



Commercial versus technical cues to position a new product: Do hedonic and functional/healthy packages differ?[☆]

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ABSTRACT

Packaging attributes can be classified into two main blocks: visual/commercial attributes and informational/technical ones. In this framework, our objectives are: (i) to compare if both kinds of attributes lead to equal responses (consumers' attitudes improvement and product trial) and (ii) to compare if they work equally when a hedonic or a healthy new product is launched into the young market.

An experimental design was defined to reach both objectives. Two packaging attributes were manipulated orthogonally to introduce greater variation in people's perceptions: a visual cue (the color) and an informative cue (the claim/label). A third variable was introduced: hedonic (candy bars) versus functional/healthy products (juice with fruit and milk). In a laboratory, 300 young consumers chose and evaluated one of the different packages that were simulated (using different colors and labels). Our results show that both kinds of attributes are significant, but visual cues were more strongly associated with young consumers' positive attitudes towards the product and their intention to buy than technical cues. Results do not differ between the product categories.⁷.

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1. Introduction

"Due to the growing interest in healthy food, manufacturers offer a diversity of food categories that produce health benefits" (Carrillo, Varela and Fiszman, 2012, p. 209). Managers usually used the packaging to transmit these benefits. This seems to be the right way, because, based on hierarchy of effects models, consumers' responses follow a sequence that starts with attention and cognitive processing, which leads to affect and then generates behaviour: Attention, Interest, Desire and Action (A.I.D.A). From this approach, it's expected that if marketers design calling packages for new products, consumers will respond accordingly (Poels and Dewitte, 2006).

Both streams of research (packaging and healthy consumption) are gaining weight among new product managers, because, as Hawkes (2010, p. 297) states, “the nature of the food advertising market is changing. Estimates from the USA suggest that expenditure on food advertising is declining, and that other methods of marketing such as packaging now have greater weight in the marketing mix”. So, healthy consumption among young people has been added to our research, because “as rates of childhood diabetes and other obesity-related health problems have increased, public policy makers have taken a closer look at marketing practices that target children with unhealthy foods” (Levin and Levin, 2010 p. 2).

In this framework, the use of packaging attributes to position a healthy new product among young potential consumers is studied in this paper. Packaging attributes can be classified into two main blocks: visual and informational. Visual attributes encompass aesthetics aspects, such as color, and they can help to augment consumers’ visual affecting and responses (Azad and Masoumi, 2012). Parras *et al.* (2013) named them “commercial attributes”, because they are useful to position and communicate a new product. On the contrary, informational attributes compound all the data provided by the package to cover informational needs. These are named “technical attributes” (Parras *et al.*, 2013), and they can help to assure the quality of a new product (i.e., its healthiness). Both groups of attributes play an important role in consumers’ decisions and behaviours (Parras *et al.*, 2013) when analyzing a new product. Then, a first objective of this work is to compare to what extent both kinds of attributes lead to equal responses in terms of product trial and, later, in young consumers’ attitudes and buying intention.

We have added a second point based on the idea that products can be classified into two main blocks: hedonic products and functional products. “Hedonic products are those consumed primarily for affective or sensory gratification purposes, and functional

products deliver more cognitively oriented benefits” (Kempf, 1999). This product characteristic may affect trial processing. So, our second objective is to compare if commercial and technical cues work equally when launching a hedonic product (which delivers pleasure, such as candy bars) to the young market than when a functional product (which delivers functional benefits, such as milk juice) wants to be promoted.

To carry on our work, and following Levin and Levin (2010), we have used an experimental design where two packaging attributes were manipulated orthogonally: the color and the claim.

- Regarding visual attributes, we have compared three different colors for a new packaging: blue, red and black.
- Regarding technical attributes, we have compared two alternative claims for a new product: a strong healthy claim (0% + light pen) and a trivial claim (0%).

We have also introduced a third variable in our experimentation: hedonic versus functional/healthy products. Specifically, two product categories were considered in our experiment: candy bars representing a hedonic product (Underwood, Klein and Burke, 2001) versus juice with fruit and milk representing a functional/healthy product as far as drinks with milk can be considered “bone health” drinks (with calcium and inulin). (Ares, Besio, Giménez and Deliza, 2010; Levin and Levin, 2010). Consequently, 12 different packaging designs were created (6 for each product category), combining three different colors (blue, red and black) and two different claims (simple and reinforced).

The young market was selected for our study because the majority of existing research on food marketing for the adolescent and young market has focused on television advertising only, forgetting other important marketing tools (such as packaging) (Pittiporn, 2010) that public authorities could also use to stimulate healthy habits, as far

as this market has being seldom analyzed from a healthy eating perspective. So, a total of 300 young consumers took part in the experiment (150 for each product category).

The added value of this paper is to progress along three main points: (1) to provide information about which attributes (commercial or technical) involved in packaging design will enable academics and managers to better explain young consumers' attitudes and buying intentions when a new product is launched into the market – in other words, to provide public entities and private companies with data for success “in promoting healthy foods in a way that young consumers will embrace” (Levin and Levin 2010, p. 2); (2) to explain young consumers' attitudes and buying intentions based on product trial (packaging simulations) instead of indirect experiences (ads) (Kempf, 1999), which is scarce in literature; and (3) to compare if packaging information value of product trial varies across two product categories: a healthy product (juice with fruit and milk) and a hedonic one (candy bar).

2. Commercial and technical cues in a packaging: incidence on consumers' responses in a new product launch

Van der Laan, De Ridder, Viergever and Smeets (2012, p. 41738) provide the bases for our theoretical framework. As these authors state: “one of the current trends in food packaging design is to put emphasis on the healthiness of foods by highlighting nutritional information or health logos”, that is, by using technical cues or commercial cues, especially when these products want to promoted among young consumers. However, studies on the association between perceived healthiness and preference have yielded ambiguous results. Some studies suggest that labelling a food as “healthy” decreases behavioural preference for the food, while others show no effect or a positive effect. Therefore, it is not clear whether emphasizing healthiness is helpful in promoting healthy

food choices. In these cases, aspects such as the aesthetic value of a packaging gain importance, but its relevance has not been deeply studied in the context of healthy food choices.

In sum, as Leathwood, Richardson, Sträter, Todd and van Trijp (2007, p. 476) explain, “information may be processed in depth (systematic processing) or more superficially (heuristic processing). In systematic processing, consumers are assumed to use more of the available technical information to reach a decision. In heuristic processing, the information is interpreted quickly using simple rules of thumb or cognitive without much cognitive elaboration or deep thought”. In the first depth route, technical attributes (i.e., healthy claims) play an important role, while in the second one, commercial attributes/aesthetics (i.e., color) can be enough to explain product trial when a product is unknown. But, are both them equally important for the young market?

Starting with the commercial attributes (which configure the aesthetics of a packaging), Levin and Levin (2010) have demonstrated that depicting a familiar cartoon character on the package would enhance the evaluations of the product among children. Together with the images, the color is a recurrent commercial attribute to stimulate young consumers’ responses in unknown environment decisions. Of all visual aspects, the effect of color is the most obvious and well-studied (Imram, 1999). A strong association between food and color was established as early as 1936 by Moir and 1939 by Dunker (Imram, 1999). The relevance of this line of research is because each color has a meaning, and consumers will react accordingly: red means movement, action, hotness; blue means peace, coldness, relaxation; black means status, power, elegance, glamour (Baptista, León & Mora, 2010). In this vein, Hawkes (2010) concluded that for Canadian packages there are four preminent colors to stimulate young consumers’ responses: blue, yellow, red and green. Based on these comments, it is possible to state that packaging visual appeal

(gain with visual/commercial attributes) will improve consumers' attitudes and buying intention.

H1a: Greater visual appeal (using on commercial/aesthetical cues) will improve young people's attitudes towards a new product

H2a: Greater visual appeal (using on commercial/aesthetical cues) will improve young people's buying intention.

Together with the aesthetics, a good packaging must contain all necessary information required by young customers. Therefore, the label must be clearly shown on the product, because this is a good way to express manufacturers' concern of benefit of using products (Azad and Masoumi, 2012). As both authors underline, with more information on the packaging, we can expect more customer satisfaction from the product. This explains why technical cues used to diminish perceived unhealthiness are gaining weight among young people. In this vein, Hawkes (2010) reviews how claims about health sell. Nutrient and health information and claims are used to imply to consumers that a new product is not unhealthy. Kozup, Creyer and Burton (2003, p. 20) reach the same conclusions, suggesting "that consumers' evaluations of a food item are more favorable when a health claim is presented than when no claim is made. This expectation is consistent with prior research showing that consumers had more favorable ratings of the healthiness of a product and higher purchase intentions after they were exposed to a general statement claiming that the product was not unhealthy. So, based on those works, it could be state that:

H3a (-): Lower perceived unhealthiness (using technical cues) will improve young people's attitudes towards a new product.

H4a (-): Lower perceived unhealthiness (using technical cues) will improve young people's buying intention.

Finally, a relationship between young people attitudes and buying intention has been hypothesized in different works. For example, Kozup, Creyer and Burton (2003, p. 20) concluded that successful packaging cues lead to favorable effects on product attitudes and purchase intentions. Also, Azad and Masoumi (2012) have investigated a relationship between packaging characteristics and competition. The authors conclude that a competitive package is one that you like and therefore consume. So, it's possible to affirm that:

H5a: If young people's attitudes towards a packaging improve, their buying intention will consequently augment.

3. Commercial and technical cues in a packaging: incidence on consumers' responses according to product category (hedonic versus functional).

A stream of research has investigated the incidence of commercial and technical cues in a packaging but for different industries. For this reason, "the important role played by reference points during many consumer choice and judgment processes" must be also considered (Kozup, Creyer and Burton (2003, p. 21)". One of these reference points is the category to which the product belongs. Following Ares, Besio, Giménez and Deliza (2010, p. 298), two main product categories can be identified in food choice contexts: functional foods and hedonics foods:

- "Functional foods can be regarded as foods with a health benefit beyond satisfying basic nutritional requirements" (Ares, Besio, Giménez and Deliza, 2010, p. 298).

- “Hedonic products are those consumed primarily for affective or sensory gratification purposes, and functional products deliver more cognitively oriented benefits” (Kempf, 1999, p. 38).

That is, past researchers have analyzed product categories in terms of their hedonic versus utilitarian properties and have suggested that this distinction may make emotions more or less relevant in evaluations (Drolet, Williams and Lau-Gesk, 2007, p. 212).

Regarding commercial attributes (affecting visual appearance), it seems that they work better for hedonic products than for functional ones. The proposal of Kempf (1999, p. 38) supports that products “consumed for their hedonic benefits, such as games and attending entertainment events, will have attitudes that are heavily influenced by hedonic components. On the other hand, attitudes toward activities such as brushing one’s teeth and taking vitamins are dominated by the utilitarian component of attitude”. As the author concludes, for hedonic products, emotional responses to trial (aesthetics) will be more important in the formation of brand evaluation than cognitions. Contrary, for utilitarian/functional products, the salient benefits are more cognitively oriented, which means that technical cues reducing perceived unhealthiness will work better than commercial cues (aesthetics) affecting emotions. So:

H1b: The influence of visual appeal (using commercial/aesthetical cues) on attitudes will be stronger for new hedonic products than for new functional/healthy ones among young people.

H2b: The influence of visual appeal (using commercial/aesthetical cues) on buying intention will be stronger for new hedonic products than for new functional/healthy ones among young people.

Regarding the use of technical attributes to diminish perceive unhealthiness, “some studies note that because consumers generally understand the link between food and

health, the use of food labels would positively influence the intention to follow healthier diets. However, “the degree of interest differs between different consumers, situations and products” (CarrilloVarela and Fiszman, 2012 p. 209). From this stream of research, it is supported that young consumers “generally prefer ad appeals that are congruent with the attitude object type evaluations” (Drolet, Williams and Lau-Gesk, 2007, p. 212). This means that young consumers tend to prefer rational messages (based on informational cues) when searching for utilitarian/functional products (i.e. juice with fruit and milk). For example, the usefulness of informative cues to promote a functional/healthy product can be seen in the proposal of Kapiiriri (2013, p. 38), who remarks how the “the Essential Health Care Package (EHP) approach has been promoted as a tool for guiding priority setting (PS) in Low Income Countries”.

On the contrary, affective packages (based on aesthetical cues) will work better to promote hedonic products (i.e. candy bars). For example, the study of Crossland, Thomson, Morgan, Dombrowski and Hoddinott (2015) show how Australian young drinkers' (18-21 year old) are prompted to buy alcoholic drinks through instore emotional shopping experiences, because they were not interested at all in receiving rational information (healthy claims and messages), since its purpose was merely hedonistic.

In sum, the success of a new food concept may be partially dependent on the congruency between the product category and the claim used in the packaging (Coleman, Miah, Morris and Morris, 2014, p. 164). So, it could be stated that:

H3b (-): The negative influence of perceived unhealthiness (using technical cues) on attitudes will be stronger for new functional/healthy products than for new hedonic ones among young people.

H4b (-): The negative influence of perceived unhealthiness (using technical cues) on buying intention will be stronger for new functional/healthy products than for new hedonic ones among young people.

Finally, the direct relationship between young consumers' attitudes and buying intention is expected to be stronger for hedonic contexts than for functional products. The study of Underwood, Klein and Burke (2001) compares different product categories (candies, margarine and bacon) and concludes that, for two product categories (bacon and candy), higher levels of experiential benefits are obtained, because they are highly experiential product categories that elicit imagery processing. So, such hedonic products should benefit most from package information. In this line, it's possible to anticipate that:

H5b: The influence of attitudes on young people's buying intention will be stronger for hedonic products than for functional ones among young people.

Figure 1 shows the proposed model.

(Figure 1)

4. Materials

4.1. Participants

Three hundred young consumers participated in our experiment (mean 21.84 years old, standard deviation 2.448). The sample was chosen in a public street. Participants were contacted personally by an external company and at the door of five different faculties and of a public hospital. They were invited to take part in our experiment, and if they accepted, they were taken to the laboratory. Table 1 shows the sample profile.

(Table 1)

Two product categories were considered for our research: a new functional product (juice with milk and fruit to be healthy) and a new symbolic/hedonic product (candy bar to enjoy). On one side, different papers show experiments using juice-based product packages to analyze functional/healthy products (Ares, Besio, Giménez and Deliza, 2010; Levin and Levin, 2010). Also, as Siro, Kapolna, Kapolna and Lugasi (2008) remark, drinks with milk can be considered “bone health” drinks (with calcium and inulin). On another side, the use of candies as hedonic products to compare the relevance of visual (pictures) versus informational cues in a package compared to other product categories can be seen in Underwood, Klein and Burke (2001).

Then, we defined two experimental scenes to provide a real trial experience: 150 consumers were interviewed about a hedonic product (candy bar) and 150 participants about a functional one (juice with milk and fruit). Subjects were randomly assigned to one of the two experimental scenes. The experimental sessions were held in a laboratory. For each product category, two variables were manipulated.

- On one side, regarding visual appearance (commercial cues), we manipulated the color of the packaging. Then three alternatives were created: black, red and blue. These colors were chosen, because they represent three basic options of primary colors.
- On another side, and regarding informative content (technical cues), we manipulated a healthy claim. In this case, two alternative claims were created: a strong message (0% with a light pen symbol reinforcing the message 0%) and a weak message (0% without a light pen symbol). This symbol was chosen, because it represents the lightness of the product and other symbols (such as a red heart) are illegal in our country.

So, considering the above-mentioned variables, six concepts of juices packages and six concepts of candy bars packages were created following a fractionated factorial experimental design, that is, 12 different packages in total. The concepts used for each package are shown in Figure 2. The opinion of 25 participants that tried each package was used in this paper (12 packages x 25 participants each = 300 participants in total). With this procedure, we assure that three visual cues (blue, black and red) and two healthy cues (strong versus weak) are evaluated for two product categories (hedonic versus functional). So, 12 alternative packaging simulations were considered ($3 \times 2 \times 2$).

(Figure 2)

The goal of working with 6 alternative packaging simulations was simply to introduce greater variation in people's perceptions. As Annex 1 shows, the six packages differ significantly in the mean values of the nine perceptual items used to measure consumers' cognitive opinions towards a packaging. Regarding visual appearance (6 items), three packaging designs have obtained the best evaluations in a questionnaire: the blue packaging with a reinforced message (0% fat with a light pen), the red packaging with a reinforced message (0% fat with a light pen) and the black packaging with a reinforced message (0% fat with a light pen). These packages stand out in the average values of "good impression", "likeable" and "flattering". Regarding perceived unhealthiness (3 items), the worst packaging seems to be the blue one with a simple message (no light pen in the label).

We have used a real brand name for both product categories but applied it to two new products to be tested. Two companies manufacturing juices and candy bars prepared the packages for the new launches for us. The descriptions of the products were invariant.

4.2.Measurement and method.

The different constructs were applied to measure responses to trial. All questions/probabilities were elicited on a 1-7 scale.

- Visual appearance was measured by asking each subject this question: How likely are you to believe that visual appearance for this packaging is: good/bad, pleasant/unpleasant, likable/not likable, flattering/unflattering, attractive/unattractive, stylish/not stylish. These seven attributes have been used previously in the work of Cox and Cox (2002).
- Perceived unhealthiness was measured by asking the likelihood of your having each of these outcomes after consuming the content of each package: gaining weight, heart attack and stroke. This procedure has been used in the work of Kozup, Creyer and Burton (2003).
- Attitudinal responses were measured as in the work of Kempf (1999). So, overall trial evaluation was measured via a three-item semantic differential scale. The question was: “Overall, how would you rate this trial packaging?” The endpoints were labelled: “bad–good, unfavorable–favorable, and dislike–like” (Kozup, Creyer y Burton, 2003).
- Buying intention was measured with three items (Kozup, Creyer and Burton, 2003): (i) How likely would you be to purchase the chosen product? (ii) Assuming you were interested in buying candies/juice, would you be more likely or less likely to purchase the product, given the information shown in the packaging? (iii) Given the information shown, how probable is that you would consider the purchase of candies/juice if you were interested in buying this kind of product?

To analyze quantitative responses, the EQS methodology was applied. This statistical tool permits to analyze a structural theory bearing some phenomenon. In our case, to analyze the predicting power of two independent factors (“the visual appearance of a

packaging” and its “perceived unhealthiness”) over two dependent factors (“consumers’ attitudes” and “consumers’ buying intentions”). The model also incorporates the study of the predicting power of the dependent variable “consumers’ attitudes” on another dependent variable “consumers’ buying intention”.

In short, the casual processes (relationships) in our study are represented by a series of structural equations (regressions) that interact together, being all of them estimated jointly (Byrne, 2013). More specifically, two regressions define our model which will be estimated together:

- (a) Our first regression aims to predict “**consumers’ attitudes**” using two independent variables: visual appearance of the packaging (H1) and perceived unhealthiness (H3) (see figure 1).
- (b) Our second regression aims to predict “**consumers’ buying intention**” using three variables (two of them independent): visual appearance of the packaging (H2), perceived unhealthiness (H4) and “consumers’ attitudes” (H5).

Both regressions are estimated jointly in a global model through EQS software. This multivariate procedure is recommended when an underlying latent variable structure exists, which relates the same concepts in different functions (regressions).

5. Results

5.1. Global analysis

Before verifying the proposed model (figure 1), the psychometric properties of the four scales (factors) that were used were evaluated through a confirmatory factor analysis (CFA). More specifically, three properties must be present before running the multiple regression analysis estimations: reliability, convergent validity and discriminant validity:

- **Reliability of the scales:** this analysis is used to demonstrate the reliability/consistency of each scale that is used to measure each factor (concept) (Fornell and Larcker, 1981). To this end, three different reliability indicators were calculated in our study for each scale: (i) alpha of Cronbach; (ii) composed reliability index (CRI) and (iii) average extracted variance (AVE). Our results show that for each scale, the alpha of Cronbach values are higher than 0.7 as recommended. Also the values of the composed reliability index (CRI) are also higher than 0.7, and the values of the average extracted variance (AVE) exceed the minimum required value (0.5) (table 2). This high values demonstrate the reliability of our four scales (visual appearance, perceived unhealthiness, consumer attitudes and consumers buying intention).
- **Convergent validity** of the items in the same scale: this analysis permits to demonstrate that each concept (factor) in our model is measure using the appropriate items. If some items are not adequate to measure a concept/factor, they must be removed from the scale. To this end three procedures were followed. Firstly, items with factors loadings below 0.5 were eliminated (Lij: standard loads must be superior to 0.5), to ensure that each factor (concept) was well-represented, contributing to the model's convergent validity (Bagozzi & Yi, 1988). Second, it was verified that all factor loads of the items were significant ($t > 2.56$). Thirdly, it was verify that the goodness of fit indexes where all around the optimum value of 0.9. Lastly, average error between the observed matrix and the reproduced matrix is in the recommended range (0.061-0.075) (Bollen, 1989). Everything therefore suggests that model fit is appropriate and that it has convergent validity.
- **Discriminant validity** between different scales: this analysis wants to demonstrate that the four concepts (factors) in our model are adequate to measure

different things. Our results demonstrate that the four factors (concepts) represent substantially different concepts (table 3).

In sum, the data collected in Table 2 and Table 3 corroborates the **reliability or internal consistency** of the scales and also the **convergent validity**

(Table 2)

(Table 3)

After we tested the psychometric characteristics of our model, a structural equation model (SEM) was performed to contrast our four hypotheses. As Table 4 shows, in our general model, the goodness of fit statistics suggests that the structural model fits well with the data structure, so the proposed hypotheses make sense. The model has a good predicting power. All the results for the fit indexes are around the optimum value of 0.9 (GFI=0.930; AGFI= 0.842; NFI = 0.898; NNFI = 0.920; CFI Robust = 0.937). Lastly, average error between the observed matrix and the reproduced matrix (RMSEA = 0.069 <0.07; SRMR= 0.063 <0.1.) is in the recommended range (0.061-0.075) (Bollen, 1989).

Then, our results show, first, that two independent factors, visual appearance and perceived unhealthiness, can help to predict young consumers' attitudes towards a new product and also it's buying intention. That is:

- If a product packaging is perceived as aesthetically appealing, young people will like it more (H1a) and buy it more (H2a). So, commercial/aesthetical cues are useful to predict young consumers' attitudes and buying intention. Both effects are the strongest of the model, as denoted by the size of the charges obtained for both factors ($\beta=0.508$ and $\beta=0.488$ respectively).
- If a product packaging is not perceived unhealthy (that is, if young consumers feel that the product is good because they are not going to gain weight or suffer a heart

attack or a cerebral stroke), they will like it more (H3a) and buy it more (H4a). So, technical cues used to diminish unhealthiness are also useful to predict young consumers' attitudes and buying intention. Both effects show a negative sign, which means that if perceived unhealthiness decreases, the attitude towards the product ($\beta=-0.164$) and its buying intention ($\beta=-0.151$) will increase significantly.

In short, the strongest effects have been obtained for visual appearance ($\beta=0.508$ and $\beta=0.488$), which means that, for young people, the relevance of packaging visual appearance is higher than its perceived unhealthiness.

In spite of this, the direct relationship between attitudes and buying intentions has not been demonstrated. So, H5a was rejected. That is, visual appearance and perceived unhealthiness impact straightly on young consumers' attitudes and buying intention, and maybe for this reason a direct relationship between attitudes and buying intention could not be demonstrated.

In sum, sensory appealing cues and healthy cues directly affect young consumers' attitudes and selections. The power of aesthetics is higher than the relevance of perceived unhealthiness. In spite of this, a direct effect of attitudes on buying intention could not be demonstrated, maybe because the direct effect of visual appearance and perceived unhealthiness on buying intention attenuates the effect of attitudes on buying intention. That is, attitudes do not mediate the relationship between high visual appearance (aesthetical cues) and buying intention or between low perceived unhealthiness (technical claims) and buying intention.

(Table 4)

5.2. Hedonic versus functional products

To analyze the moderating role of product category, we conducted two independent estimations: one for the sample of 150 consumers that evaluate a candy packaging (hedonic product) and another for the sample of 150 consumers that evaluate juices (functional product). So, the model was tested by multi-group analysis with EQS software (version 5.7b).

According to previous literature (Jaccard & Wan, 1996) 2 steps are needed. The first does not involve any formal analysis of the moderating effect, as for each group of interviewees the parameters and significance of each of the proposed causal hypotheses are estimated. As Table 5 shows, R^2 is between 0.6 and 0.7 in both contexts. The model is therefore able to explain the proposed relationships in both scenarios. For both subsamples, the same hypotheses are accepted, demonstrating that augmenting visual appearance (different colors) and reducing perceived unhealthiness (different claims) are related to consumers' attitudes and buying intention.

Secondly, the Lagrange multiplier test (Imtest) is used to measure if significant differences between the parameters in both subsamples exist. As our results show, when comparing two different product categories (functional versus hedonic), we can see that:

- The impact of visual appearance on attitudes is higher for functional products than for hedonic ones ($\beta_{\text{hedonic}} = 0.427 < \beta_{\text{functional}} = 0.541$). On the contrary, the impact of visual appearance on buying intention is higher for hedonic products ($\beta_{\text{hedonic}} = 0.946 > \beta_{\text{functional}} = 0.808$).
- The negative impact of perceived unhealthiness on attitudes ($\beta_{\text{hedonic}} = -0.128 > \beta_{\text{functional}} = -0.122$) and on buying intention ($\beta_{\text{hedonic}} = -0.343 > \beta_{\text{functional}} = -0.222$) is slightly stronger for hedonic products than for functional ones (table 5).

However, the differences between β parameters in both sub-samples are not significant ($\chi^2 < 1.96$). So, given that the differences between both product categories are not significant (table 5), we can only conclude that our Spaniard young sample does not differentiate between product categories, no matter what they are buying.

In short, when young consumers' analyzed a new hedonic product (i.e., candy bar), the relevance of the color of the packaging and its message is the same as when they evaluate a new functional product (i.e., milk-juice). This result contradicts previous works that have predicted and demonstrated "that product category type (hedonic vs. utilitarian) would moderate young adult but not elderly consumers' relative evaluations" (Drolet, Williams and Lau-Gesk, 2007, p. 212). Maybe our sample of young Spaniards does not really perceive the functionality of milk or juice, whereas its consumption is equivalent to the consumption of goodies.

As annex 2 shows, consumers in group 2 (evaluating a functional product: milk with juice) perceived higher unhealthiness than consumers in group 1 (evaluating a hedonic product: candy bars). Also, as this annex shows, consumers' attitudes and consumers' buying intention are higher for the hedonic product, although it does not provide any functional benefits. These data support the great ignorance of our young people sample about the functionality of products, and the high search of pleasure in their purchases. Maybe for this reason they have not found differences between both product categories. So, and as previous research has supported (CarrilloVarela and Fiszman, 2012, p. 209), maybe variables other than product category (such as consumers' age or situations) would serve to explain that some packaging attributes are more important than others to predict attitudes and behaviors.

(Table 5)

Conclusions and managerial implications

Our results highlight the importance of young consumers' responses based on visual appearance to trial for both utilitarian and hedonic products, especially among the latter product category, as Kempf (1999) has remarked. That is, packaging aesthetics (i.e., based on the color of the packaging) can play an interesting role among young consumers' attitudes and choices. Also, packaging displaying healthiness also affects young consumers' attitudes and choices. That is, we have demonstrated a direct relationship between aesthetics/commercial cues (high visual product appearance) and attitudes, between technical cues (low perceived unhealthiness) and attitudes, and between both kinds of cues and buying intention. However, we could not demonstrate a direct relationship between attitudes and buying intention.

Comparing both kinds of cues, our results show that for young people commercial/aesthetical cues (colors) work better than technical cues (healthy messages).

Finally, no significant differences have been identified for different product categories. That is, mental processes in young people work equally when evaluating a new candy bar as when evaluating a new juice with milk and fruit. This simply shows that consumers define functional/hedonic products differently from manufacturers/researchers.

Based on these results, we recommend the following managerial implications. First, aesthetics must be carefully observed to obtain likable and selected products. That is, for communicating purposes focused on young people, working with such an aspect as the color of the packaging (visual appearance) will be more effective than working with the message (i.e. to augment perceived healthiness). In spite of this, the technical information that transmits perceived healthiness should also be used, because "an effective scientific research itself does not make a product successful in the market. The product should be

in an adequate form so that the consumers could easily accept it” (Siro, Kapolna, Kapolna and Lugasi, 2008, p. 462). So, based on our results, we recommend designing and testing packages, observing images (Underwood, Klein and Burke, 2001), choosing a pleasant color and a picture able to reinforce a message of perceived healthiness, as long as a product is prepared to appear aesthetically pleasing for the young market.

Second, firms attending to young consumers must observe that a long route to process information (packaging cues ...> attitudes...> buying intention) does not exist, because attitudes do not significantly impact buying intention. On the contrary, first impressions can affect buying intention in a straight way (packaging cues ...> buying intention). So, an attitudinal information-processing route is not followed. If a new product is visually appealing (i.e., nice colors) and transmits healthiness (i.e., useful messages), young people will buy it, no matter if they have realized previously that they like/dislike it. This short rout in information processing is frequent among young people given that first impressions can be enough as the persuasive communication theory postulates (Kim and Fesenmaier, 2008). So, a packaging must be interesting enough to seduce young consumers in order to stimulate their buying intention.

Third, given that hedonic and functional/healthy products have equal effects in young consumers’ minds, no differences need to be made between product categories. No specific recommendations are provided according to product class. That is because, as Siro, Kapolna, Kapolna and Lugasi, 2008 (p. 462) have demonstrated, “consumers do not often know the health benefits of the specific groups of ingredients and therefore are not able to assess the health effects. In this sense, the health image of a functional food product or a specific ingredient represents a necessary prerequisite but cannot be regarded as being sufficient for a possible market success”. So, young consumers’ will try a new product based on the package and not on the functionality of the product, because their

packaging perceptions do not differ according to the product category that they are choosing.

To conclude, and regarding future research lines, additional analysis would be of interest to avoid the limitations of this paper. For example, other potentially important sources of marketing exposure for adolescents, such as social networks, could be analyzed. As Bigné (2016) has remarked, omni connection reflects a new consumer who is connected everywhere and with many peers through social media platforms. Future studies could also be developed to measure the potential moderating power of some objective variables related to consumers (such as consumers' age or consumers' gender). In this vein, the proposed relationships in our model could be compared in the future considering two different scenes: men versus woman. Finally, we cannot forget that it is possible, for example, that consumers are keen to buy something for unknown other reasons and justify it to themselves by saying it is healthier. There could also be other confounding factors that are associated with both the independent variables (perceptions of healthiness/visual appeal) and the outcomes (product attitudes/buying intention.). Therefore, future research should consider additional variables to better explain young consumers' healthy products consumption.

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Figure 1. Visual appearance and perceived unhealthiness

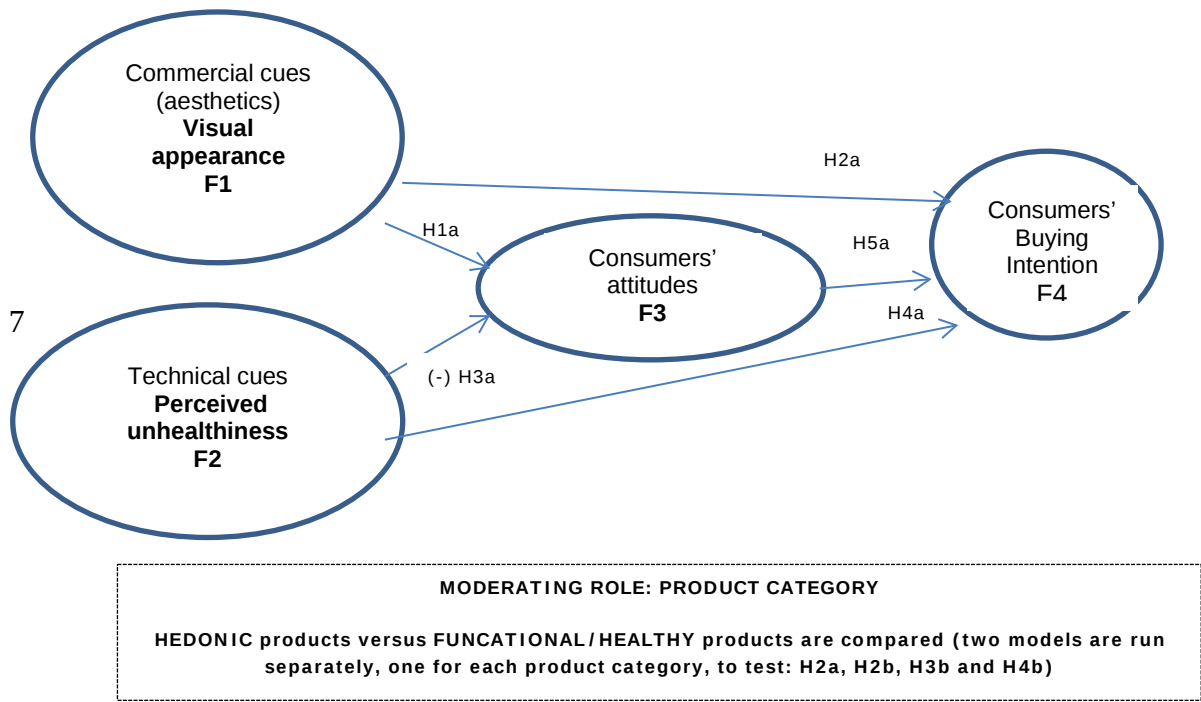


Figure 2: Concepts used for each package.



Table 1. Sample profile

Gender		Weight (kg)	Size (cm)	Desired weight (kg)	Age
Women	N	152	151	153	155
	Standard Desv.	10.9394	6.399	7.1053	2.378
	Average	60.195	164.00	56.518	21.61
Men	N	140	140	141	138
	Standard Desv	13.9578	6.748	8.9797	2.506
	Average	73.945	176.12	72.167	22.10
Total	N	292	291	294	293
	Standard Desv	14.2305	8.935	11.2271	2.448
	Average	66.787	169.83	64.023	21.84

Table 2. Psychometric properties of the measurement instrument: reliability and convergent validity

	Item (indicator)	Lij (Standardize d	T robust*	R ²	Chronabah Alphah	Compound Reliability Index (CRI)	Average Variance Extracted
INDEPENDENT VARIABLES							
F1: VISUAL APPERANCE OF THE PRODUCT							
1	Bad-good	0.786	13.016	0.618	0.90	0.906	0.59
2	Unpleasant-pleasant	0.630	10.828	0.397			
3	Not likable- Likable	0.816	17.341	0.665			
4	Unflattering- Flattering	0.871	17.960	0.758			
5	Unattractive- Attractive	0.702	13.131	0.493			
6	Not stylish- Stylish	0.667	11.798	0.445			
F2: PERCEVIED UNHEALTHYNESS OF THE PRODUCT (reverse items to measure perceive healthiness)							
1	Likelihood of gaining weight	0.495	9.968	0.245	0.76	0.627	0.44
2	Likelihood of heart disease	0.989	17.127	0.979			
3	Likelihood of stroke	0.809	11.060	0.655			
DEPENDENT VARIABLES TO BE PREDICTED							
F3: CONSUMERS' ATTITUDE TOWARD THE PRODUCT							
1	Unfavorable-Favorable	0.881	17.475	0.777	0.92	0.732	0.49
2	Bad-Good	0.916	18.496	0.840			
3	Negative-Positive	0.877	18.221	0.769			
F4: CONSUMERS' BUYING INTENTION TOWARD THE PRODUCT							
1	How likely would you be to purchase this product, given the information shown in the packaging?	0.787	14.665	0.619	0.70	0.50	0.30
2	Assuming you were interested in buying a. would you be more likely or less likely to purchase the product, given the information shown?	0.500	7.277	0.249			
3	Given the information shown, how probable is it that you would consider the purchase of the product, if you were interested in buying candies/milk-juice?	0.573	8.484	0.325			
Global Fit: $\chi^2=1991.961$ ($p=0.00$); S-B $\chi^2 = 210.8482$ (105 degrees of freedom) ($p=0.00$); GFI=0.891; RMSEA = 0.070<0.08; SRMR= 0.069<0.1. Incremental Fit: 0.936; AGFI=0.844; NFI =0.897; NNFI =0.918; CFI Robust=0.935 Parsimonious Fit Non normed $\gamma^2 =2$ (between 1-5)							

* $p<0.05$

Table 3. Psychometric properties of the measurement instrument: discriminant validity

	F1: V. Appearance	F2: Health	F3: Attitude	F4: Buying Intention
F1	1	-0.191	0.539	0.629
F2	(-0.269;-0.113)	1	-0.261	-0.299
F3	(0.425;0.653)	(-0.391;-0.131)	1	0.039
F4	(0.535;0.723)	(-0.403;-0.195)	(-0.081;0.159)	1

Above the diagonal: estimated inter factor correlation.

Under the diagonal: confidence interval for interfactor correlation **= $P < 0.01$; * = $p < 0.05$; ns

Table 4. Global Model Testing

H	Structural relationship	Standardized Coefficient (β)	T Robust *	Hypothesis
VARIABLES USED TO PREDICT CONSUMERS' ATTITUDE TOWARD THE PRODUCT: Visual appearance (aesthetics) and perceived unhealthiness				
H1a	Visual Appearance (aesthetics) → Consumers' Attitude	.508	7.665**	√
H3a (-)	Perceived unhealthiness → Consumers' Attitude	-.164	-3.327**	√
VARIABLES USED TO PREDICT CONSUMERS' BUYING INTENTION: Visual appearance (aesthetics), perceived unhealthiness and consumers' attitudes				
H2a	Visual Appearance (aesthetics) → Consumers' Buying intention	.488	3.74**	√
H4a (-)	Perceived unhealthiness → Consumers' Buying intention	-.151	-4.239**	√
H5a	Consumers' Attitude → Consumers' Buying Intention	.210	1.187	x
Global Fit: $\chi^2 = 1991.961$ ($p = 0.00$); S-B $\chi^2 = 202.3845$ (105 degrees of freedom) ($p = 0.00$); GFI = 0.930; RMSEA = 0.069 < 0.07; SRMR = 0.063 < 0.1 Incremental Fit: AGFI = 0.842; NFI = 0.898; NNFI = 0.920; CFI Robust = 0.937 Parsimonious Fit: Normed $\chi^2 = 2$ (between 1-5)				

* $P < 0.05$.

Table 5. Moderating Variable. Hedonic product versus functional product.

Contrast	χ^2 (diferencias)		Structural relationship	Standardize d <i>Chaves (R)</i>	T Robust *	Standardize d <i>Chaves (R)</i>	T Robust *
				Hedonic product		Functional product	
Variables used to predict consumers' attitude toward the product: Visual appearance (aesthetics) and perceived healthiness							
ns	0.112	H1b	Visual Appearance (aesthetics)→Consumers' Attitudes	0.427	**	0.541	**
ns	1.572	H3b (-)	Perceived unhealthiness →Consumers' Attitudes (higher for hedonic products: 0.128>0.122)	-0.128	**	-0.122	**
Variables used to predict consumers' buying intention toward the product: Visual appearance (aesthetics), perceived healthiness and consumers' attitudes							
ns	0.535	H2b	Visual Appearance (aesthetics)→Consumers' Buying intention	0.946	**	0.808	**
ns	1.267	H4b (-)	Perceived unhealthiness →Consumers' Buying intention (higher for hedonic products: 0.34>0.22)	- 0.343	**	- 0.222	**
ns	1.158	H5b	Consumers' Attitude →Consumers' Buying Intention	-0.693	No sign	-0.467	No sign
		Global Fit: $\chi^2= 1936.714$ ($p=0.00$); S-B $\chi^2 = 265.5953$; 210 degrees of freedom) ($p=0.00$); GFI= 0.859; RMSEA 0.061<0.1; SRMR= 0.080 <0.1 Incremental Fit: AGFI= 0.802; NFI = 0.863; NNFI = 0.933; CFI Robust = 0.945 Parsimonious Fit: Normed $\chi^2= 1,2$ (between 1-5)					

****P<0.05; ns (no signifcative)** differences among groups are not significative (ns)

Annex 1

Perceptual differences among packages perceptions (ANOVA test)

PACKAGING							F
VISUAL APPEARANCE: HEDONIC INFORMATION (AVERAGE)							
1. Bad impression (1) - Good impression (7)	4.82	6.00	4.50	5.70	4.80	5.14	1.850*
2. Unpleasant (1) - Pleasant (7)	5.29	5.83	5.50	5.63	5.46	5.28	0.224
3. Not likable (1) - Likable (7)	3.70	3.33	3.00	3.93	4.26	4.42	2.018**
4. Unflattering (1) - Flattering (7)	4.94	5.00	4.50	5.36	5.00	5.42	2.702**
5. Unattractive (1) - Attractive (7)	4.05	5.66	4.50	4.70	4.46	4.14	0.296
6. Not quality (1) - Quality (7)	4.38	4.94	4.65	4.61	4.63	4.24	0.759
PERCEIVED UNHEALTHINESS							
7. Likelihood of gaining weight	4.42	3.59	4.50	4.33	4.29	4.76	0.77
8. Likelihood of heart disease	2.83	1.65	2.00	2.46	2.22	2.31	1.8*
9. Likelihood of stroke	2.25	1.59	1.65	1.98	1.54	1.75	1.6*

The items were measured through semantic differential scales with 7 points; being 1 the worst evaluation and 7 the best. (*) $p < 0,1$; (**) $p < 0,05$

Annex 2

Average differences between group 1 and group 2

	GROUP 1 Functional product (average)	GROUP 2 Hedonic product (average)	t-test
VISUAL APPERANCE OF THE PACKAGING (F1)			
Bad (1) - Good (7)	5.00 (O ² =1.4)	5.47 (O ² = 1.1)	3.14**
Unpleasant (1) - Pleasant (7)	5.70 (O ² = 1.2)	5.55 (O ² =1.2)	1.05
Not likable (1) - Likable (7)	5.22 (O ² =1.4)	5.48 (O ² = 1.2)	1.72
Unflattering (1) - Flattering (7)	4.32 (O ² =1.3)	4.76 (O ² = 1.2)	2.66**
Unattractive (1) - Attractive (7)	4.82 (O ² =1.5)	5.47 (O ² = 1.4)	3.69**
No quality (1) - quality (7)	4.27 (O ² =1.5)	4.72 (O ² = 1.3)	2.58**
PERCEIVED UNHEALTHINESS OF THE PACKAGING (F2) (reverse items to measure perceived healthiness)			
Likelihood of gaining weight (from 1 to 7)	5.28 (O ² =1.7)	3.32 (O ² = 1.8)	9.35**
Likelihood of heart disease (from 1 to 7)	3.01 (O ² =1.7)	1.65 (O ² = 1.0)	8.07**
Likelihood of stroke (from 1 to 7)	2.23 (O ² =1.5)	1.43 (O ² = 0.8)	5.40**
CONSUMERS' ATTITUDE TOWARD THE PRODUCT (F3)			
Unfavorable (1) - Favorable (7)	4.68 (O ² =1.2)	5.21 (O ² = 1.2)	3.75**
Bad (1) – Good (7)	4.64 (O ² =1.3)	5.24 (O ² = 1.3)	3.78**
Negative (1) – Positive (7)	4.66 (O ² =1.4)	5.25 (O ² = 1.2)	3.74**
CONSUMERS' BUYING INTENTION TOWARD THE PRODUCT (F4)			
How likely would you be to purchase this product given the information shown in the packaging? (from 1 to 7)	3.92 (O ² =1.6)	4.81 (O ² = 1.7)	4.49**
Assuming you were interested in buying a. would you be more likely or less likely to purchase the product given the information shown? (from 1 to 7)	4.92 (O ² =1.5)	4.92 (O ² =1.2)	0.00
Given the information shown. how probable is it that you would consider the purchase of the product if you were interested in buying candies/milk-juice? (from 1 to 7)	4.74 (O ² =1.4)	4.85 (O ² = 1.4)	0.66

** P < 0. 01.

The numbers represent the average value of each item for each sub-sample. Minimum value: 1 (very low) to maximum value: 7 (very high).