

A Work Project, presented as part of the requirements for the Award of a Masters Degree in Management from the NOVA – School of Business and Economics.

**How to improve consumer decision skills in children?
A case study of an intervention with institutionalized
children.**

Booklet I

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Abstract

The aim of this study is to assess the institutionalized children's skills as consumers but also to assess how we can improve their knowledge through an intervention. The sample was composed of two subgroups (38 institutionalized children and 36 non-institutionalized children). In order to assess children's knowledge, a questionnaire and an interview were used. The method used as intervention was a 30-minute class.

Results suggested that institutionalized children have lower levels of knowledge regarding consumption-related practices and lower levels of accuracy at estimating prices than non-institutionalized children. However, results also showed that the attitudes of institutionalized children towards advertising and making decisions based on price/quantity evaluation or based on the use of the same strategy in different situations are not significantly different from the non-institutionalized children. Regarding the intervention, it was possible to conclude that one class is not the best method to improve children's knowledge. Institutionalized children need a longer and more practical intervention.

Keywords: Institutionalized children, Consumer literacy, Consumer-related practices, Intervention.

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Introduction

By the time that children can sit erect in a shopping cart, around 1 year old, they see for the first time the huge quantity of products placed in stores (McNeal, 1992). By the age of 5 and 7, children begin to make independent purchases and it is estimated that children spend around \$6 billion per year in many different products such as toys, sweets and clothing (McNeal, 1992). For this reason, the need to enhance the children's ability to act as educated consumers has become a topic of concern (Peracchio, 1992). In order to do that it is important to understand first, which are those abilities, and how can we evaluate the child's actual level of knowledge regarding consumption-related practices. This research's first aim is to develop a framework to assess their knowledge.

Besides typical children who live in a typical family environment, there are also other children who will also become future consumers, but which are being brought up in non-typical family environment, the institutionalized children. It is estimated that, in 2014, "at least 1.4 millions of children from 26 countries in Central Europe, Eastern Europe and Central Asia are growing up separated from their biological parents" (UNICEF, 2014). In Portugal, in 2012, around 8,557 children and teenagers adolescents were living in social institutions (ISS, 2013). One consequence of being institutionalized is the absence of the co-shopping, which is an activity that helps them to become fully functioning adults (Martin¹), because the institution itself provides them all the goods they need and has a different way of buying them. For this reason, these children have less opportunities to develop their skills as consumers and, as such are in a disadvantage when compared with other children who go shopping with their parents, because in the process of co-shopping the child learns much about shopping (McNeal, 1992). Thus, this study will focus on this

¹ Available at: <http://www.adoptvietnam.org/adoption/health-institutional-impacts.htm>

type of children and will try to develop a framework not only to assess the skills they have, but also how can we improve their knowledge through an intervention.

Literature Review and Hypotheses Formulation

Consumer socialization

According to Ward (1974:2), consumer socialization is the “process by which young people acquire skills, knowledge and attitudes relevant to their functioning as consumers in the marketplace”. Developments in the cognitive function contribute to the development of the consumer knowledge and decision-making skills, i.e. the more developed the cognitive abilities are, the easier is the process of evaluating products and comparing them against other alternatives, for example (John, 1999).

Besides the cognitive developments, over the years children also undergo through a social development which is also important to explain the consumer socialization (John, 1999).

In fact, according to Moschis and Churchill (1978:606) “consumer socialization appears to be a social learning process rather than a cognitive development process”. Although the cognitive development model may predict better the development of a child’s knowledge and ability to function as a consumer in the marketplace, without the child’s interaction with socialization agents the consumption related skills, attitudes and values may not develop. According to Marshall (2010), the main socialization agents involved in children’s consumer socialization are the traditional agents (family, peers and school), professional agents (marketing managers and communication agencies) and the virtual agents (web communities and social networking websites).

However, it is important to recognize that sometimes it is not possible to separate the effect of both models (cognitive development model and social learning model) in the

child's consumer development (Agante, 2012). For this reason, John (1999) decided to integrate the theories of cognitive and social development in the development process of the consumer socialization. According to the author, children move through three stages of consumer socialization: perceptual stage (3 to 7 years), analytical stage (7 to 11 years) and the reflective stage (11 to 16 years). In the perceptual stage, children show an egocentric orientation. They are unable to take into account the other's person perspective and their decisions are made based on one single perceptual feature of the marketplace, such as size. The analytical stage shows a more sophisticated understanding of the marketplace. Unlike the perceptual stage, this stage shows a discriminated analysis of the products and brands based on functional dimensions, usually, considering more than a single attribute. In this stage, children are also more flexible in terms of making decisions and are no longer only driven by their own perceptions. The last stage, reflective stage, corresponds to a more reflective way of thinking and reasoning. Children develop more sophisticated information processing and social skills, giving more attention to the social aspects of being a consumer and adapting their decisions according to the situation and task.

According to Moschis (1985), although children from families with little parent-child communication tend to rely relatively less on their parents, it does not mean that they rely more on peers. Usually, they are also less likely to rely on peers, which implies that they tend to use fewer information sources overall (John, 1999). Thus, taking into consideration that institutionalized children do not interact with socialization agents such as family or other people from the institution about consumption-related practices, it is expected that they do not rely on peers about this topic and so, they have a lower

perception of consumption-related practices compared with the same age non-institutionalized children.

H1 – Institutionalized children have a lower perception of consumption-related practices.

Consumer knowledge and skills

Advertising and persuasion knowledge

According to Carruth and Skinner (2001), one of the skills that mothers want their children to know is that commercials and advertising are for the seller's benefit and that not everything children see on TV is true. Nowadays, with the high number of advertising for children, if children lack the perception of persuasive intent of the advertising, they can be more influenced by the ads (Robertson and Rossiter, 1974). According to Robertson and Rossiter (1974), age is correlated with the perception of the persuasive intent of the advertising. As children grow up, they make a transition from seeing advertising as informative, entertaining and trustworthy, to seeing advertising in a more sceptical, analytical and discerning fashion (John, 1999). However it is not only the age that is important to understand advertising. Moschis and Moore (1983) also found that family communication is positively linked to the ability of children to differentiate the fact from the exaggeration in advertising. According to Moschis (1985), the family communication also mediates the effects of other socialization agents such as media.

Thus, taking into consideration that institutionalized children do not communicate with their family about advertising, it is likely that they will present low levels of understanding of the persuasive intent of advertising compared with the same age non-institutionalized children.

H2 – Institutionalized children present lower levels of understanding the persuasive intent of advertising.

Shopping Knowledge and Skills

Children also need to develop some shopping knowledge and skills to be efficient consumers. However, shopping knowledge and skills goes beyond understanding money and its role in the exchange process. According to John (1999:196), shopping skills is the “wide array of abilities used for comparing product value prior to purchase”. For example, children also need to learn how to compare price and quantities and understand pricing as a mechanism for relaying value (John, 1999).

Turner and Brandt (1978) evaluated children’s abilities to compare unit prices per package and to determine which package contained more product by evaluating the net weight on the packages. They found that children who participate more in the consumer decision making process and have more responsibilities at home to manage money are more accurate in their comparisons.

As regards price knowledge, Fox and Kehret-Ward (1985) suggested three levels in the development of children’s reasoning about price. At level 0, children observe money changing hands, but do not have idea of a price, i.e. fixed amount that must be given. At level 1, which includes children around 5 years old, they know that the amount is fixed in advance, but cannot say how it is fixed. In the beginning of level 2, which corresponds to the middle childhood (age 9), children’s theory of price is based on the seller’s knowledge of his costs and his products. As children progress through middle childhood, they start to include other sources of value such as use-value for buyers and relative scarcity. Stephens and Moore (1975) also found that older adolescents are more accurate

at estimating prices than younger adolescents. In the same study, it is possible to observe that personal weekly spending and family communication about consumption are positively correlated with accurate pricing.

This way, taking into consideration that institutionalized children do not have experience of shopping neither have parent-child interaction about shopping, it is expected that they show lower levels of accuracy at estimating prices and lower levels at comparing unit prices and net weight per package than non-institutionalized children.

H3 – Institutionalized children show lower levels at comparing unit prices and net weight per package.

H4 – Institutionalized children show lower levels of accuracy at estimating prices.

Decision-making skills and abilities

As well as adults, children face several situations that require complex decision-making. For example, they may need to decide what game to buy (Bereby-Meyer et al., 2004). However, as children lack experience and perspective on decision making, they tend to make impulsive decisions only focused on immediate gratification (Taylor, 2009). Regarding these impulsive decisions, Turner and Brandt (1978) found that either too little or too much time spent in search reduce the chances to make a good decision. For this reason, in order to avoid impulsive decisions, when mothers take their children shopping with them, they try to explain them that they need to evaluate the information about the product before buying it (Carruth and Skinner, 2001).

One of the most important skills that children develop is the ability to adapt to different decisions environments (Gregan-Paxton and John, 1997). Usually, older children demonstrate a higher degree of differentiation in search activity and strategies. For

example, they search more in situations with high benefits and low searching costs than in situations with low benefits and high searching costs (Gregan-Paxton and John, 1995). The same authors (1997) suggest that as children gain experience with different situations they begin to recognize that those situations require different behaviours or strategies as well as they start to identify new strategies that can be used in decision-making. Bereby-Meyer et al. (2004) also support the idea that experience allows children to perform tasks more optimally. Some of the strategies used by decision-makers are random choice rule (select an alternative at random without taking into consideration of available information), lexicographic strategy (select the alternative that has the highest value on the attribute most important to decision), the equal weighting (examine all attribute values for each alternative in a compensatory way) and weighted additive compensatory process (the decision-maker multiplies the value of each attribute by its importance, sums these values for each alternative and selects the alternative with the highest sum) (Payne et al., 1988).

Taking into consideration that institutionalized children have less experience on decision-making than non-institutionalized children due to the lack of co-shopping, it is expected that they tend to use the same strategy on different situations more times than the non-institutionalized children.

H5 – Institutionalized children tend to use the same strategy on different situations more times than non-institutionalized children.

Institutionalized Children

In general, studies suggested that institutionalized children develop more poorly than non-institutionalized children who grow up at home in terms of general behaviour

development (McCall et al., 2012). One reason for that is the quality of the relationship between caregivers and children (Richter, 2004). According to Richter (2004:6), caregivers are “people who look after infants and young children”. If children do not interact with their caregivers, it leads them to present lower levels of behavioural and mental development compared with children who interact with their parents or caregivers (McCall et al., 2012). By having a good relationship with their parents or caregivers, children tend to present higher level of social, emotional and cognitive development. This happens because they learn to trust that the world can be a welcoming place, becoming this way more willing to explore and interact with their environment (APA, 2014). Taking this into consideration, it is possible to argue that the range of ages in the three stages of the development process of consumer socialization (John, 1999) is not 100% reliable, it depends on some factors. For example, Neale (1966) found out that emotional disturbance in children are strong enough to overcome the children’s social and cognitive development among the years. The author also found that emotionally disturbed children are more egocentric than normal children.

Methodology

Legal and Ethical Issues

All the ethical and legal requirements recommended by UNICEF (2002) for children’s participation in research were followed. Formal consents were obtained from the institution where the research was done (Appendix A) and from the children’s educators, who were workers of the institution² (Appendix B).

² In the institution we used children live there permanently and all children are divided in groups that are assigned to workers of the institution permanently, creating a kind of home environment.

Before starting the questionnaire, children were informed about the main purpose of the research/questionnaire and that their answers would be anonymous. Children were also informed that they could not participate if they did not want to, and that their participation was a right, not an obligation (UNICEF, 2002).

Sample

The selected population for this study was Portuguese children older than 6 year old living in one social institution located in Porto and Lisbon. We considered children of this age, since it is only after 6 years old that children start to show a more sophisticated understanding of the marketplace (John, 1999). We also applied the same instruments (questionnaire and interview) to a sample of children living with their parents (non-institutionalized children) with an average age similar to the group of institutionalized children.

Methods and Procedure

The research design of this work project was composed of an experiment with an intervention, and thus resulting in three different steps: pre-evaluation of the children's knowledge about consumption-related practices; an intervention composed of one class about this topic; and a post-evaluation of the children's knowledge about consumption-related practices, similar to the pre-evaluation. Each step was separated by one week from the previous one in order to reduce method bias resulting from the presence of information in the short-term memory (Podsakoff et al., 2003).

We used two methods to evaluate the children's knowledge about consumption-related practices: a questionnaire (Appendix C) and an interview (Appendix D). Darbyshire et al.

(2005) stated that using more than one method when doing research with children would capture a higher range of children's perceptions and experiences. The questionnaire was a good tool to enable an objective assessment of the knowledge and skills and to do comparisons, but we also wanted to understand the reason behind children's choices and a simple questionnaire could not evaluate those reasons. Thus, the interview was the second chosen method, because a qualitative research gives emphasis to personal judgment (Smith and Albaum, 2012).

With the aim of verifying if the final questionnaire was adequate to all ages, a psychologist was consulted. The psychologist suggested minor changes such as to add some pictures in the questions of the interview in order to be easier for younger children to make decisions. The final questionnaire was pre-tested with 3 children with 7, 9 and 17 years in order to understand if children were able to understand it. The pre-test resulted in minor changes of wording³.

In order to reduce biases, in the beginning of the questionnaire children were informed that their answers would be anonymous and that there were no right or wrong answers, so they should answer as honestly as possible (Podsakoff et al., 2003). After completing the questionnaire, an individual interview with each child was done, as stated before, both in the pre- and post-evaluation.

The intervention consisted on one class where we used a PowerPoint presentation about this topic (Appendix E). Previous research demonstrated that one intervention would be

³ In the question directed to guarantees, children presented some confusion regarding the difference between the following two statements: "A paper that says that if the product is damaged, the store can fix it and then we pay the repair" and "A paper that says that if the product is damaged, the store can fix it and then pay the repair". Thus, we changed the sentences to "A paper that says that if the product is damaged, the store can fix it and then the person pays the repair" and "A paper that says that if the product is damaged, the store can fix it and then it is the store itself that pays the repair". Furthermore, in the question directed to loyalty cards, there was some confusion in the sentence "These cards are used for people go to the store more often", thus, it was changed to "People prefer going to stores which use these cards".

enough to improve children's knowledge (Lakshman et al., 2010). Since the children's attention span increases as they get older (EIS, 2013), the length of the class should be adequate to the younger children of the segment in order to avoid distractions. Thus, as the younger children of the segment may be able to sustain attention for as long as 30 minutes (EIS, 2013), the class was prepared to last 30 minutes. With the intention of avoiding distractions, instead of having only one class, we had different classes with a smaller number of children.

Measures

Some measures were assessed through the questionnaire:

Consumption-related practices

We created a scale to capture seven goals and skills identified by Carruth and Skinner (2001), which corresponds to what mothers want their children to learn. For each skill we evaluated if the child knew it or not (a correct answer was coded as 1 and a lack of answer or wrong answer was coded as 0). The variable selected to assess the hypothesis was the sum of all correct answers, and therefore the final sum of scores ranges from 0=No knowledge to 7=Full knowledge. These skills/goals are 1) That children buy items that are necessary (translated into the children's knowledge about the best practice – prepare a shopping list at home with all necessary products or decide what to buy in the shop); 2) if children know the meaning of a guarantee (multiple choice question with options: “A paper that says I bought the product”, “A paper that says that if the product is damaged, the store can fix it and then the person pays the repair” and “A paper that says that if the product is damaged, the store can fix it and then it is the store itself that pays the repair” and “Do not know”); 3) if children know what a loyalty card is (four items with the statements being “Cards like this help to save money”, “Cards like this are cards that the

store gives us whenever we go shopping”, “These cards are useless”, “Only people that have this card can go to the store” and “People prefer going to stores which use these cards”). 4) knowledge about return policy (we asked children to imagine a situation in which a sweater was offered to the child, but the sweater did not fit the child, and asked her what she would do with the following options: “Nothing. It was offered, so, I cannot do anything”, “I would give it to another person”, “I say to the person who offered it that the sweater does not fit so the person can take it back.” and “I go to the store with the receipt and exchange the sweater”). 5) knowledge about the need of sales receipts (children needed to agree or disagree with some statements about what we do with the receipt when we buy a product: “We throw it in the trash because we already have the product”, “We throw it in the trash so that our wallet is not full”, “We keep it until we get home as a proof of payment”, “We keep it because we may want to exchange the product” and “We keep it because it can serve as guarantee”). 6) if children know in which situations it is important to shop around for the best price or 7) when the cost of searching for other alternative is higher than the benefit. We created two situations (chewing gum and computer) and asked for each of them whether the child thought “It is important to shop around to compare prices.” or “The price of the _____ is equal in all stores so it is not worth looking in more than one store.”.

Attitudes towards Advertising

We used the 7-item scale from Rossiter (1977). These statements were measured on a 4 point Likert-Scale from “Strongly Disagree” to “Strongly Agree”. It was not used a midpoint, because, there is some evidence that the presence of a mid-point produces distortions in the results (Garland, 1991). Usually, respondents' want to please the

interviewer, and so, tend to not give answers that could be considered socially unacceptable (Garland, 1991).

Accuracy at estimating prices

Children's accuracy at estimating prices was measured through two different types of questions: two qualitative questions and one quantitative question. The qualitative questions were suggested by the psychologist, because she argued that the cognitive development of younger children would not be developed enough for them to know the answer to a quantitative question. Thus, two questions asking children to compare two different products and choose which product was the most expensive were added to the questionnaire⁴. The quantitative question was an adaptation of the procedure used by Stephens and Moore (1975). Six products⁵ with a product description and a picture were presented and children had to select the correct price of these products from five alternatives ranging from 0€ to more than 8€⁶. The products used in the questions were selected based on the products that children most expect to buy when shopping (McNeal, 1992). The variable selected to assess the hypothesis was the sum of all correct answers. A correct answer was coded as 1 and a lack of answer or a wrong answer as 0. In order to evaluate the children's accuracy at estimating prices, since the psychologist argued that a quantitative question would be difficult for some children, it was given higher importance to the answers of the qualitative questions (20% each) than to a quantitative question (10% each).

⁴ The two pairs of products were a) a kilogram of tomatoes and a pair of jeans, b) a dishwasher detergent and a litre of milk.

⁵ The products were a kilogram of tomatoes, one pair of running shoes, one bread, one "Uno" game, one dishwasher detergent and one toothpaste.

⁶ Prices were consulted in www.continente.pt

The remaining measures were assessed during the individual interview:

Comparison of the price/quantity

With the intention of evaluating if children were able to make decisions based on the price/quantity evaluations or not, the procedure used by Turner and Brandt (1978) was adapted. Children observed three cards with different bottles of Ice Tea. The Ice Tea is one of the most preferred beverages among teenagers (Marktest, 2003). Each card contained the price and the quantity. Children had to identify and justify which product they would buy. Answers were coded as 1 if children were able to justify their answer by evaluating the price/quantity and 0 if not.

Decision-making strategies

In order to evaluate if children tend to use the same decision-making strategy in different situations, the procedure used by Bereby-Meyer et al. (2005) was followed. Two different situations were created. In each situation, four cards with a specific product and its characteristics were shown. In the first one, children needed to choose a mobile phone based on the most important attribute and, in the second one, children needed to choose the computer game that would present the most advantages. Answers were coded as 0 if children choose a wrong strategy in both questions, as 1 if children choose the right strategy in one of the questions and as 2 if children choose the right strategy in both questions, i.e. choose the lexicographic strategy in the first question and the equal weighting strategy in the second question.

Results

Sample composition

Our sample was composed of two subgroups. In the group of the institutionalized children, out of the 75 consent forms sent to the children's educators, only 47 authorizations were received, representing a response rate of 63%. However we only considered 38 children because they were the ones that participated in all steps of the study. The average children's age was 12.58 years and this group had 14 girls and 24 boys. As stated before, the institutionalized children were located in two different places. The sample from Porto was composed by 18 children (8 girls and 10 boys) and the sample from Lisbon was composed by 20 children (6 girls and 14 boys). In the group of the non-institutionalized children, we sent 40 consent forms, and 36 agreed to participate (response rate of 90%). The average children's age was 11.86 and there were 17 girls and 19 boys.

Results before the intervention

Hypothesis 1: Perception of consumption-related practices – comparison of institutionalized vs non-institutionalized children

Descriptive statistics showed that the average number of accurate answers of institutionalized children was 4.61 while non-institutionalized children presented an average number of 5.63 (of a total of 7). The independent-samples t-test confirmed that the difference between both means is statistically significant (p-value of 0.00, see Appendix F – Table 4), meaning that institutionalized children show significantly lower levels of knowledge regarding consumption-related practices than non-institutionalized children. Thus, we do not reject H1.

Hypothesis 2: Understanding of the persuasive intent of advertising – comparison of institutionalized vs non-institutionalized children.

In order to assess this hypothesis it was used descriptive statistics to calculate the frequencies of the answers and, afterwards, the differences between both groups' answers were analysed using a two sample t-test between proportions (Appendix F – Table 5). Only two of the statements were significantly different in both groups (statements 3 and 6).

Attitudes towards advertising	Institutionalized children results	Non-institutionalized children results	P-value
1) TV commercials tell the truth	47.2% disagree	52.8% disagree	0.64
2) TV comm. are of poor taste and annoying	22.9% agree	30.6% agree	0.47
3) TV comm. only say good things about products	47.2% agree	69.4% agree	0.06
4) I like TV comm.	34.3% disagree	30.6% disagree	0.74
5) TV comm try to make people buy things they don't need	51.4% agree	63.9% agree	0.28
6) You can believe in comm	75.7% disagree	52.8% disagree	0.04
7) Products from TV comm are always the best buy	59.5% disagree	72.2% disagree	0.26

Table 1: Attitudes towards advertising – Summary table

By analysing the results presented in table 1, it is possible to verify that the institutionalized children presented better results than non-institutionalized children only in two of the seven statements (numbers 4 and 6). However, sentence 6, “You can always believe what the people in commercials say or do”, was the only one showing a statistically significant difference in the frequency of the answers (p-value of 0.04).

Since we got the same results for both groups in five statements and, on the other two we got different results for both groups (institutionalized children presented better results in the statement 6 and non-institutionalized children presented better results in statement 3), it is possible to reject the hypothesis that institutionalized children present lower levels of understanding the persuasive intent of advertising compared with non-institutionalized children. An independent-samples t-test comparing the overall attitude towards

advertising of both groups confirmed that it is possible to reject the hypothesis due to the fact that the difference between both groups is not statistically significant (p-value of 0.45, see Appendix F - table 7).

Hypothesis 3: Comparison of unit prices and net weight per package – comparison of institutionalized vs non-institutionalized children.

Descriptive statistics show that, although both groups of children presented low levels at choosing one product based on price/quantity evaluations, the non-institutionalized children was the group that presented better results (16.7% of non-institutionalized children chose based on price/quantity evaluations while only 5.3% of institutionalized children chose based on this evaluation). An association test between the variables children group (institutionalized children or non-institutionalized children) and children's answers to the price/quantity question showed that there is no association between these variables (p-value of 0.15, see Appendix F – Table 9), meaning that the difference in the results presented by both groups of children is not statistically significant. Thus, the hypothesis is rejected.

Hypothesis 4: Accuracy at estimating prices – comparison of institutionalized vs non-institutionalized children

Regarding the hypothesis 4, the average number of accurate answers of institutionalized children and non-institutionalized children was 0.51 and 0.68 (of a total of 1), respectively. An independent-samples t-test was performed and it showed that the difference between both means is statistically significant (p-value of 0.002, see Appendix F – table 11). For that reason, we can conclude that institutionalized children show

significantly lower levels of accuracy at estimating prices than non-institutionalized children and the hypothesis is not rejected.

Hypothesis 5: Institutionalized children tend to use the same strategy on different situations more times than non-institutionalized children.

Descriptive statistics show that the institutionalized children was the group that presented better results (36.8% of institutionalized children chose the right strategy in both questions while only 30.8% of non-institutionalized children chose the right strategies).

To assess this hypothesis, it was performed an association test between the variables children group (institutionalized children or non-institutionalized children) and children's answers to decision-making questions. The Chi-Square test (p-value of 0.85, see Appendix F - table 13) showed that there is no association between these two variables, meaning that the difference in the answers presented by both groups of children is not statistically significant. Therefore, it is possible to reject the hypothesis.

Results after intervention

In order to understand if it would be possible to improve the children's knowledge with one class intervention, it was assessed again the children's knowledge after the intervention and the results were compared with the ones before the intervention (see the following table).

Topic		Results before the intervention	Results after the intervention	P-value
Consumption-related practices		$\bar{x} = 4.61$	$\bar{x} = 4.80$	0.50
Attitudes towards advertising	Sentence 1	47.2% disagree	71.1% disagree	0.04
	Sentence 2	22.9% agree	36.1% agree	0.23
	Sentence 3	47.2% agree	68.4% agree	0.07
	Sentence 4	34.3% disagree	34.2% disagree	0.99
	Sentence 5	51.4% agree	62.9% agree	0.33
	Sentence 6	75.7% disagree	71.1% disagree	0.65
	Sentence 7	59.5% disagree	65.8% disagree	0.57
Overall attitude towards advertising		$\bar{x} = 2.48$	$\bar{x} = 2.24$	0.03
Accuracy at estimating prices		$\bar{x} = 0.51$	$\bar{x} = 0.54$	0.54
Comparison price/quantity – Fisher’s Exact Test				1.00
Decision-making strategies – Chi-Square Test				0.32

Table 2: Summary table after the intervention

As it is possible to observe in the table, although children improved their answers after the intervention in the topics of consumption-related practices and accuracy at estimating prices, the difference on the averages is not statistically significant. Regarding the topic of comparison of price/quantity, an association test showed that there is no association between the variables children groups and children’s answers to the price/quantity question, meaning that the difference between both groups’ answers is not statistically significant. For this reason, we cannot attest if the improvement presented in the children’s knowledge was due to the intervention or if it was just by chance. Concerning the strategies that children use to make decisions, descriptive statistics showed an improvement in the complexity of the answers given by the institutionalized children after the intervention. However, the association test showed that there is no association between the variables children group (institutionalized children or non-institutionalized children) and children’s answers to decision-making questions. This means that the improvement in children’s answers is not statistically significant, so, we cannot conclude that it was due to the intervention. As regards the attitudes towards advertising, the percentage of children showing a higher understanding of the persuasive intent of advertising increased in five of seven sentences, but only in sentence 1 (“Television

commercials tell the truth”) and sentence 3 (“TV commercials only say good things about products”) the increase was statistically significant. However, the overall attitude towards advertising had a statistically significant improvement (p-value of 0.03), meaning that the intervention had a positive impact on children’s attitudes towards advertising.

Discussion and Conclusions

Comparison of institutionalized-children with non-institutionalized children

There is little literature studying the knowledge of institutionalized children regarding consumption-related practices. For this reason and assuming that institutionalized children have less opportunities to develop their skills as consumers, it was developed this study which had several different focuses. The first one was to develop a way to assess children-consumption related knowledge. Afterwards, we wanted to use that instrument to compare the consumption-related knowledge that institutionalized children have compared with non-institutionalized children and, finally we wanted to evaluate if one class intervention would improve their knowledge regarding this topic.

Regarding the comparison of institutionalized and non-institutionalized children, the summary table with the conclusions of all hypotheses is presented in Appendix G.

The first conclusion is that, in fact, institutionalized children present lower perception of consumption-related practices and lower levels of accuracy at estimating prices than non-institutionalized children. These results were the ones expected since non-institutionalized have more opportunities of co-shopping, not only because parents may have the intention to educate their children but also because sometimes parents have no one to take care of them.

On the other hand, we were expecting that institutionalized children would present lower levels of understanding the persuasive intent of advertising. However, it was not possible to confirm that. One possible reason might be the appearance of programs with the objective of teaching insights about advertising at the school such as the Media Smart program which started in 2008 (SAPO Notícias, 2008). This way, even considering that institutionalized children do not discuss advertising at home, the knowledge obtained at school can be enough to not present lower levels of understanding the persuasive intent of advertising.

Furthermore, contrary to what was expected, institutionalized children do not show significantly lower results at making decisions based on price/quantity evaluations than non-institutionalized children. A reason explaining this result might be the fact that parents have the first and strongest influence on their children. Children observe their behaviour and try to imitate them (Devie-Anne, 2013). Thus, if children observe their parents buying the cheapest product (in terms of absolute value and not price-quantity value) or if parents teach them to not spend much money, they will take this into consideration when making a decision and instead of comparing the price and the quantity, they will simply choose the cheapest product. The same happens with institutionalized children. The majority knows that it is important to save money, so, they prefer to choose the cheapest one.

Regarding the decision-making strategies, since institutionalized children have less experience on decision-making due to the lack of co-shopping, it was expected that they would present lower results than non-institutionalized children. However, the results showed that the difference is not statistically significant. In fact, descriptive statistics showed that the institutionalized children presented better results choosing the most

accurate strategy in both questions than non-institutionalized children. Once institutionalized children have less opportunities to decide which product to buy, one explanation might be that they try to evaluate all options to not make wrong decisions, because they know that they can only buy one product. In the case of non-institutionalized children, they have more opportunities to buy products, so, they do not care if their decision corresponds to the best product or not, because if they do not like it, they know that later on they can ask for another product and that in the majority of the cases their parents will buy it. This happens due to the fact that, nowadays, parents feel guilty for working long hours, so, they tend to buy what their children want (Waterlow, 2012).

Effects of the intervention on institutionalized children

Although the improvements in the attitudes towards advertising were significant, the improvements in the other topics were not statistically proven. Thus, in general, it is possible to conclude that one class intervention of 30 minutes is not enough to improve the children's knowledge. Children need a longer intervention, which cannot be concentrated only in one day, as it was the case of this intervention. A longer intervention would give more time to children to reflect and assimilate the concepts learned. This study also proved that institutionalized children need a more practical intervention to pay more attention. Miller⁷ states that children's knowledge is best developed by engaging the children in games and quizzes. In fact, the improvement in the attitude towards advertising might be due to the fact that children had the opportunity to observe a real TV commercial, which allowed them to pay more attention to this topic.

⁷ Available at: <http://www.brainy-child.com/articles/children-general-knowledge.shtml>

Limitations and Future Research

This study presents some limitations, which should be considered in future research. A first limitation of the study is the small sample size for each group of children, which reduces the power of the conclusions. Another limitation regarding the sample is that the sample of non-institutionalized children was composed of children living in the same location. Thus, future research should include a higher number of children and different locations.

Another limitation is the fact that the topic consumption-related practices is very general. Although the questionnaire presents the most important goals and skills that mothers want their children to learn about consumption, these questions might not be sufficient to evaluate the children's knowledge about this topic.

As regards the interview, a limitation is the fact that asking children to make decisions by analysing cards is not the same as a real in-store situation, which can influence the results. Future research should promote a real in-store situation in order to observe if the results are the same.

Although it was not significant, the results after the intervention showed a higher level of knowledge. This way, future research should use more practical interventions to assess if the results would be more significant.

In the study, it was used an institution where children are divided in groups that are assigned to workers of the institution permanently, creating a kind of home environment. Thus, future research should use a different type of institutions, where there is not a home environment to evaluate if there are differences in the results or not.

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