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Promoting Healthy Eating Standards on Children Through CSR Educational Programs:

An Evaluation of Impact on Eating Preferences, Attitude Towards
the Brand and Perceived Brand Reputation

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Abstract

The purpose of this research is to evaluate the influence of brand sponsored education interventions on children's eating preferences, attitude towards the brand and perceived brand reputation. An experiment was conducted, involving 122 third grade children who were invited to participate in a fictional brand sponsored nutrition education session, and subsequently completed a structured questionnaire and a drawing task. The results suggested that nutrition based Corporate Social Responsibility education programs can lead children to develop improved eating preferences and higher perception of brand reputation. However, the research revealed no impact on attitude towards the brand.

Keywords: Eating Behavior, Brand Reputation, Attitude towards the Brand, Children,

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1. Introduction

Obesity levels are increasing globally both in the developed and developing countries alike (WHO, 2000). On the most recent decades, drastic changes to the dietary intakes took place on a global scale, resulting in the substitution of plant-based foods for high-fat, energy-dense foods (WHO, 2003). According to the World Health Organization there are more than one billion adults worldwide who are overweight, and 300 million who are clinically obese. Evidence has been found of the existence of growing overweight epidemic among school-aged children worldwide, with the highest child overweight rates being found in the Americas (27.7%) and Europe (25.5%) (Wang and Lobstein, 2006). In Portugal, data collected from 4511 children 7 to 9.5 years old identified 31.6% of the subjects as overweight, and 11.3% as obese (Padez et al. 2005). Diet is identified as the main modifiable cause of overweight. High blood pressure and cholesterol are recognized as being among the top five risk factors for chronic disease (WHO, 2002). The emergence of this issues calls for the development of solutions that effectively impact the dietary intakes of consumers in a positive way. The food industry plays a significant role in the nature of children and adolescents diet by means of their advertising and communication strategies (Story et al. 2002; Hastings et al, 2006), and by influencing what kind of products they have available (Pendergrast, 2000; Story et al 2002).

2. Literature Review

2.1. Healthy Food

Defining what is healthy food is controversial. According to the dietary guidelines defined by the US Department of Health and Human Services, in order to achieve improvements in overall health and well-being as well as to reduce the risk of

chronic disease, the consumption of nutrient-rich food products in the categories of fruits, vegetables, whole grains, low-fat dairy products and low fat-meat should be encouraged, while the consumption of energy-dense foods rich in saturated fats, trans fats, sodium, added sugars and chemical additives should be reduced (USDHHS, 2005). For the purpose of this paper, food products belonging to the former group will be included in the category of “healthy food”, while the ones belonging to the latter will be classified as “unhealthy food”.

2.2. The role of children

The eating behaviors and nutritional properties of children and adolescents’ diet have a significant impact on their growth and development, playing a key role in preventing immediate as well as long-term health problems. Failure to consume the appropriate amount of nutrients increases the risk for health issues such as iron deficiency, child obesity, bone health problems and dental caries (Story et al., 2002). Research also shows several links between unbalanced nutritional intake during adolescence and long-term health problems: excess weight in adolescence is associated with being overweight in adulthood; low calcium consumption during adolescence and early childhood compromises the development of peak bone mass and is associated with osteoporosis in later stages of life; high fat intake during adolescence is associated with coronary heart disease (USDHHS, 1998).

During childhood and adolescence, eating patterns are more susceptible to influence than at a later stage when they become fully established. Moreover, research shows that behavioral patterns developed during adolescence are likely to influence long-term behaviors (Kelder et al., 1994). This fact makes childhood and adolescence a crucial stage in the development of long-lasting healthy eating behaviors. According to

Story et al. (2002: 41) “adolescence offers a unique opportunity to positively influence the adoption of healthful eating and physical activity patterns that could be sustained throughout life”

2.3. Factors influencing children eating behavior

Story et al. (2002) proposes an integrated theoretical framework that combines elements of the two most relevant models: The social cognitive theory that explains behavior in terms of the interaction between personal factors, environmental influences, and behavior (Bandura, 1986); And Bronfenbrenner’s ecological model that analyses how the environment influences behavior (Bronfenbrenner, 1979).

At the individual level the more significant influencing factors are taste, convenience and price (French et al, 1997; Neumark-Sztainer et al, 1999). Two previous studies analyzing the factors that influence children’s intake of fruit and vegetables revealed that food preference was the only significant predictor of the quantities consumed (Domel et al., 1996; Resnicow et al., 1997). This fact indicates that initiatives focused on altering food preferences, rather than other environmental or individual variables, are likely to be the most effective in promoting healthy eating habits (Birch and Fisher, 1998).

Regarding the social environment, family and family meals are recognized as a major influencer of children’s nutritional intake (Birch and Fisher, 1998; Gillman et al, 2000; Story et al, 2002). Gillman and his colleagues found a positive correlation between the frequency of family dinners and the quality of children’s eating patterns. Studies evaluating the significance of peers as influencers of children eating patterns revealed inconclusive results (Neumark-Sztainer, 1999; California Project Lean, 1998), however the self-report nature of the studies might lead to an underestimation of the

impact of this factor. Furthermore, the pursuit of independence and individuality makes it difficult for adolescents to admit that their behavior is influenced by others (USDHHS, 2005).

Physical environment influence is mainly centered on the availability of healthy food products at locations visited by children (i.e. schools, shopping malls). The unavailability or lack of convenience in the access to healthy food works as a major barrier to healthier eating patterns in adolescents (Jenkins and Horner, 2005).

At the macrosystem level, the influences that were found to be most relevant are exposure to media and advertising. Research reveals that the food industry has contributed to the undesirable eating patterns of children and adolescents by investing strongly in communication strategies that promote the consumption of unhealthy food products (Story et al. 2002; Hastings et al, 2006). Empirical findings show that time spent watching television is positively correlated with the consumption of soda and energy-dense foods (Coon and Tucker, 2002), and negatively correlated with the amount of fruit and vegetable consumption (Larson et al, 2008).

2.4. Promoting Healthy Eating Among Children and Teenagers

An extensive body of research evaluates the impact of initiatives designed to improve the nutritional intake of children and teenagers, with different levels of success (Baranowski et al., 2000; Morris and Zidenberg-Cherr, 2002; Hyland et al., 2006; Davis et al., 2011). An example with positive results is the program “Gimme 5” that was developed with fourth and fifth graders in the USA, focusing on a holistic approach to the individual and environmental factors influencing children eating behavior, emphasizing fun as a way to increase consumption of fruit and vegetables (Baranowski et al., 2000). Another intervention, focused on nutritional education along gardening

and cooking activities, was developed with children in the Latino community of Los Angeles, succeeded in increasing fiber intake, reducing diastolic blood pressure, and had a positive impact in the body mass index of overweight children (Davis et al., 2011).

Research indicates that children do not lack knowledge regarding the nutritional properties of certain foods and their impact on health, indicating other influencing factors play a bigger role on their choices (Jenkins and Horner, 2005; Neumark-Sztainer et al., 1999). This idea suggests that programs focused on other influencing factors of eating habits might yield better results than a simple transfer of nutritional knowledge.

A qualitative study on the opinions of children and their parents regarding an after-school program designed to improve eating habits by building food preparation skills revealed that the major motivation for children to participate was “learning how to cook” (Hyland et al., 2006). Similarly, focus groups with children 4-12 years old, designed to gather insight for the development of school-based interventions to promote fruit and vegetable consumption in the Netherlands concluded that children enjoyed activities that allowed them to prepare their own ingredients and the authors recommend a cooking based approach (Reinaerts et al., 2006). Another qualitative study that investigates the factors influencing the food choices of adolescents suggests that one of the main issues to be addressed is building skills that allow them to prepare healthy food for themselves (Neumark-Sztainer et al., 1999).

H1: Children exposed to an educational session show higher preference for food products with higher nutritional standards

H2: Children exposed to an educational session show higher preference for meals at home

H3: Children exposed to an educational session show higher preference for meals with their parents

2.5. Corporate Social Responsibility

According to Heslin and Ochoa (2008: 126), at the core of most definitions of Corporate Social Responsibility (CSR) is the idea of “engaging in economically sustainable business activities that go beyond legal requirements to protect the well-being of employees, communities, and the environment”. Several empirical studies found evidence of the positive impact of CSR on brand equity and brand performance (Lai et al., 2010; Beurden and Gossling, 2008; Orlitzky et al., 2003), highlighting the importance of CSR initiatives. In the light of this results, it is logical for companies in the food industry to pursue CSR initiatives designed to mitigate the negative impact of the marketing programs of energy-dense foods and contribute to the development of healthier eating behaviors. Nevertheless, on a report on the practices of 25 of the world’s largest food companies Lang et al. (2006: 8) state that the majority of companies “are not yet fully engaged with the seriousness and urgency of this transformation” and “only a small minority of companies are engaging with the agenda and rethinking their business strategy accordingly”.

Examples of educational initiatives developed by food companies in Portugal are Nestle’s “Apetece-me” program (Programa Educativo Apetece-me, [online]), and the “Porquê Margarina” initiative, launched by Unilever in collaboration with two health institutes¹ (Porquê Margarina, [online]). However, both programs lack a

¹ Instituto Superior de Ciências da Saúde Egas Moniz; Fundação Portuguesa de Cardiologia

concrete evaluation of their impact on eating behaviors and consumer perception of the brands.

2.6. Attitude Towards the Brand

Attitude towards the brand is characterized as a subject's critical opinion of a specific brand or branded products (Mitchell and Olson, 1981). Spears and Singh (2004: 55) define the concept of attitude towards the brand as "a relatively enduring, unidimensional summary evaluation of the brand that presumably energizes behavior". Empirical evidence supports the existence of a strong relationship between attitude towards the brand and purchase intention, highlighting the importance of this attribute in the consumer's preference for a brand (Haley and Case, 1979; Anand and Sternhal, 1990). Moreover, significant empirical research indicates that attitude towards the brand is an important influencer of brand loyalty (Oliver, 1999; Chaudhri and Holbrook, 2001).

H4: Children exposed to an education session associated with a brand show superior levels of attitude towards the brand

2.7. Brand Reputation

Brand reputation is defined as a set of beliefs regarding a brand's interaction with the consumer and stakeholders, characterized by expectations regarding the ethical nature of the brand's actions (Brunk, 2010). The importance of brand reputation is the result of its value as differentiating attribute and fundamental tool for creating competitive advantage (Keller, 2008). Empirical evidence supports the belief that good reputation plays a key role in consumer choice and is an important contributor to brand performance (Roberts and Dowling, 2002; Fombrun and Shanley, 1990; Landon and Smith, 1997). Furthermore, consumers' perceptions of companies' corporate social

responsibility actions influence brand reputation and improve the perceived quality of branded products (Lai et al., 2010).

H5: Children exposed to an education session associated with a brand show superior levels of perceived brand reputation

3. Methodology

3.1. Sample

The study was conducted with children from the concrete operational stage of Piaget's theory of cognitive development (Piaget and Inhelder, 1972). A group of 122 children in 3th grade (7 to 8 years old) was selected from 4 public schools in the Braga district, north Portugal. 148 consent forms were sent to children's parents, resulting in 127 authorizations and a response rate of 90.5%

3.2. Research Design

The purpose of this study is to assess the impact of brand sponsored education interventions on children's eating preferences, attitude towards the brand and perceived brand reputation. The research seeks evidence of the successful impact of an education session in influencing children's eating preference towards healthy eating standards. Additionally, taking in consideration the growing intervention of brands in education programs, it evaluates if the reference to a brand influences the evaluation of that same brand by the children present in the session. In order to accomplish this goal, an experiment was conducted that exposed the subjects to an educational session that was fictionally sponsored by a brand.

The children were assigned to two groups composed of three classes each: experimental group and control group. Previously to the data collection phase, the children in the experimental group underwent an educational session designed to align

their eating preferences towards healthy nutritional standards. The subjects in the experimental group were encouraged to associate the education session with the brand *Danone*. A highly familiar brand was chosen in order to maximize the probability that it would be familiar to the children in the control group, therefore facilitating the process of measuring the influence of the education session on children's perceptions of the brand.

The experimental session was inserted among regular school classes and was lectured by the children's usual teacher. In the beginning of class, the test subjects were told that the class was an education session offered by the corresponding brand, and the researcher was introduced as an employee of the company who was there to contribute to the class. The teacher explained to the children that the respective brand was concerned with helping children having better eating standards. The session was composed of three activities: (1) Nutritional knowledge and behavior recommendations: The children's teacher provided nutritional knowledge following a content guide designed for the purpose of the experiment; (2) Nutrition related task: A sheet of paper with an exercise was given for the children to complete. The specific exercise was selected to promote dialogue and encourage children to mentally review their eating habits and evaluate them in the light of the recently acquired knowledge. (3) Food preparation activity: In the final part of the class the researcher invited the children to assist in the preparation of fruit skewers, and distribute them among the classmates. The purpose of the activity was to engage the children in the food preparation process and associating healthy food with positive feelings and fun. Additionally, the teacher gave the children the instruction to repeat the activity at home with their parents, preparing this or a similar snack with healthy and simple ingredients.

The content guide² for the classes was based on the materials of Nestle's educational program *Apetece-me* (Programa Educativo *Apetece-me*, [online]) and adapted in consultation with an experienced teacher responsible for health related education. The paper sheet with an exercise task³ that was given to the children is also part of the *Apetece-me* program, however it was digitally edited to figure the logo of the brand associated with the educational session. The fruit skewer preparation activity was similar to the one included in the educational sessions of *Vitamimos*⁴, a Portuguese non-profit social enterprise focused on promoting healthy eating habits among children.

In order to reduce method bias resulting from the presence of nutrition related knowledge in short-term memory, there was a time lapse of one week between the educational session and the data collection phase (Podsakoff et al., 2003). In order to avoid method bias associated with social desirability, it was explained that there were no right or wrong answers, the information collected was anonymous and the individual results would not be published (Podsakoff et al., 2003). It was agreed with the participating school that the research sessions would not coincide with activities that were very attractive to children (i.e. sports activities), in order to ensure maximum engagement from the test subjects.

In the first half of the data collection session, the test subjects were instructed to complete a drawing task depicting a scene explained by the researcher. This technique was chosen because drawing is an engaging activity that usually brings out a positive reaction in children (McNeal, 1992). Additionally, drawing facilitates the process of the children expressing themselves without feeling a high level of exposure of their

² For more details on class content guide please refer to appendix A

³ For more details on exercise sheet please refer to appendix B

⁴ <https://www.facebook.com/Vitamimos> [Accessed 30/05/2013]

individuality (Greig, et al., 2007). It was made clear that the drawing ability, style or level of detail was not important. The researcher distributed sheets of A4 white paper and gave the children the verbal instruction “If you were told you can have any meal you want, what would you choose? Please pay attention to the food items present, who is with you, and the location where the meal is taking place”. They were given a time limit of twenty plus five extra minutes to complete their task. After the task was completed, a small interview was conducted on site with each of the children present in the classroom, following a semi-structured guideline designed to clarify the elements present in the drawing and avoid any subjectivity in interpretation.

Following the drawing exercise, a structured questionnaire⁵ was distributed to all the children. The questionnaires focused on the brand associated with the education session and were designed to assess children’s perceptions of brand reputation and attitude towards the brand.

After the data was collected, it was revealed to the children that the educational session was indeed not sponsored by a food brand, and that the researcher was a student rather than an employee of a food manufacturer. It was explained that they were misled to believe so in order to test the impact of the experiment on their perceptions of the brand.

3.3. Measures

Along with the authorization form, the parents were asked to fill a small written questionnaire designed to assess demographic variables (age and social-class) and level of engagement with their children regarding nutritional issues.

⁵ For more details on questionnaire please refer to appendix C

In order to evaluate the impact of the educational session on children's **eating preferences**, the drawings produced by the children were analyzed in combination with the interview results and rated regarding the nutritional quality of the meal depicted and the nature of the location and people present at the moment.

Regarding the structured questionnaire, in order to measure the impact of the educational program on **attitude towards the brand**, a procedure similar to the one applied to subjects of the same age by Phelps and Hoy (1996) was used. The children were asked to rate their opinion on the brand according to a five-point smiley face scale composed of three items: bad-good; hate it-love it; unpleasant-pleasant. In order to analyze the impact of the educational program on **perceived brand reputation**, a combination of the procedures designed by Stanaland et al. (2011) and Selnes (1993) was applied. The methodology was adapted to the age group and Portuguese language, following some of the modifications to these studies developed by Pais (2012). Regarding the first study, the words "reliable" and "trustworthy" were considered too similar to constitute different statements, therefore the subjects were only presented with 2 out of the 3 statements used in the study: "XX is an honest brand" and "XX is a brand I can trust". Regarding the second study, the word "competitors" was replaced by "similar brands" in order to facilitate the understanding by the children. The statements presented to the subjects were "My friends and family have a positive image of XX" and "XX has a more positive image when compared with similar brands". The 6 and 7 point scales used in the previous studies were replaced by a five-point smiley face scale from 1=Completely Disagree to 5=Completely agree which is believed to be more appropriate for children in this stage of cognitive development (McNeal, 1992).

3.4. Pre-test

Pre-test 1 was conducted with the purpose of identifying an adequate brand to be used in the experimental constructs. Considering that this study focuses on influencing eating preferences, eight food industry brands were selected for this purpose, comprising product categories such as yogurt, breakfast cereal and snack food. In order to obtain a sufficient amount of subjects for this pre-test, children were approached in a shopping mall, in the presence of their parents. Following consent by the parents the children were shown the printed logos of the eight brands, and asked to identify the ones they recognized (Achenreiner and John, 2003). Pretest 1 was answered by twelve children, and led to the selection of *Danone* as the familiar brand, with 100% of awareness.

Pre-test 2 included four children and it was designed to test the suitability of the drawing task and observe children's opinions and reactions. It was conducted with the supervision of a visual arts teacher with experience with children. The pre-test supported the assumption that the task was adequate and twenty five minutes was an appropriate amount of time to allow the children to finish the drawing while keeping their focus on the task at hand.

Pre-test 3 included fifteen children and was designed to test the suitability of the structured questionnaire. Children were approached in a shopping mall, in the presence of their parents. Following consent by the parents the children were handed the questionnaire and were asked to complete it. Their reactions and comments were taken in consideration and incorporated in the design of the questionnaire used in the study.

3.5. Ethical and Legal Considerations

In accordance with Portuguese law, authorization forms containing a thorough explanation of the nature and purpose of the research were sent to the Portuguese

Ministry of Education, the schools involved, and the children's parents. Moreover, in order to assure full protection of the children participating in the study there was a strict compliance with the ethical guidelines proposed by Unicef (2002) and Greig et al. (2007). Notwithstanding the previously attained parental consent, children were asked if they desired to participate in the study and informed it was not a mandatory task and they could choose not to engage in the activities if they so desired. Additionally, authorization was also obtained from Danone in order to use the brand for research purposes.

4. Results and Discussion

4.1. Impact on eating preferences

Hypothesis 1 predicted that children exposed to an educational session would show higher preference for food products with higher nutritional standards. In order to verify hypothesis 1, the drawings of the children were analyzed from two different perspectives: (1) Presence of healthy food products; (2) Presence of unhealthy food products. As defined previously, the category of healthy food is composed of nutrient-rich food products in the categories of fruits, vegetables, whole grains, dairy products and low fat meat, while the category of "unhealthy food" includes energy-dense foods rich in saturated fats, trans fats, sodium, added sugars and chemical additives. Examples of healthy food products drawn during the experiment were: Chicken; Fish; Eggs; Potatoes; Rice; Beans; Vegetables and Fruits. Examples of unhealthy food products drawn by the children were: Fast-food hamburgers; Pizza; Sausages; Deep fried fish or meat; French fries; Cake; Cookies, Chocolate and Carbonated soft drinks.⁶

4.1.1. Impact on preference for healthy food products

⁶ For examples of drawings produced by the children please refer to appendix D

In order to evaluate the preference for healthy food, the drawings produced by the children were analyzed and rated according to the presence or lack of such food items (drawings depicting at least one healthy food item were rated as 1, while drawings depicting no healthy food items were rated as 0). The results were then compared between the drawings produced by the children in the control group (subjects not exposed to any educational session), and the children in the experimental group (subjects exposed to an educational session focused on healthy nutrition), and conducted Mann-Whitney tests on those differences.

The percentage of drawings depicting at least one item of healthy food in general was higher for the experimental group (87.9%) than for the control group (55.4%), being this difference statistically significant ($p < 0.000$). Similarly, the percentage of drawings depicting at least one item in the category of vegetables was higher for the experimental group (19.7%) than for the control group (5.4%) being significant for a significance level of 5% ($p = 0.020$). The final item analyzed was the presence of at least one item in the category of fruits, likewise revealing a higher value for the experimental group (43.9%) than for the control group (14.3%) ($p < 0.000$). The expressive difference in the amount of fruits depicted in the drawings produced by the subjects exposed to the education session suggests that the didactic activity focused on the preparation and consumption of fruits carried out with the children was successful in influencing their preference for this food item. The research results consistently suggest that the education intervention was successful in positively influencing the children's preference for food items with good nutritional content.

4.1.2. Impact on preference for unhealthy food products.

In order to evaluate the preference for unhealthy food, the drawings produced by the children were analyzed and rated according to the lack or presence of such food items (drawings depicting no unhealthy food items were rated as 1, while drawings depicting at least one unhealthy food item were rated as 0). The results were then compared between the drawings produced by the children in the control group (subjects not exposed to any educational session), and the children in the experimental group (subjects exposed to an educational session focused on healthy nutrition).

The percentage of drawings depicting no unhealthy food items in general was higher for the experimental group (47.0%) than for the control group (23.2%) and the difference observed was found to be statistically significant ($p = 0.027$). In the category of sweets, despite the fact that the percentage of drawings depicting no sweets was higher for the experimental group (89.4%) than for the control group (78.6%), the difference for this item is not statistically significant ($p = 0.102$). However, in the category of carbonated soft drinks, the percentage of drawings depicting no item was higher in the experimental group (86.4%) than in the control group (67.8%) being the difference statistically significant ($p = 0.015$). The same happened with the presence of fast food, the percentage of drawings depicting no fast-food items was significantly ($p=0.004$) higher in the experimental group (92.4%) than in the control group (73.2%).

The research results consistently suggest that the education intervention was successful in reducing the children's preference for food items with poor nutritional content. The failure of the experiment to produce statistically significant results regarding the preference for items in the category of sweets suggests that the fact that the education session focused mostly on food products present in the main meals might

have led to these secondary items being overlooked. The results obtained regarding the preference for healthy and unhealthy food lead to the **non-rejection of hypothesis 1**.

4.2. Impact on Preference for Meals at Home

Hypothesis 2 predicted that children exposed to an educational session would show higher preference for meals at home. In order to verify hypothesis 2, the drawings produced by the children were analyzed and rated according to the location where the meal was taking place (drawings depicting meals at home were rated as 1, while drawings depicting meals elsewhere were rated as 0). The results were then compared between the drawings produced by the children in the control group, and the children in the experimental group.

The percentage of drawings depicting meals at home was higher for the experimental group (32.3%) than for the control group (14.3%), and the difference observed was statistically significant ($p=0.024$). This result suggests that stressing the benefits of home cooked meals during the education session was successful in increasing the preference for such meals among the children. Additionally, the drawings were evaluated regarding the depiction of meals at restaurants, and this analysis revealed a higher number of restaurant meals depicted among the children in the control group (57.1%) than in the experimental group (38.5%), being this difference statistically significant ($p=0.034$). Besides home and restaurant meals, the drawings depicted other locations such as parks (21.4% for the control group, and 24.6% for the experimental group) or other real or imaginary places. The observed results led to the **non-rejection of hypothesis 2**.

4.3. Impact on Preference for Meals with Parents

Hypothesis 3 predicted that children exposed to an educational session would show higher preference for meals with their parents. In order to verify hypothesis 3, the drawings produced by the children were analyzed and rated according to who was present at the moment (drawings depicting meals with at least one of the parents were rated as 1, while drawings depicting none of the parents were rated as 0). Children in the experimental group showed a higher level of preference for meals with their parents (65.2%), when compared to the children in the control group (32.1%), being the difference statistically significant ($p=0.000$). The results obtained in the experiment suggest that stressing the importance of meals with family successfully increased the preference for meals with parents among the children exposed to the educational session. Additionally, this result supports the assumption that instructing the children in the education session to repeat at home, with their parents, the food related didactic activity developed during the session, was a successful tool in promoting their preference for meals with their parents.

4.4. Impact on Attitude Towards the Brand

Hypothesis 4 predicted that children exposed to an education session associated with a brand would show superior levels of attitude towards the brand. In order to verify hypothesis 4, the test subjects were asked to rate their opinions on the brand according to a 5-point likert scale in three different items related to attitude towards the brand. The arithmetic means of each of the three items were computed and compared between control group (subjects not exposed to any educational session) and experimental group (subjects exposed to an educational session associated with the brand).

The differences in the means of the three items were inconclusive, with only two of the items revealing superior values in the experimental group. (Values for the

experimental and control groups were respectively, “bad-good”: $4.53 > 4.482$; “hate it-love it”: $4.439 < 4.5$; “unpleasant-pleasant”: $4.5 > 4.446$). A Mann-Whitney test was conducted on the three items and suggested that the mean differences found were not statistically significant for a significance level of 10% (p (“bad-good”) = 0.946; p (“hate it-love it”) = 0.657; p (“unpleasant-pleasant”) = 0.987).

Additionally, the mean of the three items was computed, as a general measure of attitude towards the brand. The control group revealed slightly superior values but, the Mann-Whitney test conducted suggested that, the difference in the means of this indicator was not statistically significant (Values for the experimental and control groups were respectively: $4.489 > 4.476$; $p=0.859$) These results suggest that the association of a brand with the education session failed to influence the subject’s attitude towards the brand, consequently **hypothesis 4 is rejected**.

4.5. Impact on Perceived Brand Reputation

Hypothesis 5 predicted that children exposed to an education session associated with a brand would show superior levels of perceived brand reputation. In order to verify hypothesis 5, the test subjects were asked to rate their opinions on the brand according to a 5-point likert scale in four different items related to perceived brand reputation. The arithmetic means of each of the four items were computed and compared between experimental and control group.

The differences found in the means of the four items suggest a higher perception of brand reputation among the children exposed to the education session, with three of the items revealing superior values in the experimental group. (Values for the experimental and control groups were respectively, item n° 1 “XX is an honest brand”: $4.621 > 4.357$; item n° 2 “XX is a brand I can trust”: $4.090 < 4.214$; item n° 3 “My

friends and family have a positive image of XX”: 4.545 > 4.410; item n°4 “XX has a more positive image when compared with similar brands.”: 4.378 > 3.732). A Mann-Whitney test was conducted revealing that the mean difference of “item 1” is statistically significant for a significance level of 10%. and the mean difference of “item 4” is statistically significant for a significance level of 5% (p-value “item1” = 0.087; p-value “item 2” = 0.423; p-value “item 3” = 0.654; p-value “item 4” = 0.002). “Item 1” was designed to evaluate the perceived brand reputation individually, while “Item 4” was designed to evaluate the perceived brand reputation in comparison with similar brands, therefore the results suggest that exposure to a brand sponsored educational session increases the perception of brand reputation both when considered individually and when considered in a context of comparison with competitors.

Additionally, the mean of the four items was computed, as a general measure of perceived brand reputation. The control group revealed superior values and the Mann-Whitney test conducted suggested that, for a significance level of 10%, the difference in the means of this indicator was statistically significant (Values for the experimental and control groups were respectively: 4.409 > 4.178; p-value = 0.066) These results suggest that the association of a brand with the education session successfully influenced the subject’s perception of brand reputation, consequently **hypothesis 5 is not rejected**.

5. Conclusions

The findings extracted from this research can be divided in two main groups: Impact on eating preferences and impact on brand perceptions.

5.1. Eating Preferences

The research results suggest that a education session composed of nutritional knowledge and didactic activities involving healthy food products is able to

successfully influence children's eating preferences towards healthier nutritional standards. As predicted, the children that participated in the education sessions showed a higher level of preference for a diverse number of healthy products such as fruits and vegetables, and simultaneously a significantly lower level of preference for unhealthy food products such as fast food and carbonated soft drinks.

Additionally, the findings suggest that encouraging the children to develop cooking related activities involving healthy food at home can successfully increase their preference for home cooked meals with their parents. The data collected revealed that among the children exposed to the education session there was a higher prevalence of meals at home with their family, as opposed to meals in restaurants.

These results indicate that a Corporate Social Responsibility program directed at children of this age group and focused on healthy eating, has a high potential of achieving a positive impact in their eating preferences, and therefore eventually leading to healthier eating habits and improved health and well being.

5.2. Brand

Regarding the impact of the brand associated on children's perceptions regarding the brand, this research produced interesting results. In contrast with what was expected, the results suggest that exposure to a brand associated education session does not lead to higher levels of attitude towards the brand. The data collected indicates that exposure to the educational session had no impact on children's attitude toward the brand associated with it.

Notwithstanding, this research found evidence that participation in an education session associated with a brand can successfully increase children's perceptions of

brand reputation. The data collected revealed a higher level of perceived brand reputation among the children participating in the educational session.

These results suggest that developing a Corporate Social Responsibility education program targeting children in this age group can successfully influence their perceptions of brand reputation, despite not successfully altering children's attitude towards the associated brand.

6. Limitations and Future Research

This study presents some limitations that should be taken and consideration and further analyzed in future research. It focused exclusively on the short-term impact of an education session, therefore it would be important to investigate impact of a similar initiative on eating preferences, attitude towards the brand and perceived brand reputation from a medium and long-term perspective.

This study focuses on an empirical analysis of the impact of an education session strictly from perspective of eating preferences. Further research should evaluate the impact of a similar program on actual eating habits of children.

Finally, this research comprised a sample composed of only children in the third grade, from the region of Braga. Further research should evaluate the impact of such initiatives among children of different age groups and distinct geographic locations.

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8. Appendixes

8.1. Appendix A – Class Content Guide

Guia de Conteúdos

Tema: A relação entre a alimentação e a saúde

Alimentação e Saúde

Concretamente, o que temos a ganhar se praticarmos uma alimentação dita saudável? É a esta a pergunta que se tenta responder através das atividades proporcionadas por esta aula.

A abordagem escolhida é, deliberadamente, positiva e corresponde à filosofia de que a alimentação é uma fonte de saúde e de prazer.

Por isso, fala-se muito mais dos aspetos positivos do que dos perigos, acreditando que a força dos benefícios aliada à vontade dos jovens de estarem “bem na sua pele” seja o melhor motor para o desenvolvimento de estilos de vida saudáveis.

Eis alguns aspetos a considerar na abordagem deste tema:

Variar a alimentação: sem contar com o leite materno, não existe um só alimento capaz de fornecer todos os nutrientes necessários ao corpo humano. Por isso, é tão importante variar, para fornecer ao corpo tudo aquilo de que precisa.

Comer a quantidade certa: os estilos de vida sedentários estão a tornar as pessoas obesas em quase todos os países do mundo ocidental. Comer de acordo com as necessidades e aumentar a atividade física são as medidas chave para conseguir o equilíbrio.

Equilibrar: os alimentos ricos em hidratos de carbono devem ocupar um lugar central na nossa alimentação, contribuindo para a regulação do apetite e a saúde a longo prazo. Frutas e legumes devem vir logo a seguir na proporção alimentar, dando-nos vitaminas antioxidantes e outras substâncias protetoras.

Interrogar os alunos sobre a quantidade de peças de fruta e vegetais comem por dia. Recomendar as quantidades indicadas.


Apreciar as refeições: partilhar refeições com amigos e em família, comer devagar, saboreando... Os aspetos sociais e culturais ligados à alimentação são tão importantes para o nosso bem-estara longo prazo como os componentes básicos nutricionais.

Interrogar os alunos sobre a frequência das refeições fora de casa. Evidenciar a importância das refeições caseiras e com a família.

Apostar no dia a dia: em alimentação o que conta é a rotina, não os dias em que esporadicamente fugimos à regra. Esses também são importantes e devem ser isso mesmo: exceções. Devemos, assim, no dia a dia investir em hábitos alimentares saudáveis, acompanhados de exercício físico regular que estimula o corpo, a mente e regula o apetite.

8.2. Appendix B – Class Task

Apêndice 3 a) Ficha Exercicio Danone




COMO É A MINHA ALIMENTAÇÃO?
 Preenche o quadro, tentando lembrar-te dos alimentos que comeste ontem.
 1.º Completa a coluna "O QUE COMESTISTE?" com os alimentos de cada refeição.
 2.º Depois faz uma cruzinha, tendo em atenção o Grupo ao qual pertence cada alimento.
 3.º No final, comenta os resultados com o teu colega de carteira.
 Que grupo de alimentos está mais representado? E qual é o que está menos representado?

CONVERSA À VOLTA DA TRAVESSA


	PEQUENO-ALMOÇO	MEIO DA MANHÃ	ALMOÇO	LANCHE	JANTAR	CEIA
O QUE COMESTISTE?						
REFEIÇÕES E ALIMENTOS						
FRUTAS E FRUTOS HORTÍCOLAS						
LEIÃO E DERIVADOS, LERMINHOÇA, TUBERCULOS						
LEITE, SOVITE, QUEIJO, MEXCLARÃO						
CARNEL, PESCAÇO E OVOS						
CEREBIJAIS						
ÁGUA, SUMO NATURAL						

Apetece-me... estar bem! | Ficha de trabalho (06)

8.2. Appendix C – Structured Questionnaire



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Apêndice 4 a) Questionário Grupo Experimental A

Dados Demográficos

1. Em primeiro lugar, vou-te pedir que me dês alguns dados. Preenche p.f. a informação em falta e indica o teu sexo, colocando uma cruz na opção correta.

Sexo: Um Rapaz _____ Uma Rapariga _____

Tenho: _____ anos

Questionário

2. Relativamente à marca de iogurtes Danone (representada na imagem à direita), por favor indica a tua opinião assinalando com uma cruz a opção escolhida para cada linha:

	Má				Boa
Não gosto nada					Gosto muito
Desagradável					Agradável

3. Por favor indica se concordas ou não com cada uma das seguintes expressões, assinalando com uma cruz a tua opinião:

	Discordo totalmente	Discordo em parte	Não concordo nem de acordo	Concordo em parte	Concordo totalmente
A Danone é uma marca honesta.					
Os meus amigos e familiares têm uma imagem positiva da Danone.					
A Danone é uma marca em que posso confiar.					
A Danone tem uma imagem mais positiva que outras marcas semelhantes.					

Obrigado!

8.3. Appendix D – Drawings

Figure nº1 – Drawing experimental group (Rice, vegetables, fish, water, natural fruit juice)

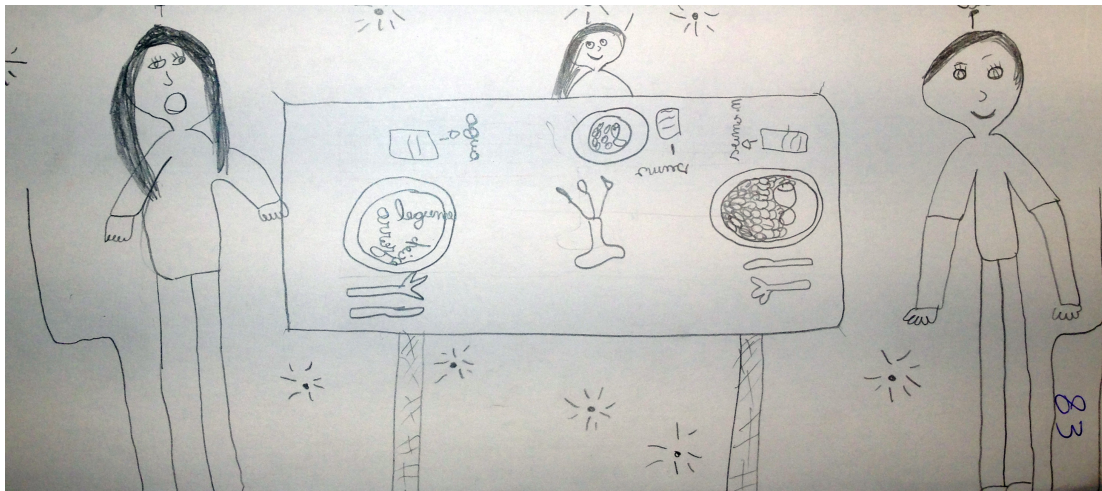


Figure nº2 – Drawing control group (Hamburger, French fries, sausages, pizza, tuna and pasta)

