. They tend to be more interested in different colours and new images. Children's food packaging, should, therefore, be new and unique to attract children's attention. The nature of children is active and lively, but at the same time, it is not easy to focus their attention; only interesting packaging can capture their attention immediately (Figure 3).



Figure 3: Coco Pops Snack bar Package
Source: Kellogg's (n.d)

To a large extent, the consuming psychological characteristics of children of different ages are also different. So, in the children's food packaging graphic, the designer must give full consideration to children's age characteristics. This is the only way to welcome design.

In 2006, \$3 billion were spent to develop the proper packaging to attract children, according to Palmer & Carpenter (2006). Packaging is a marketing tool to win the children "share of heart" (Dhir & Sharma 2012). Children from an early age are socialised and become responsible consumers. Kids have specific characteristics in particular that make them active in the decision-making process. Therefore, Dotson & Hyatt (2000) states that for one thing, brands are said to be more aware of them than their parents. Furthermore, they also prefer specific brand names and are highly influenced by the power of product advertisements, which affect their decision-making behaviour and selection process of consumer goods.

Perhaps the most significant issue in a child's choice of packaging as stated by Page and Brewster (2007) is the growing influence children have on their parents' shopping behaviour. As children also mainly focus on emotional appeals/themes to select foods. Food packaging is specifically orient towards them by the application of promotions. The visual appeal is, thus, being witnessed to be vigorously crafted to suit the preferences of children.

Chareonsakdi (2009) opines that design elements such as colours, illustrations, and cartoonish scripts are often used. It can be said that if a child's preferred colour is applied to the packaging of products, specifically aimed at the children, their behaviour could be predicted to some extent. This would ensure that the product is bought by the child at whom the product was targeted. Children generally prefer a longer wavelength colour. These colours include yellow, red, green and orange (Meyers and Lu-bliner 2000). Furthermore, the use of licensed characters is essential as they help in brand recognition (figure 4). An example is the Fruit Crisps with the Mickey Mouse Character.



Figure 4: Fruit Crisp's Package with Mickey Mouse Character
Source: Brothers All Natural

Colour is significant when communicating a message and it is a valuable tool in establishing continuity and consistency across communication messages. It has many meanings which is symbolic and also serve aesthetic functions. It can symbolize many things, flavours, and emotions. It can be a source of information by conveying messages and associations. For example, when people see the colours yellow and black in combination, danger and caution come to mind. This is an association attached to that colour combination.

According to Ahmad et al. (2012), packaging is the physical aspect through which a buyer may recognize the product, at the point of sale, after seeing it in an advertisement. It may even have an impact on the child's food preferences. Therefore, the child will choose the food product with packaging from a brand he likes and will prefer it even if the product inside the packaging has been changed and is not the one associated with the brand. Likewise, Underwood, Klein, & Burke (2001) state that packaging should be unique on the shelf and should be easily noticed.

Food packaging needs to be carefully considered as it needs to deliver brand values and other related "soft" messages (e.g., health, sustainability) that are essential for children's choice. Therefore, food packaging plays a vital role in effectively communicating a product's message and contributes to its success. Thus, decisions regarding food packaging should be made with caution and be supported by scientific evidence.

4. Methodology

The target populations are children randomly selected from six private schools in Ibadan environs in Nigeria. The respondents of the survey represent 3-7 years of age. A total of 100 copies of questionnaires were administered. The List of schools is Dominion Jewel International, Adeola Goodwill Nursery and Primary School, Prevail Nursery and Primary School, Master Model Nursery and Primary School, Kings Palace Group of Schools and The Rock Kiddies College. Different information was collected to enable the researcher to know children's favourite colour in food packaging. The data for this study were analyzed by descriptive and cross tabulation method through the use of a statistical package for social scientist (SPSS). Descriptive statistical techniques used are tables showing the frequency and percentage of the use of colour in children's food packaging in the study area.

5. Results

One hundred children participated in the focus groups, 26 (26%) were in Kindergarten / Nursery, 63(63%) in Basic 1-2, and 11 (11%) in Basic 4-5. Age ranged from 3 to 7years.

5.1. Type of Food/Snack Products That Children Most Frequently Consume

Overall, children wrote the names of 6 food products they reportedly consume in their homes and schools. The products were Indomie Instant Noodles (36, 36%), Cornflakes (16, 16%), Coco pops (11, 11%), Cheese Balls (4, 4%), Golden Morn (26, 26%) and Nestle Milo (5, 5%).

5.2. Children's Selection of Favorite Product/Packaging and Favourite Colour

Children's responses varied when choosing their favourite product (Table 1). Of the products shown, the most popular selections were Indomie Noodles (36, 36%), Golden Morn, (26, 26%), Cornflakes, (16, 16%) and Coco pops, (13, 13%) respectively. Most children based their selection on enjoying the delicious taste of the products.

Selection of food product packaging was based on the cartoon characters on the packages e.g. Kellogg's Coco pops famous characters which include Coco the monkey and Tony the Tiger. Another example is the Indomie's indomitable cartoon characters.

Product Name	Favourite Product/Packaging n(%)
Indomie Noodles	36(36%)
Cornflakes	16(16%)
Coco pops	13(13%)
Cheese Ball	4(4%)
Golden Morn	26(26%)
Nestle Milo	5(5%)

Table 1: Children's Selection of Favourite Product and Packaging
Source: Adeniji, 2018

Regarding the selection of the favourite colour, most children (21, 21%) selected Yellow (Table 2). A reason for this selection could be because of the predominant yellow colour on the food packages such as Indomie Noodles and Coco Pops.

What Are the Colours You Like in Children's Food Packaging?									
Respondent	Red	Yellow	Blue	Black	White	Any colour	Pink	Green	Total
Children	12 12%	21 21%	19 19%	5 5%	7 7%	16 16%	12 12%	8 8%	100 100%
Total	12 12%	21 21%	19 19%	5 5%	7 7%	21 21%	12 12%	8 8%	100 100%

Table 2: Children's Selection of Favourite Colours on Food Packaging
Source: Adeniji, 2018

6. Discussion

According to our findings, Indomie Noodles is the most frequently reported food eaten by children in Ibadan, and this was chosen based on the delicious taste it has. Furthermore, when selecting their favourite product packaging, the children relied more on visual elements such as character, product image and colour. Hence, packaging is important in the decision about the purchase of food and taste perceptions. This study has its strengths and limitations. The findings in this research are not generalizable to all children in Ibadan because samples were drawn from only private schools and not Government schools. The result is, therefore, a representative of children in the middle and high class. Furthermore, activity-based focus groups were used, and the children were allowed to think about their answers and express themselves through list and picture selection.

7. Conclusion

The study reveals that the children in the selected schools in Ibadan selected their favourite products based on their visual elements such as their packaging, colour and characters on the package. Furthermore, results showed that the preferred colour for food packaging is yellow. However, it would be great if other researchers take into consideration children in Public Schools in Ibadan, Nigeria.

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Appendix



Figure 5: Samples of Food Packages Analysed