



the Autonomous Management School of
Ghent University and Katholieke Universiteit Leuven

Vlerick Leuven Gent Working Paper Series 2005/34

HEALTHY OR UNHEALTHY SLOGANS:

THAT'S THE QUESTION...

LEEN ADAMS

MAGGIE GEUENS

Maggie.Geuens@vlerick.be

HEALTHY OR UNHEALTHY SLOGANS:

THAT'S THE QUESTION...

LEEN ADAMS

Ghent University

MAGGIE GEUENS

Vlerick Leuven Gent Management School

Contact:

Maggie Geuens

Vlerick Leuven Gent Management School

Tel: +32 09 210 98 99

Fax: +32 09 210 97 00

Email: Maggie.Geuens@vlerick.be

ABSTRACT

An experiment was conducted to examine the effect in adolescents of different health appeals (healthy versus unhealthy) in ads for healthy and unhealthy perceived foods. The results did not reveal a main effect of product or slogan, but indicated a significant interaction effect between slogan and product. The healthy slogan only led to significantly more positive attitudes and purchase intentions when it promoted a healthy food product. An unhealthy food product received better results in combination with an unhealthy slogan than with a healthy one. This indicates that adolescents react better to ads in which the health appeal is congruent with the health perception of the product. Moreover, we took into account gender and health concern as potential moderators in the relationship between slogan and ad responses. Gender did not lead to different responses to healthy or unhealthy food ads, whereas health concern did interact significantly with the slogan type. Highly concerned adolescents responded more favorably to a healthy slogan in terms of attitudes. A necessary first step seems to be making adolescents more health conscious. A following step is to reinforce their positive attitudes towards healthy foods and turn them into real behavior.

INTRODUCTION

The international “Health Behavior in School-aged Children” study of 2001/2002 of the World Health Organization (WHO) shows that children’s health is evolving in an unfavorable way. Nowhere in the world do youngsters consume the daily-recommended amount of fruits and vegetables (5 servings per day) (WHO, 2004a, b). Such rather unhealthy eating patterns combined with more sedentary lifestyles, contribute largely to the growing number of obesity cases in Western societies (Currie et al., 2004; Varo et al., 2003; WHO, 2004 a, b). Fortunately, during the last decades, adult consumers are becoming more and more health conscious. Companies noticed this trend in health concern in society and as a consequence, more and more industries, and especially the food industry, started to position their products as being healthy (Byrd-Bredbenner & Grasso, 1999; Dodd & Morse, 1994; Klassen & Wauer, 1990/1991; Lord, Eastlack & Stanton, 1987, 1988).

In the beginning of the diet and health trend, the food industry mainly targeted women, since women feel more social pressure to be beautiful and slim and are assumed to be more influential concerning this topic (Jasper & Klassen, 1990). Recent examples in the food market, however, show that the food industry has already expanded its health strategy to younger segments (e.g. Sultana cookies, Kellogg’s cereal bars, Kinder confectionery, etc.). But are adolescents sensitive to the healthy positioning of food products? And if so, do they accept a healthy positioning irrespective the product type?

Many of the academic studies about food advertising targeted at youngsters focus on ad content (Fay, 2003; Gamble & Cotugna, 1999; Byrd-Bredbenner & Grasso, 1999; Lewis & Hill, 1998) or on the question whether and to what extent food ads have an influence on their food choices (Bandyopadhyay, Kindra & Sharp, 2001; Borzekowski & Robinson, 2001; Donkin, Naele & Tilstan, 1993; Goldberg, Gorn & Gibson, 1978; Goldberg, 1990; Gorn & Goldberg, 1982; Halford, Gillespie, Brown, Pontin & Dovey, 2004; Jeffrey, McLellarn & Fox, 1982; Story, Neumark-Sztainer & French, 2002; Taras et al., 2000; Young, 2003; Young, Webley, Hetherington & Zeedyk, 1996). Moreover, although there is quite some research about the impact of different types of health and nutrition claims on the packaging and in the ads of food products (Andrews, Netemeyer & Burton, 1998; Andrews, Burton & Netemeyer, 2000; Brucks, Mitchell & Staelin, 1984;

Levy, Derby & Roe, 1997; Roe, Levy & Derby, 1999), to our knowledge it has not been investigated yet how adolescents respond to ads promoting food in a healthy or unhealthy manner.

The objective of the current paper is threefold. First, we would like to explore how adolescents respond to healthy versus unhealthy perceived food products and to healthy versus unhealthy slogans. Secondly, we would like to find out whether the nature of the product (healthy versus unhealthy image) serves as a moderator in the reaction to health slogans used in food ads. And finally, we are interested in personal variables, namely gender and health concern, as potential moderators of the relationship between food ad and ad/product evaluations.

INFLUENCE OF ADVERTISING ON FOOD CHOICE

It is generally acknowledged that eating behaviors and food choices are formed by a complex interplay of different forces, such as product features, personal attitudes, peer pressure, cultural and social norms, media, etc. (e.g. Babicz-Zielinska, 1999; Bolton, 1983; Fürst, Connors, Bisogni, Sobal & Winter Falk, 1996; Livingstone & Helsper, 2004; Story et al., 2002; Young et al., 1996; etc.). As a consequence, many different factors can be held responsible for the current unhealthy food consumption pattern of adolescents. A lot of attention, however, goes out to the influence of media and more particular to the influence of advertising (Bandyopadhyay et al., 2001; Livingstone, 2004; Livingstone & Helsper, 2004; Young et al., 1996; Young, 2003).

Many studies concerning this topic show that young people relatively spend a lot of hours in front of the television. In the UK, in the USA and in the Flemish region of Belgium, for example, youngsters spend an average of 17 hours per week or an average of 2 hours and 20 minutes per day watching television (Glorieux & Vandeweyer, 2002; OFCOM, 2004; Woodard, 2000), which is the largest portion (59%) of their leisure time (Wright et al., 2001). Television is also a medium that the food industry regularly uses to promote its products. According to research in the USA and in the UK, most of these TV commercials promote food products which are high in fat, salt, and sugar (Byrd-Bredbenner & Grasso, 1999; Gamble & Cotugna, 1999; Lewis & Hill, 1998). As a consequence, many people wonder whether this kind of exposure has a significant impact

on food preferences, attitudes and final choice of adolescents and thus, whether this type of advertising is partially responsible for the present unhealthy lifestyle of many adolescents. Correlational research consistently shows that there is indeed a statistically significant, but low correlation between exposure to food advertising and food preferences and behavior (Livingstone, 2004). Experimental research, on the other hand, produces rather mixed results (Livingstone, 2004). Putting all the research and opinions in this debate together, there seems to exist an implicit consensus that especially in the short term, a causal effect of food promotion on children's food preferences and behavior does exist, though it seems to concern a rather modest effect in comparison to other influences such as social pressure (Hastings et al., 2003; Livingstone, 2004; OFCOM, 2004).

Indeed, advertising can affect attitudes and behavior, but the actual persuasiveness of advertisements largely depends on the applied message strategy (type of ad appeal) (De Pelsmacker, Geuens & Van den Bergh, 2004). When looking at food ads directed towards adolescents, it is interesting to study the influence of different health appeals (unhealthy or healthy) on the attitudes these adolescents hold towards the advertised food products, since Young (2000) showed that children of different ages (6, 9 and 12 years old) categorize food products mainly on a healthy-unhealthy dimension. To investigate how children naturally categorize and classify foods, he conducted two large experiments and used two procedures called the binary split and the dyadic repertory grid. In the binary split, children had to put foods into two different groups, while in the dyadic repertory grid, they were presented with pairs of foods after which they had to give a reason why the foods were different. Based on his findings, Young concludes that youngsters should see a clear difference between a food product with a healthy image and a food product with an unhealthy image. We wonder whether this health criterion will also be important in the ad evaluations of adolescents and how it will affect their product evaluations and purchase intentions.

Previous research shows that promoting a food product as being healthy leads the consumer to perceive the food product as healthier as opposed to using more neutral or rather unhealthy promotional strategies (Andrews et al., 1998; Levy et al., 1997; Roe et al., 1999). When looking at adults, Roe et al. (1999) showed that when a product features

a health or content claim, they view the product not only as healthier but also state that they are more positive towards this product and are more likely to purchase it. It is, however, not certain that a healthy promotional strategy will also evoke more positive attitudes in adolescents, and increase purchase intentions and actual sales volumes of the food products targeted at them. Because of the general health consciousness trend in society, one could assume that also adolescents will generally respond more positively to healthy food products and to healthy slogans for food products than to slogans rather stressing the sweet taste of the product. Several companies are already using a healthy positioning strategy for their products directed towards adolescents. On the other hand, when looking at current food preferences of adolescents, one can also expect the opposite result. Knowing that today's food preferences of adolescents generally do not correspond with a healthy diet (adolescents are not fond of vegetables; since childhood they have a natural and on-going preference for a sweet and salty taste; they have developed a distinct preference for high-fat products (Birch & Fisher, 1998; Birch, 1999; Donkin et al., 1993; Escobar, 1999; Skinner, Carruth, Bounds & Ziegler, 2002)), it would not be surprising that adolescents would rather prefer unhealthy food products and slogans which stress the sweet, fatty and/or salty taste instead of the healthiness of the product.

However, it is also possible that the attitudinal effects in adolescents of food ads depend on the combination of the advertised product type and the health claim used in the ad. Despite the fact that consumers often make positive generalizations about the healthiness of a food product based on nutrient and other types of health claims, there also exists a 'healthy' skepticism towards advertising among them (Andrews et al., 1998). In general, people tend to distrust nutrition and health claims (Balasubramian and Cole, 2002). Although empirical research about this topic is scarce and results are mixed, the acceptance of healthy positioned food concepts does seem to depend on the existing health image of the food product that serves as a carrier for functional, healthy ingredients or for health claims (Jonas & Beckmann, 1998; Poulsen, 1999). One of the studies in this area performed conjoint analysis using multiple factors including base product type (yogurt, spreads and orange juice) and functional enrichments (no enrichment, omega-3s, oligosaccharides) and found a significant interaction effect of these two factors on perception of food healthiness (Bech-Larsen & Grunert, 2003).

Bech-Larsen and Grunert (2003) assume that nutritionally improved spreads were rated more positively than nutritionally improved yogurt and orange juice because consumers might have felt that spreads could benefit more from functional enrichment since it concerns a food product that is perceived as unhealthy as opposed to the other two food products. Other studies on the other hand found the opposite results. In a study on product labels, Levy et al. (1997) investigated the impact of health claims presented in the Food Drug Administration's regulations and alternative health claims suggested by policy makers. Among other things, such as length of health claim and endorsement of health claims, they manipulated the presence of content and healthy claims which were, objectively seen, applicable to three different food products (cereals, yogurt and lasagna). Healthy claims on product labels did not have an unequivocal positive effect on respondents' product attitudes. For cereals, the presence of healthy claims created a positive effect; for yogurt, it did not cause detectable differences in attitudes; and for a product like lasagna, it even created a negative effect. Although the researchers do not know for sure, the effect of a healthy claim could depend on the product type that was used in combination with the claim. Levy et al. (1997) mention two possible explanations for this phenomenon: the effect of a healthy slogan could depend first of all, on whether it provides new information and adds extra value for the consumer, and secondly, on the perceived appropriateness of applying the healthy claim to that product. In case the health benefits of a product are already well known (e.g. yogurt), a healthy claim does not really add extra value to the product and will probably not improve attitudes and purchase intentions in comparison to the situation in which no health appeals are used. The ineffectiveness of the healthy claim for a product like lasagna on the other hand could be due to the fact that consumers held the opinion that lasagna did not deserve a healthy label and, that, as a consequence, they viewed the presence of a healthy claim as an inappropriate influence attempt. Levy et al. (1997) concluded that "[...], consumer prior beliefs about the healthful characteristics of foods may constitute effective limits on the potential utility of health claims" (p. 39). Further, Balasubramanian and Cole (2002) claim that unhealthy food products are rather perceived as means to satisfy hedonic needs and that as a consequence, consumers do not search for nutritional information in these types of food categories. According to their focus group research, consumers perceive

healthy positioning strategies for unhealthy food products as incredible (Balasubramanian & Cole, 2002). Finally, in a recent study, again a significant interaction effect of health claim and food carrier on the credibility of the total food concept was found (van Kleef, van Trijp & Luning, 2005). Van Kleef et al. (2005) discovered that not all healthy claims had the same positive effect for all food products, despite the fact that the healthy claims were all theoretically product-appropriate.

In this study, we want to build further on the latter findings. Differences in the effect of healthy positioning strategies for different product categories were found, but since the existing studies did not explicitly manipulate the healthy-unhealthy dimension of food product or food product labels, they can not draw scientifically-based conclusions. In the current study, both the healthiness of the product and the slogan will be explicitly manipulated. More specifically, we want to investigate whether young adolescents (age of 15) react less positively to a perceived incongruent and inappropriate combination than to a perceived congruent and more appropriate combination of health slogan and health image of a product in an ad. Mazis and Raymond (1997) found that consumer's beliefs about food products did not differ when the health claims were used in a food ad or in a food label of a product, and as a consequence, there is no reason to expect a different effect from a slogan than from a label. A next question is whether adolescents will discriminate between congruent and incongruent slogan-product combinations, as can be expected from adults. In the adolescence stage, youngsters are assumed to be aware of the persuasive intent of commercials and to be rather skeptical about advertising (Boush, Friestad & Rose, 1994; Robertson & Rossiter, 1974; Roedder, 1981; Ward, Wackman & Wartella, 1979). They also tend to use this knowledge more and more spontaneously during exposure to advertising (Roedder, 1981). This means that adolescents already have a certain degree of defense against persuasive attempts of the advertiser (Roedder, 1981). However, adolescence is a very dynamic phase in which youngsters still have to learn a lot about certain tactics used in ads (Boush et al., 1994), and sometimes they still believe ad claims even in case they are misleading (Linn, de Benedictus & Delucchi, 1982). We want to test whether adolescents, as adults, are critical towards healthy arguments used in food ads. We want to explicitly manipulate the combination of a health claim (unhealthy vs. healthy) with a food product that has a

particular health image and see whether health claims are more effective when they are used in combination with a perceived congruent health image of a food product.

INFLUENCE OF GENDER AND HEALTH CONCERN

Food choice models suggest that individual differences can moderate the effects of other influences such as advertising (e.g. Bolton, 1983; Livingstone, 2004; Story et al., 2002; Turrell, 1998). In this paper, two individual variables will be investigated, namely gender and health concern.

We expect that girls will respond more positively to healthy products and slogans than to unhealthy ones and that boys will not really discriminate between the two types of ad appeals and food products. The reason for this expectation is that females in general feel more social pressure to be beautiful and slim and tend to be more preoccupied with their looks, weight and diet than males (Jasper & Klassen, 1990). It has also been shown that women are more health conscious than men; they tend to be more reflective about food and health issues in comparison to men who tend to have a more traditional and uncritical view of eating. Men seem to attach more importance to good taste and pleasure derived from food and less importance to health as a criterion in food choice compared to women (Beardsworth et al., 2002; Verbeke, 2005; Verbeke & Vackier, 2004; Verbeke & Vackier, 2005).

We also included another personal variable, namely health concern. We will investigate the moderating effect of health concern in reactions to healthy and unhealthy food ads. We believe that adolescents, who are concerned about their diet and health, will respond better to healthy products and slogans used in food ads. Engell, Bordi, Borja, Lambert and Rolls (1998) conducted a study on the effects of information about fat content on food preferences in pre-school adolescents and the moderating effect of concern for the health implications of more fat content. They used two sorts of cookies (standard and reduced-fat) which they both showed to two groups of pre-adolescent children, either with or without a label containing the real fat content. The results indicated that the preferences of young people were influenced by the presence of the fat-content label. The healthy cookie was more preferred when information about the fat content was revealed, while the reverse held true for the unhealthy cookie. However,

information about fat content only influenced those people who regarded more fat content as extremely unhealthy. Highly concerned respondents had a distinct preference for the unhealthy cookie when no information about fat content was given, but this preference shifted significantly in the condition in which fat content was indicated. There was no significant difference in preference between the two information conditions (exposure to information about fat content or not) for respondents who were not really concerned with their health. People who are concerned with their health and diet perceive 'nutritional value' as an important criterion in their decision making process. Since they consider nutritional value as useful information, they have more attention for health claims and nutritional information and process and consider this information more when evaluating ads and brands (Brucks et al., 1984).

We expect that girls and adolescents, who are concerned about their diet and health, will discriminate more between healthy and unhealthy slogans than boys and adolescents who are not really concerned about their health. Male adolescents and adolescents who are not really preoccupied with their health, will probably not automatically respond better to a healthy or an unhealthy food product and slogan. They are more likely to be persuaded by other cues or arguments, such as taste (Engell et al., 1998; Brucks et al., 1984).

RESEARCH METHOD

We set up a 2 (type of slogan) * 2 (type of product) between – subjects design. We chose to work with two different kinds of products which really fit in adolescents' lives and which have completely opposite health images. The positive/negative connotations of the selected food products were not established, but were assumed to already exist in consumer's minds, since people have the tendency to automatically classify foods as good or as bad for health (Rozin, 1986). This means that they simply consider some foods as nutritious and healthy and others as fatty, empty calories, completely innutritious (Oakes & Slotterback, 2001a, b). Based on previous research, we assumed that consumers would automatically categorize cookies as an unhealthy food product and cornflakes as a rather healthy one (Croll, Neumark-Sztainer and Story, 2001; Oakes & Slotterback, 2001a, b, c). We also made up two different types of slogans for

each product, with each slogan representing a different degree of healthiness (unhealthy (referring to a high level of sweetness) and healthy (referring to an ingredient with a high nutritional value) slogan). Four different print advertisements were created by using pictures of foreign food products not present on the Belgian market at the time of the experiment (see Appendix and Table 1). We obtained these pictures from the internet. The ads were pretested to make sure that they were understandable, believable and likeable for the target group.

Insert Table 1 about here

Participants

Four different schools participated in the study. These schools were all situated in the same region of the city Ghent, and they all offered exclusively non-vocational educational programs. The size of all the schools was similar and in terms of gender, these were all mixed schools with about an equal distribution between girls and boys. We obtained a sample of three hundred and ten adolescents, all of the age of 15, with a distribution between girls and boys in which the girls ($\pm 60\%$) were slightly overrepresented. In Table 2, the distribution of respondents and gender over the four different experimental conditions is clarified in detail.

Insert Table 2 about here

Procedure

Every school was randomly assigned to one advertisement. The ads were printed in color, on posters of format A1. We attached the poster of the printed ad onto the black board in front of the class room. After exposure to the ad, every student was asked to fill in the same questionnaire (this was administered in Dutch). In the introduction, they did not receive any information about the purpose of the study. The students were asked to

fill in the questionnaire correctly, were thanked for their cooperation and were assured that their answers would be handled completely anonymously.

The questionnaire, which was pretested on understandability, was composed of two parts. In the first part, the participants had to indicate their food preferences and buying behavior, their health concern, and socio-demographic data, such as gender and age. Secondly, students were exposed to the ad and were asked to fill in a manipulation check and to rate their attitudes and purchase intentions. The investigation lasted about fifteen minutes and students were supervised and helped during the whole procedure.

Measures

Health Perception of the Product (HPP)

As a manipulation check, we tested, immediately after ad exposure, the 'health' image of the product by a six-item seven-point semantic differential scale anchored by following statements: 'After seeing the picture and slogan, I think that this product (1) is healthy-unhealthy; (2) contains a lot of sugar – contains little sugar; (3) has a high nutritional value – has a low nutritional value; (4) is good for my body – is bad for my body; (5) has a positive influence on my weight – has a negative influence on my weight ; (6) is good for my teeth – is bad for my teeth'. The Cronbach's Alpha for these six items was .85. The six items were averaged to obtain a general HPP measure for each respondent. The mean HPP score of the cases exposed to a healthy slogan on the one hand and of the cases exposed to an unhealthy slogan on the other hand (HPP_{healthy slogan} = 4.39; HPP_{unhealthy slogan} = 3.10) were both significantly different from the neutral point of the 7-point scale (4), indicating that the manipulation of the slogan was indeed successful in respectively the unhealthy and healthy slogan conditions ($t(158) = -10.727$, $p < .001$ and $t(150) = 3.985$, $p < .001$). With respect to the product types (HPP_{healthy product} = 4.22; HPP_{unhealthy product} = 3.22), cornflakes appeared to have a rather healthy connotation and cookies a clear unhealthy connotation ($t(158) = 2.009$, $p = .046$ and $t(150) = -9.792$, $p < .001$) as expected.

Health Concern (HC)

HC was measured by means of nine statements ('I really do not think about whether everything I do, is healthy for me', 'I do not always wonder if something is good

for me', 'My health is so valuable to me that I give up many things in life', 'I do not feel like wondering all the time whether certain foods are or are not healthy for me', 'I think that I am considerate in life towards healthy food', 'I think that I often dwell on being healthy', 'I give up a lot to eat as healthy as possible', 'I think that, in general, I give up a lot for my health', 'I think it is important to know how you have to eat healthy'), each measured on a 5-point Likert scale (1 = totally disagree, 5 = totally agree). Principle Component Analysis with Varimax rotation indicated one factor with an Eigenvalue greater than one (4.4), explaining 49% of the total variance ($\alpha = .87$). We computed a HC measure for each respondent by averaging the scores of the above nine items. Afterwards the respondents were classified in a low and high HC group by means of a median split. Seventeen respondents were left out of the analyses because their HC equaled the median of the group (2.67). The scores on the HC measure differed significantly between the low and highly concerned group (HC_{highly concerned} = 3.35; HC_{low concerned} = 2.21; $t(246) = -25.030$; $p < .001$).

Dependent measures

Attitude towards the advertisement (Aad)

Aad was assessed by a five-item five-point semantic differential scale, anchored by following adjectives: 'not attractive-attractive', 'not credible-credible', 'not convincing-convincing', 'not appealing-appealing', 'bad-good' ($\alpha = .88$). We averaged the scores on these five items to come to a global Aad measure for every respondent.

Attitude towards the product (Ap)

We measured Ap via four items, each on a five-point Likert scale, in which respondents had to disagree/agree with following statements: 'This product is not for me', 'I rather like this product', 'I think this product is rather useless to me', 'This product leaves a good impression on me' ($\alpha = .91$). Again, we followed the same procedure and calculated a global Ap measure via averaging the scores on all these items.

Purchase Intention (PI)

PI was measured by means of the following four five-point items: ‘If I could choose, this product would be considered’, ‘I once would like to try this product’, ‘I would not be inclined to buy this product’, ‘If I had the chance, I would buy this product’ ($\alpha = .92$). The four items were averaged to obtain a general PI measure.

RESULTS

Multivariate analyses of variance were carried out taking Aad, Ap and PI as dependent measures and with slogan, product, gender and HC as independent variables.

In general, neither ‘slogan’ nor ‘product’ had a significant main effect. On the other hand, we did find a significant interaction effect of slogan and product ($F(3,283) = 11.386, p < .001$). Looking at Aad, Ap and PI separately, both slogan and product mattered ($F(1,285) = 32.536, p < .001$, partial eta squared = .102; $F(1,285) = 19.667, p < .001$, partial eta squared = .065; $F(1,285) = 16.703, p < .001$, partial eta squared = .055). Independent samples T tests showed that the simple effect of slogan is significant in the case of a healthy product ($t(148) = 4.816, p < .001$; $t(148) = 3.919, p < .001$; $t(143.678) = 3.501, p = .001$) as well as in the case of an unhealthy product ($t(141) = -3.412, p = .001$; $t(141) = -2.558, p = .012$; $t(141) = -2.360, p = .020$). A healthy slogan, stressing the high nutritional value of the product, only led to better ad and product responses in comparison to the unhealthy slogan stressing the sweetness of the product, if the product was also being perceived as healthy. In case of the unhealthy perceived product, the healthy slogan even generated lower scores than the unhealthy slogan (see Figure 1).

Insert Figure 1 about here

Contrary to expectations, we did not find a significant interaction effect between gender and product on the one hand and between gender and slogan on the other hand. However, we did discover a second significant second order interaction effect, namely that of slogan and HC ($F(3,283) = 3.583, p = .014$). Univariate tests revealed a significant

interaction effect between slogan and HC on Aad and Ap, but not on PI ($F(1,285) = 4.964, p = .027, \text{partial eta squared} = .017$; $F(1,285) = 4.065, p = .045, \text{partial eta squared} = .014$; $F(1,285) = .649, p = .421$) (see Figure 2). Further analysis showed that a healthy ad appeal led to significantly better attitudes towards the ad and product for people who are concerned about their health, than an unhealthy ad appeal ($t(143) = 2.161, p = .032$; $t(143) = 1.934, p = .055$). The attitude scores in case of exposure to an unhealthy slogan of respondents who are rather health unconcerned are not significantly different from their attitude scores in case of exposure to healthy slogans for Aad and Ap respectively ($t(146) = -.345, p = .731$; $t(146) = -.491, p = .624$).

Insert Figure 2 about here

CONCLUSION AND RECOMMENDATIONS

The main objective of the current study was to find out whether different ad slogans could induce different responses in adolescents to food advertising. The study focused on the healthy-unhealthy dimension since it appears to be the most important food categorization criterion of youngsters (Young, 2000).

Results indicated that adolescents indeed differentiate between healthy and unhealthy food products and slogans. We did not find a significant main effect of product type or slogan type, but a significant interaction effect between slogan and product type on attitudes and purchase intentions showed that most positive results are obtained when the health appeal used is congruent with the health image of the food product. If marketers promote rather unhealthy perceived food products with a healthy slogan, adolescents tend to react more negatively than towards an ad consisting of the combination of the same product with an unhealthy slogan. Healthy slogans only seem to lead to better responses than unhealthy ones if the product is already perceived as being healthy.

As adults, adolescents discriminate between congruent and incongruent ad combinations in terms of health and do respond differently to them. They react more positively to perceived congruent ad combinations in terms of health than to perceived

incongruent ad combinations which supports the considerations of previous studies (Balasubramanian & Cole, 2002; Levy et al., 1997; van Kleef et al., 2005). However, attitudes were always quite favorable which means that adolescents, as opposed to adults (Balasubramanian & Cole, 2002; Levy et al., 1997; van Kleef et al., 2005), do not react negatively per se to an incongruent ad combination of slogan and product. If they perceive a product as unhealthy, a healthy slogan might just become slightly less appropriate for them. This contrasts with adults who appear to feel more strongly about it and consider a healthy slogan for an unhealthy perceived product as truly inappropriate and incredible (Balasubramanian & Cole, 2002; Levy et al., 1997; van Kleef et al., 2005). Adolescents might feel that the promoted product did not deserve this healthy positioning (Levy et al., 1997), but still they do not feel truly negatively about the whole marketing strategy.

However, marketers promoting the healthiness of food products with an unhealthy image still have to be cautious since less positive feelings about the ad could lead to a less positive attitude towards the ad, which in turn could be transferred towards the advertised product leading to lower purchase intentions (Mitchell & Olson, 1981). Especially when the feelings about the ad are considered to be representative for the ad/product, they could become important in the evaluation process, which eventually will lead to a more unfavorable judgment of the ad and possibly of the promoted food product (Pham, 1998). If the healthy slogan is perceived as more appropriate for the product, then adolescents might experience more positive feelings towards the ad and evaluate the ad more positively than in the former case, at least in case these feelings are felt to be representative for it. This more positive Aad can further lead to more positive product attitudes and purchase intentions (Mitchell & Olson, 1981). So, marketers better use credible positioning strategies for their products. When positioning food concepts as healthy, they could use as a base, food products with an already existing healthy image, but they could also use certain ad tactics to increase credibility of their product concepts such as endorsement by a diet expert or scientific institution which already has proven to be a successful strategy in the cornflakes market (Ippolito & Mathios, 1991).

These results are also relevant for policy makers. They need to be aware of the fact that next to young children, also adolescents are still a fragile age group. In theory,

adolescents already possess sufficient cognitive skills to understand the persuasive intent of commercials. They can also use this knowledge spontaneously which results in a certain degree of defense against these persuasive attacks. However, they still need to learn more about certain ad tactics that could be misleading (Boush, Friestad & Rose, 1994; Linn, de Benedictus & Delucchi, 1982; Robertson & Rossiter, 1974; Roedder, 1981; Ward, Wackman & Wartella, 1979). By developing programs to provide adolescents with more nutritional information and knowledge, policy makers can strengthen their ability to detect misleading health claims in food advertising (Andrews et al., 1998).

Boys and girls in our sample did not differ significantly in their reaction to healthy and unhealthy slogans and products. A positive concern towards living a healthy lifestyle, however, did moderate the responses to healthy food ads in a positive way, while the reverse is not true. People with a high concern for their diet and health responded significantly more positively to healthy food ads than to unhealthy ones. People with low health concern on the other hand did not react differently to healthy or unhealthy ads. They are likely to be persuaded by other arguments, such as taste (Beardsworth et al., 2002; Verbeke, 2005; Verbeke & Vackier, 2004; Verbeke & Vackier, 2005).

So, besides giving more nutritional information to adolescents, another step seems to be making adolescents more health concerned. They have to perceive nutritional information as important and useful information to be motivated to consider it. It is important that healthiness becomes an important criterion in their daily food choices. In practice, however, health does not always appear to be an important value in the lives of adolescents (Story et al., 2002). Creative strategies could resolve this issue; the key solution here could be linking health with things that do matter to them, such as good performance in school and in sports (Baltas, 2001).

An important final step and a real challenge is to reinforce the positive attitudes towards healthy slogans and healthy food products/brands to turn them into real behavior, into a more healthy diet pattern and lifestyle.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Several limitations in this study should be mentioned. First, within the framework of this study, we selected food products with a rather unhealthy connotation and food products with a rather healthy connotation. For reasons of practicality, we investigated only two food products, namely cookies and cornflakes. Other examples could be investigated in the future to see whether the current findings can be replicated and whether they are robust. Secondly, we only investigated one age group (age of 15) which immediately raises problems in terms of the generalization of our results to all adolescents and thus, in terms of external validity. On the other hand, having no variety regarding age is beneficial for the internal validity of our results. Thirdly, all of our respondents followed a non-vocational education. This fact might have biased our findings in several ways, because, in general, these youngsters tend to belong to the more wealthy middle class with higher educated parents. First of all, there is a proven correlation between education level of parents and ability of children to attribute a persuasive intent to commercials. Youngsters with higher educated parents seem to have more cognitive defense against persuasive attempts of advertisers (Robertson & Rossiter, 1974). Next to that, numerous studies (e.g. Donkin et al., 1993; Lien, Jacobs & Klepp, 2002; Shelton, 2005; WHO, 2005) have shown that people of a higher social class tend to have a healthier lifestyle and eating pattern. It is therefore possible that our sample of adolescents had a healthier eating pattern and was more critical than the average group of adolescents. Further, we only examined the short term influence of a perceived incongruent ad combination of health appeal and health image at a certain point in time. It would be interesting to see what happens if a healthy slogan is repeatedly used by the same product. Finally, we only measured attitudes and behavioral intentions. The real challenge lies in measuring actual behavior and finding out how exactly youngsters can be persuaded to adopt a healthy lifestyle.

REFERENCES

- Andrews, J.C., Netemeyer, R.G., & Burton, S. (1998). Consumer generalization of nutrient content claims in advertising. *Journal of Marketing*, 62(4), 62-76
- Andrews, J.C., Burton, S., & Netemeyer, R.G. (2000). Are some comparative nutrition claims misleading? The role of nutrition knowledge, ad claim type and disclosure conditions. *Journal of Advertising*, 29(3), 29-43
- Babicz-Zielinska, E. (1999). Food preferences among the Polish young adults. *Food Quality and Preference*, 10(2), 139-145
- Balasubramanian, S.K. & Cole, C. (2002). Consumers' search and use of nutrition information: The challenge and promise of the nutrition labeling and education act. *Journal of marketing*, 66(3), 112-127
- Baltas, G. (2001). The effects of nutrition information on consumer choice. *Journal of advertising research*, 41(2), 57-63
- Bandyopadhyay, S, Kindra, G., & Sharp, L. (2001). Is television advertising good for children? Areas of concern and policy implications. *International Journal of Advertising*, 20(1), 89-116
- Beardsworth, A., Bryman, A., Keil, T., Goode, J., Haslam, C., & Lancashire, E. (2002). Women, men and food: the significance of gender for nutritional attitudes and choices. *British Food Journal*, 104(7), 470-491
- Bech-Larsen, T. & Grunert, K.G. (2003). The perceived healthiness of functional foods. A conjoint study of Danish, Finnish and American consumers' perception of functional foods. *Appetite*, 40(1), 9-14
- Birch, L.L. (1999). Development of food preferences. *Annual Review Public Health*, 19, 41-62

- Birch, L.L., & Fisher, J.O. (1998). Development of eating behaviours among children and adolescents. *Pediatrics*, 101(3), 539-550
- Bolton, R.N. (1983). Modeling the impact of television food advertising on children's diets. *Current Issues and Research in Advertising*, 6(1), 173-87
- Borzekowski, D.L.G., & Robinson, T.N. (2001). The 30-second effect: An experiment revealing the impact of television commercials on food preferences of preschoolers. *Journal of the American Dietetic Association*, 101(1), 42-46
- Boush, D.M., Friestad, M., & Rose, G.M. (1994). Adolescent scepticism toward TV, advertising and knowledge of advertiser tactics. *Journal of Consumer Research*, 21(1), 165-175
- Brucks, M., Mitchell, A.A., & Staelin, R. (1984). The effect of nutritional information disclosure in advertising: An information processing approach. *Journal of Public Policy and Marketing*, 3(1), 1-25
- Byrd-Bredbenner, C., & Grasso, D. (1999). Prime-Time Health: An analysis of health content in television commercials broadcast during programs viewed heavily by children. *The International Electronic Journal of Health Education*, 2(4), 159-169
- Croll, J.K., Neumark-Sztainer D. & Story M. (2001). Healthy eating: What does it mean to adolescents?. *Journal of nutrition education*, 33(4), 193-198
- Currie, C., Roberts, C., Morgan, A., Smith, R., Settertobulte, W., Samdal, O., & Barkenow Rasmussen, V. (2004). Young People's Health in Context: International report from the HBSC 2001/02 survey. *WHO Policy Series: Health policy for children and adolescents*, Issue 4, Copenhagen: WHO Regional Office for Europe. Online available on: <http://www.euro.who.int/Document/e82923.pdf>
- De Pelsmacker, P., Geuens, M., & Van den Bergh, J. (2004). *Marketing Communications*. Essex: Pearson Education Limited

Donkin, A.J.M., Neale R.J., & Tilston, C. (1993). Children's food purchase requests. *Appetite*, 21(3), 291-94

Dodd, T., & Morse, S. (1994). The impact of media stories concerning health issues on food product sales. *Journal of Consumer marketing*. 11(2), 17-25

Engell, D., Bordi, P., Borja, M., Lambert, C., & Rolls, B. (1998). Effects of information about fat content on food preferences in pre-adolescent Children. *Appetite*, 30(3), 269-282

Escobar, A. (1999). Factors influencing children's dietary practices: a review. *Family Economics and Nutrition Review*, 12(3/4), 45-56

Fay, M. (2003). A 50-year longitudinal study of changes in the content and form of food advertising in New Zealand magazines. *International Journal of Advertising*, 22(1), 67-91

Fürst, T., Connors, M., Bisogni, C.A., Sobal, C.J. & Winter Falk, L. (1996). Food choice: A conceptual model of the process. *Appetite*, 26(3), 247-266

Gamble, M., & Cotugna, N. (1999). A quarter century of TV food advertising targeted at children. *American Journal of Health Behaviour*, 23(4), 261-268

Glorieux, I., & Vandeweyer, S. (2002). 24 uur...Belgische tijd. Een onderzoek naar de tijdsbesteding van de Belgen [24 hours...Belgian time. A study about the time spending of the Belgian]. *Statistische Studiën*, 110.

Goldberg, M.E. (1990). A quasi-experiment assessing the effectiveness of TV advertising directed to children. *Journal of Marketing Research*, 27(4), 445-455

Goldberg, M.E., Gorn, G.J., & Gibson, W. (1978). TV messages for snack and breakfast foods: Do they influence children's preferences?. *Journal of Consumer Research*, 5(2), 73-81

Gorn, G.J., & Goldberg, M.E. (1982). Behavioral evidence of the effects of televised food messages on children. *Journal of Consumer Research*, 9(2), 200-205

Halford, J.C.G., Gillespie, J., Brown, V., Pontin, E.E., & Dovey, T.M. (2004). Effect of television advertisements for foods on food consumption in children. *Appetite*, 42(2), 221-225

Hastings, G., Stead, M., McDermott, L., Forsyth, A., MacKintosh, A., Rayner, M., Godfrey, C., Caraher, M. & Angu, K. (2003). Review of research on the effects of food promotion to children. Report commissioned by the Food Standards Agency (UK). Glasgow: University of Strathclyde, Centre for social marketing. Online available on: <http://www.food.gov.uk/multimedia/pdfs/foodpromotiontochildren1.pdf>

Ippolito, P.M. & Mathios, A.D. (1991). Health claims in food marketing: evidence on knowledge and behavior in the cereal market, *Journal of Public Policy & Marketing*, 10(1), 15-32

Jasper, C. & Klassen, M.L. (1990). Stereotypical beliefs about appearance: Implications for retailing and consumer issues. *Perceptual and Motor Skills*, 20(4), 519-528

Jeffrey, D.B., McLellarn, R.W. & Fox, D.T. (1982). The development of children's eating habits – The role of television commercials. *Health Education Quarterly*, 9(2-3), 174-189

Jonas, M.S. & Beckmann, S.C. (1998). *Functional foods: Consumer perceptions in Denmark and England*. MAPP working paper no. 55

Klassen, M.L., & Wauer, S.M. (1990/1991). Increases in health and weight loss claims in food advertising in the eighties. *Journal of Advertising Research*, 30(6), 32-38

Levy, A.S., Derby, B.M., & Roe, B.E. (1997). *Consumer impacts of health claims: An experimental study*. Report commissioned by the Food and Drug Administration (FDA). USA: FDA - Center for Food Safety and Applied Nutrition. Online available on: <http://vm.cfsan.fda.gov/~dms/hclm-rpt.html>

Lewis, M.K., & Hill, A.J. (1998). Food advertising on British children's television: a content analysis and experimental study with nine-year olds. *International Journal of Obesity*, 22(3), 206-214

Lien, N., Jacobs, D.R., & Klepp, K.I. (2002). Exploring predictors of eating behaviour among adolescents by gender and socio-economic status. *Public Health Nutrition*, 5(5), 671-681

Linn, M.C., de Benedictus, T., & Delucchi, K. (1982). Adolescent reasoning about advertisements: Preliminary investigations. *Child Development*, 53(6), 1599-1613

Livingstone, S. (2004). A commentary on the research evidence regarding the effects of food promotion on children. Report commissioned by the research department of the Office of Communications (OFCOM). London, London School of Economics and Political Science. Online available on:

http://www.ofcom.org.uk/research/consumer_audience_research/tv/food_ads/appendix1.pdf

Livingstone, S., & Helsper, E. (2004). Advertising foods to children: Understanding promotion in the context of children's daily lives. Report commissioned by the research department of the Office of Communications (OFCOM). London, London School of Economics and Political Science. Online available on:

http://www.ofcom.org.uk/research/consumer_audience_research/tv/food_ads/appendix2.pdf

Lord, J.B., Eastlack, J.O. Jr., & Stanton, J.L. Jr. (1987). Health Claims in Food Advertising: Is there a bandwagon effect?. *Journal of Advertising Research*, 27(2), 9-15

Lord, J.B., Eastlack, J.O. Jr., & Stanton, J.L. Jr. (1988). The bandwagon isn't rolling...yet. *Journal of Advertising Research*, 28(2), 40-42

Mazis, M.B., & Raymond, M.A. (1997). Consumer perceptions of health claims in advertisements and on food Labels. *Journal of Consumer Affairs*, 31(1), 10-27

Mitchell, A.A., & Olson, J.C. (1981). Are product attribute beliefs the only mediator of advertising effects on brand attitude?. *Journal of Marketing Research*, 18(3), 318-332

Oakes M.E. & Slotterback C.S. (2001a). What's in a name? A comparison of men's and women's judgments about food names and their nutrient contents. *Appetite*, 36(1), 29-40

Oakes M.E. & Slotterback C.S. (2001b). Gender differences in perceptions of the healthiness of foods. *Psychology and Health*, 16(1), 57-65

Oakes M.E. & Slotterback C.S. (2001c). Judgements of food healthfulness: food name stereotypes in adults over age 25. *Appetite*, 37(1), 1-8

OFCOM. (2004). *Childhood Obesity – Food Advertising in Context. Children's food choices, parents' understanding and influence, and the role of food promotion*. UK:

OFCOM. Online available on:

http://www.ofcom.org.uk/research/tv/reports/food_ads/report.pdf

Pham, M.T. (1998). Representativeness, relevance, and the use of feelings in decision making. *Journal of Consumer Research*, 25(2), 144-159

Poulsen, J. (1999). *Danish consumers' attitudes towards functional foods*. MAPP working paper no. 62

Robertson, T.S., & Rossiter, J.R. (1974). Children and commercial persuasion: An attribution theory analysis. *Journal of Consumer Research*, 1(1), 13-20

Roe, B., Levy, A.S., & Derby, B.M. (1999). The impact of health claims on consumer search and product evaluation outcomes: results from FDA experimental data. *Journal of Public Policy and Marketing*, 18(1), 89-106

Roedder, D.L. (1981). Age differences in children's responses to television advertising: An information processing approach. *Journal of Consumer Research*, 8(2), 144-153

Rozin, P. (1986). Sweetness, sensuality, sin, safety, and socialization: some speculations. In J. Dobbing (Ed.). *Sweetness*. New York: Springer-Verlag

- Shelton, N.J. (2005). What not to eat: inequalities in healthy eating behaviour, evidence from the 1998 Scottish Health Survey. *Journal of Public Health*, 27(1), 36-44
- Skinner, J.D., Carruth, B.R., Bounds, W., & Ziegler, P.J. (2002). Children's food preferences: A longitudinal analysis. *Journal of the American Dietetic Association*, 102(11), 1638-1647
- Story, M., Neumark-Sztainer, D., & French, S.A. (2002). Individual and environmental influences on adolescent eating behaviours. *Journal of the American Dietetic Association*, Supplement 102(3), 40-51
- Taras, H., Zive, M., Nader, P., Berry, C.C., Hoy, T., & Boyd, C. (2000). Television advertising and classes of food products consumed in a paediatric population. *International Journal of Advertising*, 19(4), 487-493
- Turrell, G. (1998). Determinants of healthy food choice in a population-based Sample. *American Journal of health Behaviour*, 22(5), 342-358
- van Kleef, E., van Trijp H.C.M. & Luning, P. (2005). Functional foods: health claim-food product compatibility and the impact of health claim framing on consumer evaluation. *Appetite*, 44(3), 299-308
- Varo, J.J., Martinez-Gonzalez, M.A., de Irala-Estevez, J., Kearney, J., Gibney, M., & Martinez, J.A. (2003). Distribution and determinants of sedentary lifestyles in the European Union. *International Journal of Epidemiology*, 32(1), 138-146
- Verbeke, W. (2005). Consumer acceptance of functional foods: socio-demographic, cognitive and attitudinal determinants. *Food Quality and Preference*, 16(1), 45-57
- Verbeke, W. & Vackier, I. (2004). Profile and effects of consumer involvement in fresh meat. *Meat Science*, 67(1), 159-168
- Verbeke, W. & Vackier, I. (2005). Individual determinants of fish consumption: application of the theory of planned behaviour. *Appetite*, 44(1), 67-82

Ward, S., Wackman, D.B., & Wartella, E. (1979). *How children learn to buy: The development of consumer information-processing skills*. Beverly Hills, Sage

Woodard, E.H.W. (2000). *Media in the home, the fifth annual survey of parents and children*. USA: The Annenberg public policy center of the university of Pennsylvania.

Online available on:

http://www.annenbergpublicpolicycenter.org/05_media_developing_child/mediasurvey/survey7.pdf

World Health Organisation (WHO). (2004a). *Health Behaviour in School-aged Children Study*. Online available on:

http://www.euro.who.int/eprise/main/WHO/Progs/YPH/HBSC/20030130_2

World Health Organisation (WHO). (2004b). *Health Topics: Obesity*. Online available on: <http://www.who.int/topics/obesity/en/>

World Health Organisation (WHO). (2005). *Commission on Social Determinants of Health*. Online available on: http://www.who.int/social_determinants/en/

Wright, J.C., Huston, A.C., Vandewater, E.A., Bickham, D.S., Scantlin, R.M., Kotler, J.A., Caplovitz, A.G., Lee, J.H., Hofferth, S., & Finkelstein, J. (2001). American children use of electronic media in 1997: A national survey. *Journal of Applied Developmental Psychology*, 22, 31-47.

Young, B. (2000). Children's categorisation of foods. *International Journal of Advertising*, 19(4), 494-508

Young, B. (2003). Does food advertising influence children's food choices? A critical review of some of the recent literature. *International Journal of Advertising*, 22(4), 441-59

Young, B., Webley, P., Hetherington, M., & Zeedyk, S. (1996). *The role of television advertising in children's food choice*. Report commissioned by the Ministry of Agriculture, Fisheries and Food (UK)

APPENDIX

Food ads



**Munchies,
het zoete tussendoortje
vol smaak !**



**Gesuikerde Flakes
voor een stevig ontbijt !**

TABLE 1

Brand Names and Slogan Types

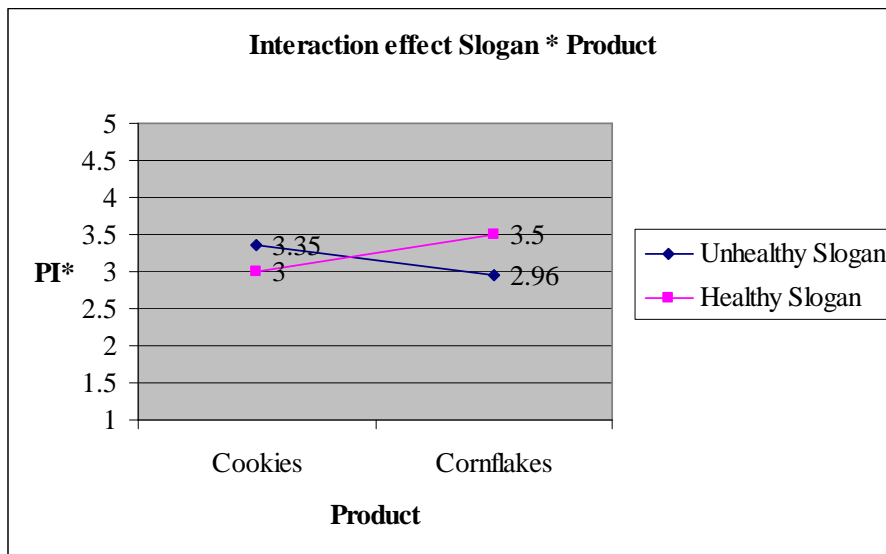
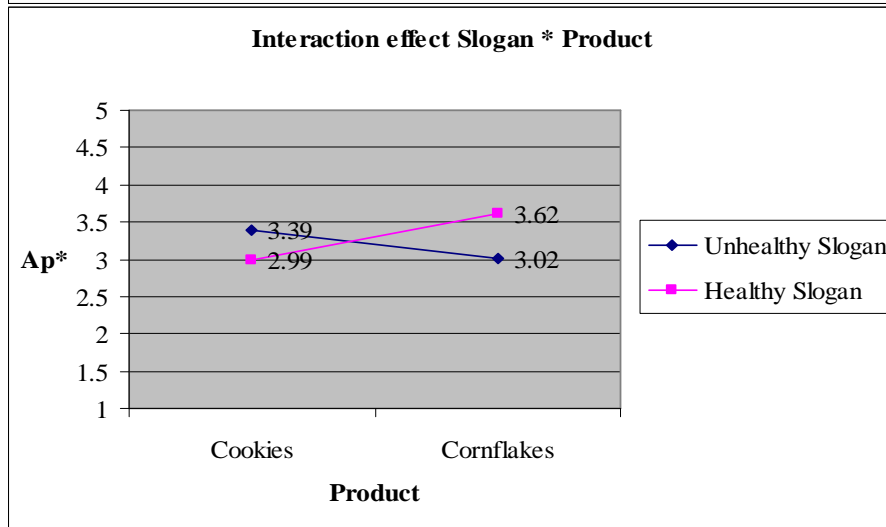
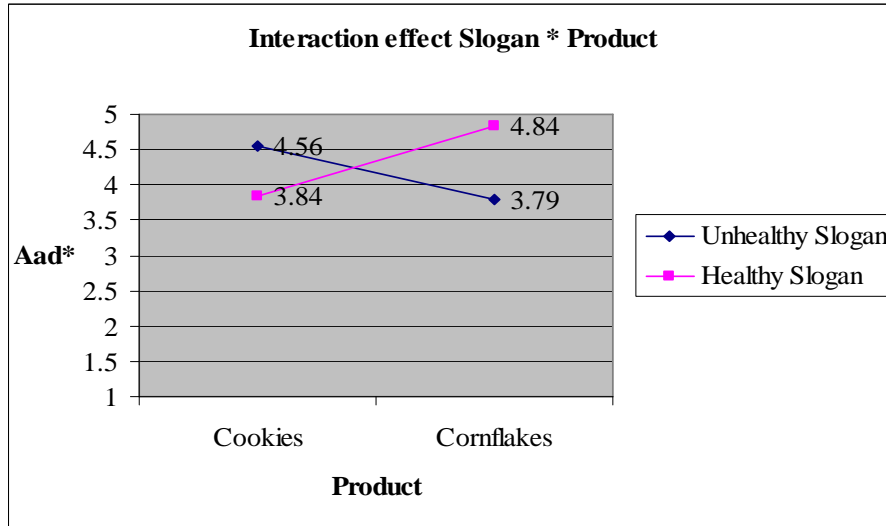
Product	Cookies
Brand name	Munchies
Healthy slogan	Munchies, the healthy, fiber rich snack!
Unhealthy slogan	Munchies, the sweet snack, full of taste!

Product	Cornflakes
Brand name	Flakes
Healthy slogan	Flakes, cereals rich in calcium, which give you energy in the morning!
Unhealthy slogan	Flakes with extra sugar give you energy in the morning!

TABLE 2**Participants' distribution over experimental conditions**

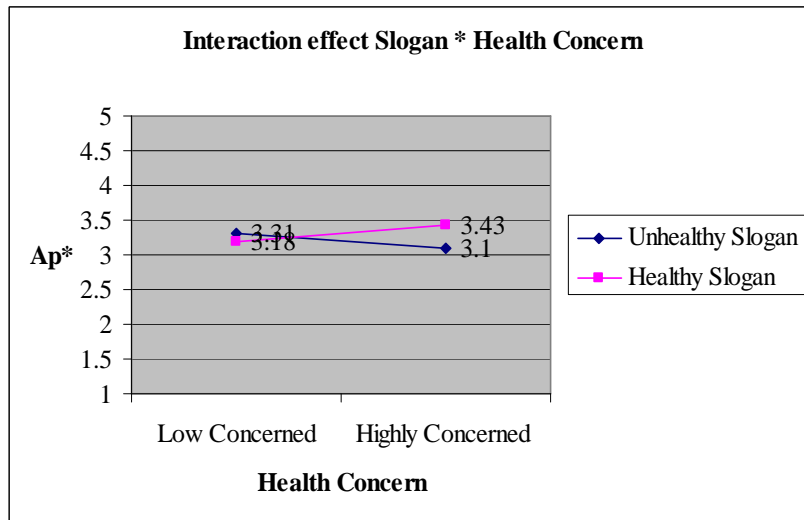
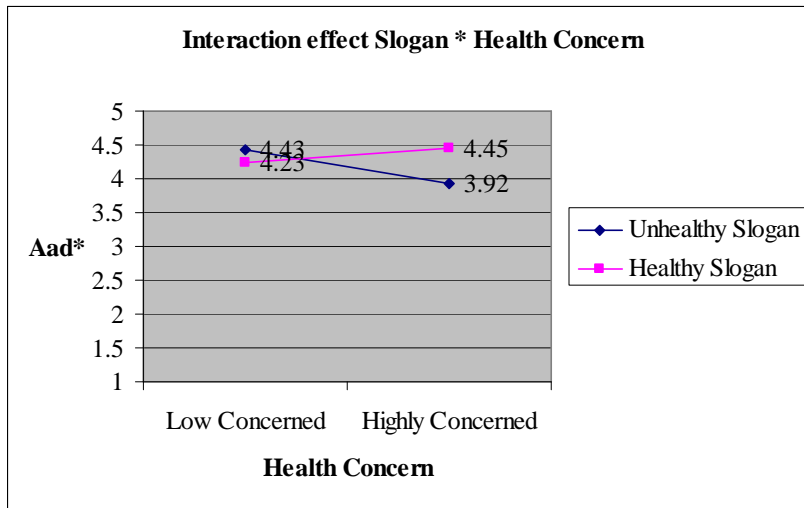
	Condition 1 Healthy Product * Healthy Slogan		Condition 2 Healthy Product * Unhealthy Slogan		Condition 3 Unhealthy Product * Healthy Slogan		Condition 4 Unhealthy Product * Unhealthy Slogan	
Number of respondents	82	100%	77	100%	69	100%	82	100%
Number of girls	57	69.5%	39	50.6%	32	46.4%	57	69.5%
Number of boys	25	30.5%	38	49.4%	37	53.6%	25	30.5%

FIGURE 1: Interaction Effect Slogan * Product



* 1 = an unfavorable score - 5 = a favorable score

FIGURE 2: Interaction Effect Slogan * Health Concern



* 1 = an unfavorable score - 5 = a favorable score