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Designing food packaging for the Spanish market: Do motivations differ between involved and non-involved adolescents?

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ABSTRACT

This paper investigates the relationships among food choice motivations and the relevance of packaging elements (visual and informative elements) in the adolescent market. In addition, these relationships are re-tested in two different frameworks: high-involved consumers and low-involved consumers. 590 young consumers between 13 and 17 years were interviewed at the door of their public or private schools. Structural Modelling was used to test our hypotheses. The first analysis was done considering the global sample. The second one split off the sample into two groups: 351 high-involved adolescents and 239 low-involved adolescents. Our results showed, on one side, that weight control and familiarity motivations do significantly affect the relevance of visual packaging cues. On another side, price motivations and weight control motivations do affect the relevance of informative packaging cues. The rest of food choice motivations are not linked to packaging cues. Second, regarding involvement, our results could not demonstrate that high-involved adolescents will also be higher food choice motivated consumers with a greater concern with the packaging decisions.

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1. Introduction

There is a long tradition of research into consumers' food choice. However, research in adolescents is scarce (Ragaert et al., 2004). As Haytko and Baker (2004) remark, while past research has examined the role of adolescents in influencing family decision-making (e.g. Beatty and Talpade, 1994), little academic research has been devoted to understanding the role of adolescents as primary consumers. Given that this group represents a large, affluent market segment, it is important that managers gain insight into what factors influence their products/services experiences (Scully et al., 2012).

However, most research on food marketing for the adolescent market has focused on television advertising only, forgetting other important marketing tools such as packaging (Harris et al., 2010).

In this framework, our work has two main objectives. First, the paper tries to investigate the relationship between food choice motivations and packaging information search (regarding both visual and informative packaging elements). The pioneer work of Steptoe et al., (1995) explains different factors/motives for dietary choices (including health, sensory appeal, natural content, price, weight control, familiarity, and ethical concern). However, there are no studies that address how these motivations are linked to packaging perceptions. This link seems evident, firstly, because motivations have a clear effect on information search, as classic attitude–behavior models have demonstrated, and the product package is a strong tool for providing information. Secondly, because cue utilization theory notes that consumers tend to use extrinsic cues as surrogate indicators of product quality (Richardson, 1994). Hence, packaging is becoming increasingly important as a vehicle for consumer communication and branding (Silayoi and Speece, 2004). For the package has become a critical factor in the consumer decision-making process because it communicates to consumers at the time they are actually deciding in the store.

Our first objective is to study the connection between food choice motivations and the search for information on packaging. The question that emerges is: will food choice motivations affect the perceived importance of different cues in the packaging (visual cues and informative cues)? As Zanoli and Naspetti (2002) argue, this means-end chain theory decision making is considered like a problem-solving process. Motivated consumers are expected to search for additional information on the package.

In addition to food choice motivations, an area that has recently received attention in the food intake literature is that of involvement. Food involvement is based on activities relating to the acquisition, preparation, cooking, eating and disposal of food (Bell and Marshall, 2003). As these authors state, there is no a clear definition of an individual's involvement as it relates to food; so this field of research needs further work.

Our second objective therefore is to study how far relationships between food choice motivations and the perceived importance of different packaging information cues are strengthened among highly food involved consumers. That is, will highly involved consumers pay greater attention to different packaging information cues (graphical and informative) because they are possibly more motivated consumers?

To reach both objectives, 590 young adolescent consumers between 13 and 17 years were interviewed at the door of public and private schools. A model was tested through structural modelling techniques twice: firstly, without considering the moderating role of involvement, and then by splitting the sample into involved consumers and non-involved consumers.

One contribution from this paper is to provide managers of food companies focused on the young adolescent market with information on how to design packages in keeping with young people’s food choice motivations. Little research is accessible regarding consumers' perceptions of food packaging (Venter et al., 2011); our study is based on the understanding of packaging as a strategic weapon and marketing tool for all business, especially in the highly competitive food industry. This is a highly important research topic, because as Wells et al., (2007) have demonstrated, consumers depend greatly on the extrinsic attributes of packaging to aid the purchase decision. Indeed, over 73 per cent of consumers agree they use packaging to assist their purchase decision.

Furthermore, the present paper will add value to previous works because we test to what extent managers should design their packages considering adolescent food involvement together with adolescents’ motivations. Although consumers’ involvement has been studied in the food industry (Silayoi and Speec, 2004), its relationship with food choice motivations and packaging design variables has not been demonstrated yet.

2. Theory

2.1. Packaging preferences and motivations

Packaging has to work in a more crowded competitive context both in the retail environment and in the kitchen (Rettie and Brewer, 2000; Vila-López, Küster-Boluda and Sarabia-Sánchez, 2017).. Following Silayoi, and Speece (2004), packaging elements are non-verbal (graphics, size, color and shape) and verbal (health and nutritional claims). That is: visual elements and informative elements.. It is necessary to better inform young consumers how to buy appropriate foods. Food packaging is a good tool to this end, because motivations and information searching are not unlinked terms. This general proposal is extracted from a classic attitude–behaviour model based on Engel et al., (1995). That is, during their decision-making process, consumers will have different motivations and, accordingly, they will search and rely on different attributes or cues before deciding whether or not to buy and which product to choose. Given that consumer need to confirm their motivations (Beerli-Palacio and Martín-Santana,2017), highly motivated consumers will pay more attention to different packaging cues than poorly motivated consumers. Our general hypotheses are that:

Ha: Visual information on packaging will be more important for more motivated adolescent consumers than for less motivated ones.

Hb: Written information on packaging will be more important for more motivated adolescent consumers than for less motivated ones.

These general hypotheses can be separated into the following seven sub-hypotheses (Figure 1). Firstly, regarding health motivations to buy a food item, Pittipor (2010) demonstrated for a sample of 100 elderly consumers in Bangkok (Thailand), that consumers' health can affect packaging utilization, and operability of some types of packaging can lead to injury. That is, healthy consumers will look for additional visual and informative attributes on packaging to feel secure. In the same line, Ragaert et al., (2004) report that consumers with a high awareness of the relationship between food and health attach significantly more importance to credence attributes in packaging for fruits and vegetables. Also, the research by Van Kleef et al., (2005) demonstrates that the relation between a consumer's health condition and a product's health claim affects the intention to buy the product. Therefore:

H1a: Visual information on packaging will be more important for more health-motivated adolescent consumers than for less health-motivated ones.

H1b: Written information on packaging will be more important for more health-motivated adolescent consumers than for less health-motivated ones.

Secondly, sensory appeal motivated consumers will also pay more attention to food packing than less motivated consumers. Ragaert et al., (2004) demonstrate that sales of minimally processed vegetables and packaged fruits were rapidly increasing thanks to their image of convenience and healthiness. Consumers more interested in sensory attributes, when buying fruits and vegetables, were positively affected by packing attributes (size, color, information etc.). Also, typical experience and sensory attributes (like taste, odor and texture) received high importance among sensory seekers. Therefore:

H2a: Visual information on packaging will be more important for more sensory appeal motivated adolescent consumers than for less sensory appeal motivated ones.

H2b: Written information on packaging will be more important for more sensory appeal motivated adolescent consumers than for less sensory appeal motivated ones.

Third, natural content purchasers are more interested in food packing information than consumers who are less worried about product composition. For example, acceptance of functional foods includes perceived functionality of product characteristics such as their naturalness and overall quality image (Krystallis et al., 2008). In this line, Vyth et al., (2010) prepared a front-of-pack nutrition logo and a particular package with lot of information on product composition for 404 food buyers in a supermarket. They found that respondents that 'often or always' purchase products use these informative cues on the packaging more than "never or seldom buyers", that is, natural content seekers will buy the product more when clear information on product consumption is provided. Therefore:

H3a: Visual information on packaging is more important for adolescent consumers seeking more natural content than for those less interested in seeking natural content.

H3b: Written information on packaging is more important for adolescent consumers seeking more natural content than for those less-interested in seeking natural content.

Fourthly, price motivated consumers will also rely more on information on the packaging (i.e. to find out how much they can obtain for the price) and also on visual cues (i.e. they will look for bigger, cheaper sizes). Ragaert et al., (2004) demonstrated that a good price/quality relation was stated as one of the motivations to buy the minimally processed vegetables and the packaged fruits. Consumers wanted to know this before buying this category of aliments. Then:

H4a: Visual information on packaging is more important for more price motivated adolescent consumers than for less price-motivated ones.

H4b: Written information on packaging is more important for more price motivated adolescent consumers than for less price-motivated ones.

Fifthly, regarding weight control, consumers looking for low fat or low calorie foods will pay more attention to packaging information (both visual and informative elements). In this case, aspects such as the label on the package or its size become more important. Aaron et al., (1994) report that subjects who had positive attitudes towards reduced fat spreads valued such labelled spreads as more pleasant, more spreadable, and with better mouth feel. So, packaging and weight control motivations are not disconnected terms. Therefore:

H5a: Visual information on packaging is more important for more weight control motivated adolescent consumers, than for those less worried about weight control.

H5b: Written information on packaging is more important for weight control motivated adolescent consumers than for those less worried about weight control. .

Sixthly, regarding familiarity, several studies have tested the power of the packaging when consumers want to buy products they usually consume (Nancarrow, Wright and Brace, 1998). As these authors explain, consumers compare and contrast the information in the communication with previous information (associations, images and experiences) in order to evaluate the new information. For this reason it is vital that marketers pay attention to consumers' prior attitudes and beliefs. When consumers are familiar with a product, they look for messages that fit with their previous knowledge. The product packaging is part of these messages. In contrast, other studies have found that consumers pay more attention to packaging when they do not know the product. From this approach, the cue utilization theory suggests that consumers tend to use extrinsic cues as surrogate indicators of product quality (Richardson, 1994), occurring most often when the consumer is unfamiliar with the product (i.e. uncertainty is **high**). Therefore we posit:

H6a: Visual information on packaging is more important for more familiarity motivated adolescent consumers than for less familiarity motivated ones.

H6b: Written information on packaging is more important for more familiarity motivated adolescent consumers than for less familiarity motivated ones.

Finally, ethical concerns over food buying have traditionally been studied using three items, one addressing political approval of the country of the food's origin, one labeling the country of the food's origin, and one environmental (Lindeman and Väänänen, 2000). Consequently, consumers who are more concerned about ethical problems will carefully read the label on a package (informative cues) and inspect its colors, flags and symbols (visual cues). For example, the cross-cultural study of Prescott et al., (2002) highlights the relevance of this factor in the Japanese market.

H7a: Visual information on packaging is more important for more ethically concerned adolescent consumers than for those less ethically concerned.

H7b: Written information on packaging is more important for more ethically concerned adolescent consumers than for those less ethically concerned.

2.2. Moderating role of food involvement

As the previous lines have explained, motivated consumers will search for informative and visual information more than less motivated consumers. However, the effects of motivations on the search for product information on packaging are expected to be greater in high involvement contexts. The relevance of food involvement in food choice decisions is not new (Piqueras-Fiszman and Jaeger, 2015). This term has been previously studied in several works. For example, Silayoi and Speece (2004) test how the relevance of visual and informative packaging cues on consumers' buying decisions are moderated by involvement. The authors report that high involvement consumers pay more attention to packaging than less involved ones, so their relationships with packaging will be strengthened in high motivation contexts. This is because food choice motivations and involvement are related constructs. Therefore, we posit:

Hc: The effects of motivations (health, sensory appeal, natural content, price, weight control and ethical concerns) on the visual packaging information search are greater for highly involved adolescent consumers.

Hd: The effects of motivations (health, sensory appeal, natural content, price, weight control and ethical concerns) on the written packaging information search are greater for highly involved adolescent consumers.

(Figure 1)

3. Method

3.1. Participants

Following several authors, such as Haytko and Baker (2004) or Scully et al., (2012), the adolescent market includes young consumers between the ages of 13 and 18 (between 8 and 12 they are still considered children). This market represents an interesting opportunity for packaged food manufacturers' because adolescents are playing an increasingly important role as buying agents in the family unit (Haytko and Baker, 2004). Therefore, we have selected this target for our work.

Prior to the quantitative data gathering, a qualitative phase was done based on seven experts' opinions. They were young Spanish consumers. With their collaboration, the proposed questionnaire was reviewed and the scales purged. The sample of our work was defined following the study of Scully et al., (2012). Our sampling procedure was a stratified two-stage probability design, with schools randomly selected at the first stage of sampling and classes selected within schools at the second stage. Schools were stratified by the two education sectors (government and private) (sample error 4%; confidence level 95%, p=q=0.5). Active parental consent was required for students to participate in each component of the study. Approval to conduct the study was obtained from the local government in the studied metropolitan area and school principals. Therefore, following this procedure, 589 adolescent consumers between 13 and 17 years of age were questioned. The interviews were done personally by an external company at the door of 30 different schools: 18 public schools and 12 private ones. The sample profile is shown in Table 1.

(**Table 1)**

3.2. Measurement scales

To prepare our questionnaire we used four scales which had been validated previously. Participants completed these scales with no reference to a particular food. That is, they were asked to rate on a scale from 1 (nothing important at all) to 7 (totally important) the importance of each item.

- To measure adolescent **consumers' food choice motivations,** we used Steptoe et al., (1995) scale (Table 2). These authors identify seven factors/motives for dietary choices: health (5 items), sensory appeal (4 items), natural content (2 items), price (3 items), weight control (3 items), familiarity (3 items), and ethical concern (3 items).

- To measure the relevance of **packaging visual cues** we based on Silayoi and Speece's (2004) proposal (Table 2) (9 items). These authors list a group of visual aspects such the shape of the packaging, the size, the colors, the materials or the pictures and images, among others.
- To measure **packaging informative cues** we based also on Silayoi and Speece's (2004) work (Table 2) (7 items). This group of items alludes to the relevance of aspects such as the size of the letters, the use of easily understandable words, the label design, or the emphasis on important nutrients among others.
- Finally, to classify consumers, we measured young **consumers' food involvement** following Bell and Marshall's FIS (Foold Involvment Scale) (2003). So, 11 items were used to measure food involvement: (i) I think much about food each day; (ii) Cooking or barbequing is much fun for me; (iii) Talking about what I ate or am going to eat is something I like to do; (iv) Compared with other daily decisions, my food choices are very important; (v) When I travel, one of the things I anticipate most is eating the food there; (vi) I enjoy cooking for others and myself; (vii) When I eat out, I think or talk much about how the food tastes; (viii) I like to mix or chop food; (ix) I do most or all of my own food shopping; (x) I wash dishes or clean the table; (xi) I care whether or not a table is nicely set.

  Using this scale, we could identify in our sample 351 consumers with high involvement in food decisions and consumption (those who obtained more than 30 points after adding the scores for the 11 items on the involvement scale) and 239 consumers with low involvement (those who obtained 30 points or less).

3.3. Statistical tools

First, to analyze our global data, 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 seven independent factors (seven food choice motivations) over two dependent factors related to relevance of: "visual appearance of a packaging" and its "perceived informativeness". 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). This multivariate procedure is recommended when an underlying latent variable structure exits, which relates the same concepts in different functions (regressions).

Second, structural modeling was applied again but with multi-sample analyses. To this end, the global sample was segmented into two groups: high involved consumers and low involved consumers. We used this criterion to segment our sample following previous works that have also used FIS (food involvement scale) scores to segment

the sample in order to compare results between high and low involved consumers (Bell and Marshall, 2003). Also, using multi-sample EQS tool, a series of structural equations (regressions) that interact together can be compared, instead of insolated regressions.

4. Results and Discussion

4.1. Confirmatory analysis

Before verifying the proposed model, the measurement model psychometric properties were evaluated. The data collected in Table 2 corroborates the ***reliability or internal consistency*** of the scales. To demonstrate discriminant validity, we analyzed the variance-covariance matrix between pairs of factors (matrix Φ) and their corresponding confidence intervals (Φ value + two standard errors) (Table 3).

(Table 2 and Table 3)

4.2. General model testing

In the general model, four hypotheses were found to be significant ($p<0.05$), with the model showing a good fit (Table 4). The overall results show that the structural equations have high R^2 values (table 4).

First, our results show that five types of adolescent motivations have no significant effect on the importance of visual cues on packaging: health motivations (H1a), sensory appeal motivations (H2a), natural content motivations (H3a), price motivations (H4a), and ethical concern motivations (H7a). These hypotheses must therefore be rejected. In contrast, weight control and familiarity motivations do significantly affect the relevance of visual packaging cues. So, H5a and H6b should be accepted. That is, if consumers are more worried about weight control (searching for low calories, low fat etc.), and/or try to find familiar products (those they usually eat), they will pay greater attention to visual packaging cues. That is, they will carefully inspect aspects like product appearance, packaging materials, and country of origin.

Second, our results show that five types of adolescents' motivations have no significant effect on the importance of informative cues on packaging: health motivations (H1b), sensory appeal motivations (H2b), natural content motivations (H3b), familiarity motivations (H6b), and ethical concern motivations (H7b). So, these hypotheses must be rejected. In contrast, price motivations and weight control motivations do significantly affect the relevance of informative packaging cues. H4a and H5a can therefore be accepted. Thus if consumers are more concerned

about the price of the product and/or about weight control, they will read the label on the packaging carefully, paying more attention to packaging with bigger size letters, easy words and intended to transmit confidence and safety. That is, they do not want to be wrong because they have limited resources (they are price searchers) or they want to avoid high calorie foods (they are weight control motivated buyers).

In sum, Ha (food choice motivations lead to search for visual cues on packaging) and Hb (food choice motivations lead to search for informative cues on packaging) can only be partially accepted.

(Table 4)

To analyze the moderating role of involvement in packaging decision antecedents, we conducted two independent estimations: one for 351 consumers with high involvement in food decisions and consumption (those who obtained more than 30 points after adding the scores for the 11 items on the involvement scale) and one for the 239 lower involvement consumers (those who obtained 30 points or less). So, the model was tested by multi-group analysis with EQS software (version 5.7b).

- For adolescents with low involvement in food decisions, only 2 hypotheses obtained significant values: (i) the link between familiarity motivations and the search for visual information cues on packaging (**H6a);** (ii) and the link between familiarity motivations and the search for written information cues on packaging (**H6b).** All the other hypotheses must be rejected.
- For teenage consumers with high involvement in food decisions, 9 hypotheses out of 14 are significant. We have identified four different situations:

(i) if adolescents' food choice motivations are "health" or "price", they will pay significantly more attention only to the informative cues on packaging (the size of letters on a label, the use of easily understandable words that help to interpret the content and messages that transmit safety and confidence);

(ii) if adolescents' food choice motivations are "sensory appeal" and "familiarity" they will only pay significant attention to visual/graphic cues (the packaging materials or aesthetic appearance among others);

(iii) if adolescents' food choice motivation is "weigh control", the relevance of the packaging is maximum, because they will analyze both, the graphic aspects of the packaging and its informative cues (label and other informative claims).

(iv) if adolescents' food choice motivation is the search for "natural content" foods, packaging has a reverse impact because such teenagers do not rely on packaging cues at all, so the link between this motivation and packaging relevance is negative.

In the second stage, to test for significant differences between the parameters in both sub-groups, we ran a Lagrange multiplier test (Lmtest) after including the restrictions in our model. We obtained that involvement does not significantly moderate the impact of food choice motivations on the relevance of visual or informative packaging cues. Hc and Hd should therefore be rejected (table 5).

(Table 5)

5. Conclusions and Implications

The general model has demonstrated, first, for consumers more worried about "weight control" (searching for low calories, low fat etc.), and/or who try to find "familiar" products (those they usually eat) the visual cues on packaging play an important role. That is, they will carefully inspect product appearance, packaging materials, and country of origin, among others.

Second, if adolescents' food choice motivations are based on "price" and/or "weight control", informative packaging cues are very important. Both groups of consumers will read package labels carefully paying more attention to packages whose labels have bigger size letters, easily understandable words and which are designed to transmit confidence and security. That is, these adolescents do not want to make a mistake because they have limited resources (they are price searchers) or they want to avoid high calorie foods (they are weight control motivated buyers).

In sum, there are seven possible motivations for choosing a particular food item. Our results have shown that "weight control" concerned adolescents are the only target affected by both visual and informative cues on packaging. In contrast, four targets, that is, those searching for "health", "sensory appeal", "natural content" and "ethical concern" are not affected at all by packaging elements. Other targets are partially affected by packaging, those searching for "price" (they will pay attention to informative cues) and "familiarity" (they will pay attention to visual cues).

Regarding involvement, our results could not demonstrate that high-involved adolescents will also be higher food choice motivated consumers with a greater concern with the packaging decisions. So involvement could not be considered as a variable able to moderate the relationships between food choice motivations and packaging decisions.

Our findings suggest some managerial implications. First, weight control motivated adolescents pay greater attention to packaging. So, when designing a food package, information on calories, ingredients, and fat must be clearly indicated, in big letters and understandable words. Also, visual elements must be deeply analyzed when designing packaging for weight control motivated adolescents. For this target, managers should choose materials able to transmit lightness and prepare an aesthetically appealing package for their products.

Second, given that price motivated adolescents pay significantly more attention to the informative cues on packaging than other adolescents, manufacturers of packaged foods that compete on price, should clearly highlight this cost saving advantage on the package, not just on the supermarket shelf.

Third, for adolescents that prefer familiar products (that is, products they usually consume and/or buy), the visual appearance of the package is significantly more important than for other groups of adolescents. So, managers of well-known products with a long tradition in the market should not innovate too much with their packaging to avoid confusion and not lose their familiar appearance.

Four, managers of healthy packaged foods, managers that prepare food with sensory appeal, managers that work with natural content (organic) nutrients and managers with ethical concerns (i.e. their products do not damage the environment or come from countries with oppressive regimes) should invest in different communication tools because the packaging is not enough. In these cases, adolescents do not care about packaging at the point of sale, so, maybe they need to be informed in advance about the healthy properties of a particular food. They pay less attention than other targets (i.e. teenagers concerned about weight control, price or familiarity of the products they buy).

Regarding futures lines, additional analysis would be of interest. Given that 12-year-olds aspire to be 17 and 17-year-olds aspire to be 20 (Haytko and Baker, 2004), an interesting and potentially enlightening research option

would be to examine where these developmental differences lie and how they are manifested. Also, Scully, et al., (2012) recommend including other potentially important sources of marketing exposure for adolescents such as websites, and broadening the scope of the measures to take into account advertising that may be simply "reminding" consumers about a particular product.

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Figure 1. Food choice motivations determine food-packaging cues

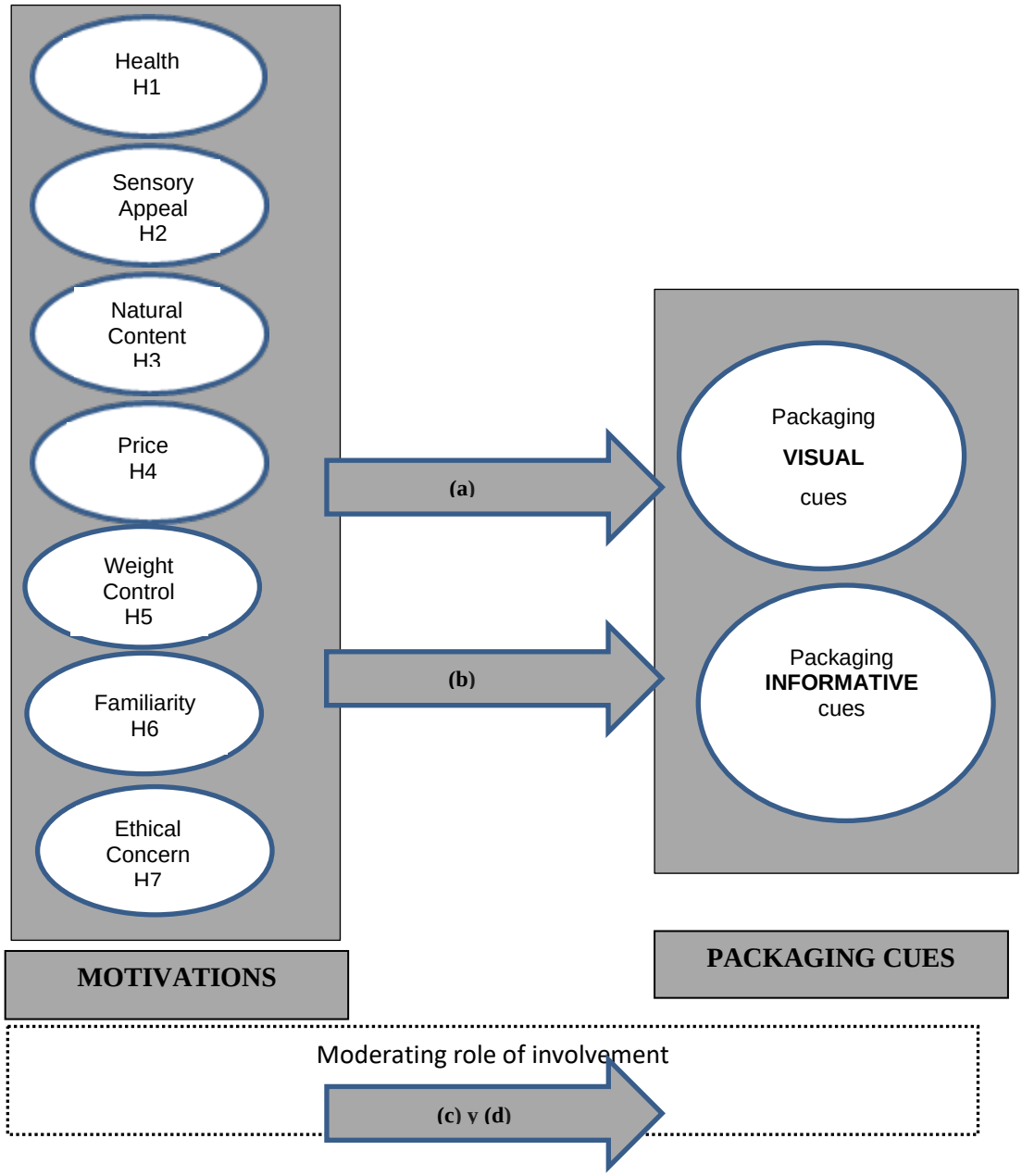

Table 1. Sample profile of students based on education sector (public vs private schools) and on gender

	GLOBAL SAMPLE (100%)	**Public (57.7%)**	**Private (43.3%)**	**Women (53.6%)**	**Men (46.4%)**
Age	15.04	15.04	15.05	15.03	15.05
Weigh (Kg.)	58.76	58.92	58.51	55.65*	62.34*
Height (cm.)	166.28	167.71*	164.17*	162.55*	170.54*

** p<0.05. Significant differences exist between the means of both groups (public vs. private; and women vs. men)*

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

	Item (indicator)	Lij (***Standardized Charge***)	T Robust*	R^2	***Cronbach's alpha***	***Compound Reliability Index***	***Average Variance Extracted (AVE)***
F1: HEALTH MOTIVATIONS							
1	Contains a lot of vitamins and minerals	0.73	18.40	0.53	0.82	0.79	0.49
2	Keeps me healthy	0.67	16.76	0.48			
3	Is nutritious	0.68	15.75	0.49			
4	Is high in fiber and roughage	0.56	12.86	0.34			
5	Is high in protein	0.59	12.39	0.35			
F2: SENSORY APPEALING MOTIVATIONS							
1	~~Smells nice~~	…	…	…	0.75	0.69	0.47
2	Looks nice	0.76	15.19	0.57			
3	Tastes good	0.54	10.00	0.30			
4	Has a pleasant texture	0.54	12.67	0.45			
F3: NATURAL CONTENT MOTIVATIONS							
1	Contains natural ingredients	0.070	15.20	0.49	0.74	0.65	0.46
2	Contains no artificial ingredients	0.61	12.45	0.59			
F4: PRICE MOTIVATIONS							
1	Is not expensive	0.78	18.72	0.60	0.83	0.79	0.64
2	Is good value for money	0.66	14.98	0.48			
3	Is cheap	0.082	23.06	0.53			
F5: WEIGHT CONTROL MOTIVATIONS							
1	Is low in calories	0.68	15.52	0.48	0.87	0.8	0.51
2	Is low in fat	0.73	17.11	0.52			
3	Helps me control my weight	0.73	18.27	0.54			
F6: FAMILIARITY							
1	~~Is familiar~~	…	…	…	0.72	0.68	0.51
2	Is what I usually eat	0.69	13.49	0.41			
3	Is like the food I ate when I was a child	0.65	13.23	0.47			
F7: ETHICAL CONCERN							
1	Is packaged in an environmentally friendly way	0.66	16.71	0.44	0.73	0.72	0.52
2	Comes from countries I approve of politically	0.68	15.43	0.49			
3	Has the country of origin clearly marked	0.70	17.94	0.48			
F8: PACKAGE VISUAL INFORMATION							
1	~~Shape~~	…	…	…	0.84	0.77	0.61
2	~~Size~~	…	…	…			
3	~~Colours~~	…	…	…			
4	Materials	0.694	14.56	0.48			
5	~~Pictures and images~~						
6	Product aesthetical appearance	0.83	16.47	0.69			
7	Manufacturer	0.77	16.97	0.58			
8	Country of Origen	0.50	16.31	0.3			
9	~~Brand~~	**…**	**…**	**…**	**…**	**…**	**…**
F9: PACKAG INFORMATIVE INFORMATION IN THE LABEL							
1	Size of the letters	0.62	18.43	0.38	0.82	0.71	0.52
2	It helps to interpret the content	0.67	23.26	0.45			
3	Easily understandable words	0.70	20.0	0.49			
4	~~Label design (shape. colures. details etc.)~~	…	…	…			
5	It gives confidence and security	0.67	10.16	0.45			
6	~~Emphasis only on important nutrients~~	…	…	…			…
7	~~Country of Origen~~	…	…	…			…

***Global Fit**: χ^2= 4611.17 (p=0.00); S-B χ^2 =725.27 (345 degrees of freedom) (p=0.00); GFI=0.90; RMSEA = 0.05<0.08; SRMR=0.045<0.1.**Incremental Fit:** 0.91; AGFI=0.90; NFI =0.85; NNFI =0.89; CFI Robust =0.93.*
Parsimonious Fit Non normed χ^2 = 2.10 (between 1-5)

* p<0.05

Note: strikethrough items were eliminated based on CFA results. So they were dropt from the scale because their values were not significant.

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

	F1	F2	F3	F4	F5	F6	F7	F8	F9
F1	**1**	**0.22**	0.62	0.19	0.61	0.37	0.17	0.18	0.19
F2	0.11;0.31	**1**	0.15	0.37	0.21	0.18	0.62	0.17	-0.03
F3	0.51;0.71	0.03;0.27	**1**	0.35	0.80	0.78	0.20	0.12	0.21
F4	0.08;0.28	0.26;-0.46	0.26;0.46	**1**	0.23	0.32	0.35	0.19	0.08
F5	0.53;0.69	0.1;0.3	0.12;0.28	0.13;0.33	**1**	0.59	0.26	0.21	0.30
F6	0.27;0.47	0.08;0.28	0.08;0.28	0.21;0.41	0.5;0.66	**1**	0.38	**0.06**	0.37
F7	0.04;0.28	0.52;-0.72	0.50;0.74	0.24;0.44	0.15;0.35	0.28;05	**1**	0.13	0.01
F8	0.08;0.28	0.06;-0.26	0.04;0.28	0.08;0.28	0.1;0.3	-0.04;02	0.03;0.23	**1**	0.52
F9	0.08;0.28	-0.07;0.13	-0.09;0.15	-0.02;0.18	0.19;0.39	0.26;0.46	-0.05;02	0.41;0.61	**1**

*Above the diagonal: estimated interfactor correlation. Under the diagonal: confidence interval for interfactor correlation **p<0.01;*p<0.05; ns*

Tale 4. Global Model Testing

H	Structural relationship	*Standardized Charge* (β)	T Robust *	*Hypothesis*
	Motivations and Visual Information			
H1a	Health Motives →Package Visual Information	0.12	1.15	NO
H2a	Sensory Appeal Motives →Package Visual Information	-0.06	-0.62	NO
H3a	Natural Content Motives→Package Visual Information	-0.55	-1.76	NO
H4a	Price Motives →Package Visual Information	0.08	0.95	NO
H5a	**Weigh Control Motives** →Package Visual Information	0.39	2.09*	√
H6a	**Familiarity Motives** →Package Visual Information	0.56	3.25*	√
H7a	Ethical Concern Motives →Package Visual Information	-0.20	-1.55	NO
	Motivations and Informative Information			
H1b	Health Motives →Package Informative Information	0.11	1.21	NO
H2b	Sensory Appeal Motives → Package Informative Information	0.05	0.53	NO
H3b	Natural Content Motives→ Package Informative Information	-0.18	-0.82	NO
H4b	**Price Motives** → Package Informative Information	0.16	2.39*	√
H5b	**Weigh Control Motives** → Package Informative Information	0.28	2.02*	√
H6b	Familiarity Motives → Package Informative Information	-0.09	-0.73	NO
H7b	Ethical Concern Motives → Package Informative Information	0.02	0.19	NO
Global Fit: χ^2= 4611.17 *(p=0.00)*; S-B χ^2 =725.32 (341 degrees of freedom) *(p=0.00);* GFI=0.90; RMSEA = 0.045<0.08; SRMR=0.05<0.1 ***Incremental Fit:*** AGFI=0.88; NFI =0.84; NNFI =0.89; CFI Robust =0.90 ***Parsimonious Fit:*** Normed χ^2= 2.12 (between 1-5)				

*** p<0.05**

Table 5. Moderating Variable (low involvement versus high involvement)

H	Structural relationship	*Standardized Charge* (β)	T Robust *	*Standardized Charge* (β)	T Robust *
	VISUAL CUES	**LOW INVOLVED**		**HIGH INVOLVED**	
H1a	Health Motives →Package Visual Information	0.02	ns	.0.05	ns
H2a	Sensory Appeal Motives →Package Visual Information	0.00	ns	**0.22**	**3.25** √
H3a	Natural Content Motives→Package Visual Information	-0.09	ns	**-0.24**	**-2.69** √
H4a	Price Motives →Package Visual Information	0.00	ns	0.08	ns
H5a	Weigh Control Motives →Package Visual Information	0.11	ns	**0.27**	**4.09** √
H6a	Familiarity Motives →Package Visual Information	**0.36**	**1.98** √	**0.28**	**3.95** √
H7a	Ethical Concern Motives →Package Visual Information	-0.15	ns	0.01	ns
	INFORMATIVE CUES	**LOW INVOLVED**		**HIGH INVOLVED**	
H1b	Health Motives →Package Informative Information	0.15	ns	**0.14**	**2.25** √
H2b	Sensory Appeal Motives → Package Informative Information	0.16	1.98 √	-0 .08	ns
H3b	Natural Content Motives→ Package Informative Information	0.02	ns	**-0.20**	**-2.34** √
H4b	Price Motives → Package Informative Information	0.10	ns	**0.17**	**2.82** √
H5b	Weigh Control Motives → Package Informative Information	0.09	ns	**0.21**	**3.38** √
H6b	Familiarity Motives → Package Informative Information	**-0.12**	**1.98** √	0.01	ns
H7b	Ethical Concern Motives → Package Informative Information	0.73	ns	0.18	2.42 √

Global Fit: χ^2= 1376.99 *(p=0.00)*; S-B χ^2 =1169.05; 696 degrees of freedom) *(p=0.00);* GFI=0.86; RMSEA 0.048<0.08; SRMR=0.05<0.1

Incremental Fit: AGFI=0.88; NFI =0.82; NNFI =0.89; CFI Robust =0.9

Parsimonious Fit: Normed χ^2= 2.12 (between 1-5)

*** p<0.05 ns (not significant)** χ^2 statistical differences among groups not significant