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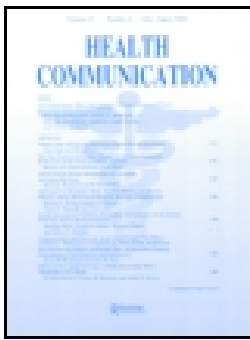
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# Disclosing Product Placements of Fast Food to Children: The Importance of Reinforcing the Use of Disclosures and the Age of Children

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## ABSTRACT

Product or brand placement, the integration of brand/products into TV programs/films, is one of the most controversial forms of promotion. Based on its embedded character, the European Union promulgated in 2010 a norm that obligates broadcasters to disclose the presence of placement. Taking the case of fast food marketing, this paper examines the effects of using disclosures and reinforcing their use during a program (only at the beginning vs. at the beginning and after a commercial break) on children at different ages (9, 12 and 15) in terms of the awareness of the nature of placement, and brand effects (recall and preference). The results showed that (1) reinforcing the use of disclosures increased the awareness of placements; (2) both forms of disclosures (single and reinforced) raised brand recall and limited brand preference of the advertised brand; older children (3) increased the awareness of placements and decreased their brand preference; and also (4) enhanced the effect of disclosures on awareness and brand preference.

## Introduction

Across the world, the prevalence of overweight and obesity is increasing at alarming rates, particularly among children. In fact, recent figures have shown that the worldwide prevalence of overweight and obesity combined increased by 47.1% in children and by 27.5% in adults between 1980 and 2013. Thus, according to the figures provided by Ng et al. (2014) the number of overweight and obese individuals grew from 921 million in 1980 to 2.1 billion in 2013. Although this trend has started to decrease in developed countries, this problem persists among developing nations (Bleich, Vercammen, Koma, & Li, 2018).

Even though obesity represents a multidimensional problem, marketing actions developed by the food industry have been one of the focuses of academics and policymakers in the last decades, paying special attention to the presence and effects of these tactics on children (Gunter, Oates, & Blades, 2005). These studies have shown a moderate, but significant relationship between the exposure to different promotional actions such as advertising, product placement, character licensing or sales promotions (such as Happy Meals), and preference for food and beverages, particularly those rich in calories, fat and/or sodium (Lobstein & Dobb, 2005).

Based on that evidence, countries have developed different forms of regulation in order to deal with the potentially negative effects of food marketing, particularly on children (Kersh, 2015). In this regard, there is a group of norms focusing on the specific field of food and beverage marketing, such as those that inform people of the nutritional composition of the products, helping people make healthier choices at the point of purchase or those that ban the advertising of products rich in unhealthy components such as fat, sugar or salt (Galbraith-Emami & Lobstein,

2013). In addition, the food and beverage industry is regulated by general norms affecting the whole marketing industry in order to avoid the potentially deceptive character of its actions. Besides the classic example of the restrictions on television advertising directed at children in some countries (Caraher, Landon, & Dalmeny, 2006), a new form of general regulation that affects -among others- the food and beverage industry was decreed by the European Union in 2010. It obligates broadcasters to disclose the paid inclusion of branded products or brand identifiers (product placement) in the beginning and after each commercial break of movies or TV programs. (Audiovisual Media Services Directive, 2010).

Since this new form of regulation, a limited number of studies have examined its empirical consequences and there are several under-researched areas. Firstly, there are specific aspects of the regulation that have not been studied yet. Pieces of research in this field have mainly examined whether the presence of these warnings, along with particular characteristics such as the use of an audiovisual mode, and certain presentation timings (prior or concurrent to the placement) are critical in terms of effectiveness (Vanwesenbeeck, Walrave, & Ponnet, 2017). However, other issues such as whether or not the use of disclosures after the commercial break (reinforcing the disclosure at the beginning of the program) are useful have not been investigated yet.

Secondly, due to the vast majority of the studies in the effectiveness of disclosures have been developed with adult samples, numerous scholars have highlighted the importance of conducting more research examining the effects of this regulation on young audiences (De Pauw, Hudders, & Cauberghe, 2017). The rationale of that call to research is based on the fact that children constitute a particular and vulnerable audience who find it

difficult to clearly distinguish between advertising and editorial or entertainment content. To date, few pieces of research on sponsorship disclosure have been published using non-adult samples, and only two of them have examined the particular case of placement disclosures in films and movies (An & Stern, 2011; De Pauw et al., 2017; Panic, Cauberghe, & De Pelsmacker, 2013; van Reijmersdal, Boerman, Buijzen, & Rozendaal, 2017).

Thirdly, since disclosure policy is a general regulation, it is relevant to examine the effects in the case of food and beverages.<sup>1</sup> This not only is one of the most frequently used categories in product placements (Yee Chan, 2016) but also may have negative externalities such as obesity and overweight (Kraak, Gootman, & McGinnis, 2006).

This paper seeks to provide evidence to more precisely understand the effects of fast food placement disclosures on children's reception, and how children's reception may change as children mature (De Pauw et al., 2017). The need to better understand these effects is important because young people experience significant difficulties understanding the nature of the different forms of promotion, especially in the case of the embedded forms of advertising (such as product placements), towards which children and adolescents develop a delayed and more confused understanding than traditional advertising (Owen, Lewis, Auty, & Buijzen, 2013).

More specifically, this paper presents the results of an experiment which measured the impact of the uses of disclosures only at the beginning of the program (single disclosure condition) and at the beginning plus after the commercial break (double disclosure condition) on children considering two dependent variables: (1) the recognition of the existence of placement as a commercial message, and (2) brand responses (brand awareness and brand preference). This study was developed with children of different ages (from 9 to 15 years), which is based on the assumption that they have a more or less sophisticated understanding of commercial messages since they are at different stages of their cognitive development (Gunter et al., 2005). Some additional contributions of this study are that it used a full-length movie (instead of an excerpt of a movie or TV program) and it was developed in a country, Chile, where these types of regulations do not yet exist. The latter feature provided evidence of the effects of this policy in a social context devoid of the potential effects of additional information on the subject of this policy.

## Literature review

### *What is the problem with product placement?*

Product or brand placement can be defined as the intentional incorporation of brand names or brand identifiers in entertainment media programming designed to influence viewers' product beliefs and/or behaviors (Karrh, 1998). Product or brand placement represents one of the most common forms of the current trend of integrating commercial messages and editorial content (Boerman, Tutaj, & van Reijmersdal, 2013). The use of this technique reached USD 8.78 billion in 2017 and will reach USD 10 billion in 2018. Based on the last figure, 89% of the investment is in different forms of media (films, TV series and TV shows), which are broadcast on TV

(free-to-air or pay TV), social media (YouTube for example) or over-the-top media services (such as Netflix or Amazon video) (Yee Chan & Lowe, 2018). Moreover, content analyses have demonstrated that food and beverage products are among the most frequently placed product categories in movies and series (Sutherland, MacKenzie, Purvis, & Dalton, 2010; Yee Chan, 2016), and that energy-dense, nutrient-poor foods are strongly promoted to children and adolescents using this marketing action (Speers, Harris, & Schwartz, 2011).

Studies have shown evidence of product placement's brand effects in terms of increasing brand awareness and purchase intention, particularly in the case of children (Auty & Lewis, 2004; Hudson & Elliott, 2013; Naderer, Matthes, & Spielvogel, 2017). These results have been mainly explained by children's limited understanding of the nature of commercial messages, which is even more problematic in the case of embedded forms of advertising (Uribe & Fuentes-García, 2017). It has been largely reported in the literature that as children grow older, they are increasingly able to identify the nature and motives of traditional (explicit) advertising, which allows them to process and cope with these commercial messages (Buijzen, Van Reijmersdal, & Owen, 2010). Nevertheless, in the case of product placement, the situation is different. The use of placement may exert a powerful and inappropriate influence because they are a form of embedded promotion which does not deliver commercial messages explicitly, thus making it harder for audiences to distinguish between editorial and persuasive content, and consequently affording no opportunity to critically scrutinize the message (Cain, 2011; Noguti & Russell, 2014). Since this situation occurs repeatedly in the context of the promotion of food and beverages (many of them rich in calories, sodium and fat), it contributes to the exacerbation of overweight and obesity (Gebauer & Laska, 2011).

In this context, a growing number of authors, policy-makers, and practitioners have expressed their concern for its use of product placements, particularly in the case of food and beverages (Al-Kadi, 2013; Kraak et al., 2006). In order to prevent the deceptive character of product placement, several forms of regulation have been discussed and proposed in developed countries (Cain, 2011). As mentioned, the European Union was a pioneer in this field, enacting legislation that made sponsorship disclosure obligatory across all its members in 2010 (Audiovisual Media Services Directive, 2010). Other countries, like Australia, have approved a best-practice guideline in which advertisers are committed to making advertising distinguishable as such to the audience (Australian Association of National Advertisers, 2017). In emerging economies, this issue forms part of a new debate and no regulation has been developed yet despite the declared interest of the authorities to protect consumers from the deceptive character of the new formats of commercial messages (SERNAC, 2017).

### *The effects of the presence of disclosures*

#### *a) Recognition of advertising intent*

The basic objective of the presence of disclosures is to make viewers aware of the presence of sponsored content making

the presence of advertising transparent for audiences (Boerman, van Reijmersdal, & Neijens, 2014). Awareness of the persuasive intent of the message is important because it may lead children (and people in general) to activate critical processing of the information presented in the program content. This process, termed as persuasion knowledge, refers to the understanding and beliefs associated with considerations such as the objective of advertising actions, the tactics used by advertisers and the strategies that may be employed to cope with these marketing actions (Boerman & van Reijmersdal, 2016; Boerman, Willemsen, & van der Aa, 2017).

Prior research in adult and child audiences has provided evidence that the use of this kind of commercial warning is actually able to produce recognition of placements as commercial actions (Boerman, van Reijmersdal, & Neijens, 2012). Boerman et al. (2014) examined whether sponsorship disclosure improved the recognition of sponsored TV content as advertising among adults. They corroborated this process when disclosure was displayed prior to or concurrent with the sponsored content (not necessarily after the presence of placements). In the case of younger audiences, van Reijmersdal et al. (2017) examined a sample of adolescents (between 13 and 17 years). They observed that placement disclosures affected the understanding of the persuasive nature of brand placements particularly among those who explicitly remembered seeing the disclosure (and even then, the warnings did not activate more critical processing in a significant proportion of the subjects of the study).

#### b) *Brand effects and disclosures*

The measure of brand responses is also a crucial aspect for the evaluation of the actual effect of the use of this policy in the case of products ethically charged and/or with negative externalities (Harris, Brownell, & Bargh, 2009). There are several short-term effects that can be measured as a result of marketing communication actions. Brand awareness, which refers to the strength of a brand presence in a consumer's mind, is one of them. It represents the prerequisite so that consumers may reach the subsequent stages of the decisional process, defining a set of brands to be considered (Keller, 2008). Brand preference is another key indicator of the brand effect of communication action. Since it is not expected that advertising, placements, public relations or any other form of marketing communications have a direct effect on the act of buying, what is actually expected is an effect on the behavioral disposition of the target audience. That intention to purchase refers to the mental stage in the decision-making process in which the consumer has developed a willingness to move toward a product or brand (Keller, 2008).

#### i. *Disclosures and brand recall*

The majority of the studies have detected that the presence of disclosures has a positive effect on brand memory. Since the presence of warnings seeks to create "conscious" processing of the commercial messages, these warnings increase the chances that viewers pay attention to the advertised brand, and make it easier to retrieve the same brand from their memory (warnings act as a prime for the brand). In the case of adult samples, Boerman et al. (2012) confirmed this assumption in

an experimental study examining the effect of two types of disclosure lengths (3-second and 6-second) on brand memory among Dutch college students. They evaluated brand recall as an open question and detected that both types of disclosures were able to increase the spontaneous recall of the advertised brand, particularly when longer warnings were used (Boerman et al., 2013; Mattes & Naderer, 2015). In the case of adolescents, van Reijmersdal et al. (2017) detected a significant positive – although indirect in this case – effect of disclosure on brand memory. They observed that those exposed to any form of disclosure (3- or 6-second warnings) were four times more likely to recall the sponsored brand than adolescents who were not exposed to a warning (see also De Pauw et al., 2017).

#### ii. *Disclosures and brand preference*

Few studies have examined brand preference after placement disclosures, and their results have shown a limited effect. Tessitore and Geuens (2013) examined it through the lens of purchase intention, and they reported that warnings had a limited impact on adults. They observed a lower level of intention to purchase only among those previously trained on the role of placement and among those who did not recall the advertised brand (possibly because they did not perceive the placement) (Boerman, van Reijmersdal, & Neijens, 2015). In the case of children, there have been no pieces of research examining the effects of disclosures using films or programs. Some evidence can be found in the case of advergames, which demonstrated that a disclaimer at the beginning of an advergame produced a decrease in the purchase request (An & Stern, 2011; Panic et al., 2013).

### ***The relevance of disclosure features***

Regarding the characteristics of the disclosures, different variables have been stressed by the literature in order to improve their effectiveness: the format of the warning (audio-visual) and the timing of the disclosure (Campbell, Mohr, & Verlegh, 2013; De Pauw et al., 2017). For example, regarding the timing of the disclosure, Boerman et al. (2014) showed that a disclosure shown prior to or concurrent with the sponsored content in a TV program more adequately facilitated adults' recognition of this content as such than a cue shown at the end of the clip. In the case of child audiences, De Pauw et al. (2017) reported that the recognition of the commercial nature of the message was higher when the cue was shown prior to rather than during the sponsored media content. Thus, these results have tended to show that the presence of disclosures prior to the content is more effective than any other moment of presentation, which provides evidence in favor of the policy that obligates broadcasters to disclose the presence of placement at the beginning of a program.

Since TV programs both usually contain more than one placement and the length of them may vary (it may last more than an hour), regulation has also included another feature of the use of disclosures: they have to be inserted not only at the beginning of the program, but also at the beginning of each segment after a commercial break (Al-Kadi, 2013). The

assumption is that in the context of a full movie/program, just one disclosure in an early moment of the film may not be enough to produce the recognition of the placements as a commercial message and/or to mitigate the brand effects. Although there is no research examining this specific issue, prior evidence from experimental psychology may serve to draw some inferences. Since disclosures act as a “prime”, whose presentation prepares subjects’ mental activity (evaluation, memory or preference) for a second stimulus (brand placement), it could be expected that the presence of only one warning at the beginning of a program may produce a sub-optimal level of activation (MacKay, 1987; Murphy & Zajonc, 1993). This is basically based on the idea that priming does not have a longstanding effect on peoples’ minds, but a short-term effect, producing decay over time (Förster & Liberman, 2007; Higgins, Bargh, & Lombardi, 1985; Neill & Valdes, 1992). Then, these studies allow one to suppose that in the context of a full movie or program more than one disclosure should increase the effectiveness of disclosures.

### **The role of age**

#### ***i. Children’s need for cues to process commercial messages***

Children’s limited and progressive understanding of the nature and characteristics of advertising has been largely documented in the literature since the 1970s (Gunter et al., 2005; Roedder, 1999). Studies in this field have consistently stated that age (as a proxy of cognitive development) is positively correlated with a more complex understanding of the characteristics and intention of advertising. Thus, research examining the case of traditional advertising has shown that children are able to distinguish between the program and commercial content at 5–6 years of age and understand the persuasive nature of this marketing as of the age of 10 (Ekström, 2006).

Several psychological theories have been used to explain the progressive understanding of marketing tactics, the vast majority of which are based on the ideas of Piaget’s model of cognitive development (Gunter et al., 2005). Buijzen et al. (2010) proposed an integrative viewpoint in which different developmental stages of the understanding of marketing actions are defined. The first stage is early childhood (up to age 5), the stage in which children are able to identify marketing messages only from their perceptual features, having a limited ability to process their messages. The second phase is middle childhood (6 to 9 years old), the stage in which children develop symbolic reasoning abilities that allow them to start to understand the advertiser’s intent to persuade them. The third stage is late childhood (10 to 12 years old), the stage in which children start to develop abstract thinking and processing and begin to manage complex information. It is important to note that this process does not end in childhood because adolescents (13+ years) continue improving their understanding of the tactics and nature of advertising messages. Across these stages, young audiences are in a process of developing a more sophisticated understanding of advertising and its motives, requiring lesser or greater assistance in correctly identifying and processing a commercial message (Vanwesenbeeck, De Jans, Zarouali, & De Pauw, 2017).

#### ***ii. Children’s understanding of product placement***

Studies which show evidence of children’s understanding of product placement and other non-traditional forms of advertising are scarce. The few studies that examine this technique have proposed that children’s understanding of product placement is progressive (according to age) although later and slower than their comprehension of traditional advertising. Uribe and Fuentes-García (2017) compared children’s understanding of advertisements and placements at 9, 12 and 15. They detected not only a significant improvement in the understanding of the commercial nature of placement starting at the age of 12, but also that the understanding of product placement was less sophisticated than the understanding of traditional advertising. In fact, children’s understanding of placement at 15 was less sophisticated than children’s understanding of traditional advertising at 9, when the persuasive nature of that tactic is totally clear. This may be attributed to the hidden nature of product placement which naturally makes it more difficult for children to perceive it as a commercial message. In this context, it is clear that disclosures play a crucial role when children are exposed to product placement. (De Pauw et al., 2017; Vanwesenbeeck et al., 2017).

### **Hypothesis and research questions**

Based on prior evidence and the objectives of this study, a set of hypotheses and research questions were proposed:

H1: *The presence of disclosures will have a positive effect on the recognition of the commercial nature of the product placement.*

H2: *The exposure to a double disclosure (at the beginning and after a commercial break) will increase the recognition of the commercial nature of the message more than the exposure to that warning only at the beginning of the movie.*

H3: *The recognition of the commercial nature of product placement increases among older children.*

H4: *The use of disclosures has a synergic effect with the age of children on the recognition of the commercial nature of product placement.*

H5: *The presence of disclosures will have a positive effect on the recall of the brand advertised by the product placement.*

H6: *The exposure to a double disclosure will increase brand memory more than the exposure to that warning only at the beginning of the movie.*

H7: *As children mature, the recall of the brand advertised in the product placement increases.*

H8: *The effect of disclosures on brand recall is increased as children mature.*

H9: *The presence of disclosures will have a negative effect on the disposition toward the brand advertised by the product placement.*

H10: *The exposure to a double disclosure will decrease brand disposition more than the exposure to that warning only at the beginning of the movie.*

H11: *As children mature, the attitude toward the brand advertised by the product placement decreases.*

H12: *The use of disclosures has a synergic effect with the age of children on their brand preference.*

## Materials and method

### Participants and procedure

As Table 1 shows, a3 (age) X 3 (use of disclosures) between-subjects design was conducted with 376 Chilean children (47,1% females). The children attended two different schools in Santiago in the third income quintile, placing them in the middle of the income distribution in Chile.

Three age groups were used in this study:

- 9-year-old children in the age of “middle childhood” who can be characterized as those starting to understand the advertiser’s intent to persuade them;
- 12-year-olds are considered to be in “late childhood,” who are characterized as “early strategic processors” able to understand the biased character of advertising and start recognizing the tactics marketers use to persuade them; and finally,
- 15-year-olds who are “late strategic processors” and have developed more sophisticated knowledge structures that allow them to better understand the tactics used by advertisers (Buijzen et al., 2010).

The experiment included the use of three forms of disclosures: 1) no disclosure (control group); 2) disclosure at the beginning of the program (single disclosure); and 3) disclosure at the beginning and after the commercial break (double disclosure).

After parents signed an informed consent form, the students were invited to participate in the experiment (they were also informed that they could leave the study whenever they wanted). Students from each participating school were randomly divided into three groups by quotas (according to their age), and each group was assigned to a different room. The students then watched a film (stimulus) and answered a questionnaire. The first section of the questionnaire asked about demographics and media uses, and the second section inquired about all the dependent variables and covariates.

**Table 1.** Sample Of This Study.

|          | Control | Disclosure |        | Total |
|----------|---------|------------|--------|-------|
|          |         | Single     | Double |       |
| 9 Years  | 40      | 42         | 44     | 126   |
| 12 Years | 40      | 44         | 40     | 124   |
| 15 Years | 42      | 44         | 40     | 126   |
| Total    | 122     | 130        | 124    | 376   |

### Stimulus

The film was a professionally edited version of the movie *Richie Rich* (45 minutes), which contained two placements for McDonald’s (at minute 9 and minute 32), plus a commercial break (at minute 23). The commercial break included three advertisements for non-food products (a funfair, a toy, and a video game). In both disclosure conditions (at the beginning of the film, and at the beginning and after a commercial break) audiovisual warnings were used to increase their visibility (Boerman et al., 2015; van Reijmersdal, Lammers, Rozendaal, & Buijzen, 2015). To produce a more realistic situation, a generic statement was used in the disclosure in Spanish: “this program contains brands that paid to appear in it” (5 seconds of audio and 6 seconds of the image of a “P” on the screen). That statement was chosen instead of the traditional one used in English (“this program contains product placement”) to prevent the use of the English expression “product placement” (because there is no consensual translation for this marketing tactic in Spanish) and to facilitate the understanding of the action.

### Measures

#### *i. Recognition of the commercial nature of the message*

The identification of the presence of placement as advertising was evaluated by asking participants to indicate to what extent the presence of a fast food chain in the movie was a form of advertising. A five-point Likert scale was used with a scale range in which 1 = strongly disagree and 5 = strongly agree ( $M = 2.91$ ,  $SD = 0.929$ ) (Boerman et al., 2012).

#### *ii. Brand Recall*

The participants of the study were asked to write down all the brands of fast food chains that came to their mind. Consequently, if the McDonald’s brand was mentioned first, this brand was considered the TOM (Top of Mind) brand and coded as “1” (all the other answers were coded “0”) (van Reijmersdal, 2010). TOM was used instead of simple unaided recall because TOM is a more demanding measure, particularly for a well-known brand such as McDonald’s (Belch, Belch, Kerr, & Powell, 2014).

#### *iii. Brand preference*

The behavioral disposition toward the brand was examined as brand preference by measuring the intention to select McDonald’s from a list of fast food chain brands. The question was measured using a 5-point Likert scale with a scale range in which 1 = extremely unlikely, and 5 = extremely likely agree ( $M = 3.6$ ,  $SD = 1.229$ ). This question has been previously used by other pieces of research with child samples (An & Stern, 2011; Vanwesenbeeck, Walrave, & Ponnet, 2017). To construct the list of brands, a pretest was conducted with a sample of 40 children who were asked to select their favorites fast food chains.

### Control variables

Prior to their exposure to the film, the children’s attitudes toward the film were examined in light of previous research on product placement which has reported their potential impact on

children's brand effects. Attitudes toward the movie were evaluated with a 4-point semantic differential scale: good-bad, boring-entertaining, like-dislike, interesting-uninteresting (Auty & Lewis, 2004). This scale loaded in one factor (eigenvalue 73.23) and showed good reliability ( $\alpha = 0.79$ ). In the case of prior exposure to the movie, a dichotomic question was asked (yes/no) (Auty & Lewis, 2004).

## Results

### Randomization

ANOVA and chi-squared tests showed there were no differences among the groups of this study. In fact, the three conditions of the study (control group, single disclosure, and double disclosure) did not differ with respect to the control variables such as sex ( $\chi^2(8) = 8.570, p = .380$ ), attitude toward the film ( $F = 1.621, p = .118$ ), and whether the film had been seen previously ( $\chi^2(8) = 7.374, p = .497$ ).

### Disclosures and the recognition of the commercial nature of placements

Hypothesis 1 predicted that the use of disclosures would have a positive effect on the recognition of the commercial nature of placements. An ANOVA was run with the identification of placements as commercial messages as the dependent variable, and the use of disclosures as predictors. Results showed a main effect for the use of disclosures ( $F = 7.110, p = .001$ ), as proposed by the first hypothesis. Nevertheless, Scheffé post hoc analyses showed that the differences between the control groups and those depicting disclosures were significant only in the case of those exposed to double disclosures ( $M_{Dif} = -0.43, p = .000$ ). Thus, these results provide partial support for the first hypothesis of this study in terms of the presence of double disclosures (and not single disclosures) significantly increased the recognition of the commercial nature of placements (Table 2).

To test the Hypothesis 2 (differences in the recognition of the commercial intent of placements between the use of single and double disclosures) and Hypothesis 3 (differences according the

age) of this study, an ANOVA was performed with the identification of placements as commercial messages as the dependent variable, and the use of disclosures and age as predictors. Results showed a main effect for the use of disclosures ( $F = 10.663, p = .000$ ), and age ( $F = 55.088, p = .000$ ), but not for the interaction between these variables. Scheffé post hoc test revealed significant differences between the control group and the use of single ( $M_{Dif} = -0.51, p = .000$ ) and double disclosures ( $M_{Dif} = -1.05, p = .000$ ), providing support for Hypothesis 2. Similarly, data depicted a significant increase in the level of understanding of the persuasive nature of placements as children mature (between 9 and 12, and 12 and 15) regardless the use of disclosures, which supports the third hypothesis of this study.

Hypothesis 4 suggested the existence of a synergic effect between disclosures and age. In this vein, the absence of a significant interaction detected in the previous analysis provided the first examination of this hypothesis. Nevertheless, when the same ANOVA was performed only comparing the control group and those exposed to double disclosures a significant interaction is detected between age and use of disclosures ( $F = 3.670, p = .027$ ). Further comparisons showed that there were significant differences between the control group and those exposed to double disclosures only among those at 12 ( $F = 6.348, p = .014$ ) and 15 ( $F = 3.688, p = .05$ ). In other words, results provide partial support to the Hypothesis 4, because Scheffé post hoc examinations showed that the use of double disclosures improved the recognition of the persuasive nature of product placement only at certain ages (among those at 12 and 15, but not among those at 9).

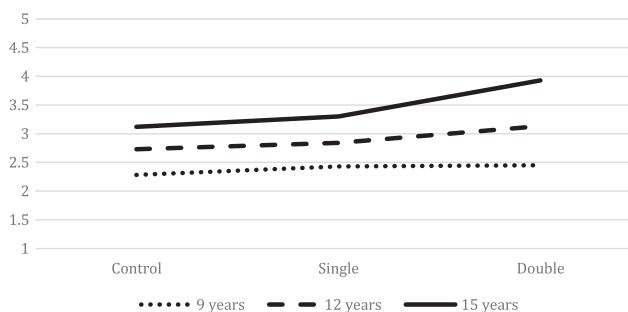
### Disclosures and brand effects

#### i. Brand recall

A logistic regression was run considering the use of disclosures (categorical) and age as predictors and TOM as a dependent variable to test the Hypothesis 5 (a positive effect of disclosures on brand recall), Hypothesis 6 (increase of this effect among those exposed to double disclosures), Hypothesis 7 (increase of brand recall as children mature) and Hypothesis 8 (interaction between age and disclosures).

**Table 2.** Effect Of Disclosures On The Awareness Of The Commercial Nature Of The Product Placement.

|          | Disclosure |        |        | Total |
|----------|------------|--------|--------|-------|
|          | Control    | Single | Double |       |
| 9 Years  | 2.28       | 2.43   | 2.45   | 2.39  |
| 12 Years | 2.73       | 2.84   | 3.13   | 2.90  |
| 15 Years | 3.12       | 3.30   | 3.93   | 3.44  |
| Total    | 2.71       | 2.86   | 3.15   | 2.91  |





Results showed significant increase -with respect to the control group- for the presence of single ( $\text{Exp}(B) = 13.614$ ,  $B = 2.611$ ,  $SE = 1.317$ ,  $\text{Wald}(1) = 3.928$ ,  $p = .047$ ), and double disclosures ( $\text{Exp}(B) = 22.224$ ,  $B = 3.101$ ,  $SE = 1.339$ ,  $\text{Wald}(1) = 5.363$ ,  $p = .021$ ) which supported the Hypothesis 5 of this study (see Table 3). Nevertheless, single and double disclosures were associated with a similar level of brand recall, which does not provide support for Hypothesis 6. Similarly, the absence of a main effect detected for the variable age allows one to reject Hypothesis 7 of this study. Finally, logistic regression showed a significant interaction between double disclosures and age ( $\text{Exp}(B) = .730$ ,  $B = -.315$ ,  $SE = 1.111$ ,  $\text{Wald}(1) = 7.990$ ,  $p = .005$ ). In particular, it was detected that the effect of double disclosures was more intense than the effect of single ones in the case of those at 9, which provides partial support for the Hypothesis 8 of this study.

## ii. Brand preference

The second brand effect measured in this study was the preference for McDonald's. In this regard, Hypothesis 9 proposed a decrease in the disposition toward the brand as a result of the exposure to disclosures. An ANOVA was performed with the use of disclosures and age as predictors of brand attitude, which depicted a main effect for the use of disclosures ( $F = 8.547$ ,  $p = .000$ ), as well as for the variable age ( $F = 33.877$ ,  $p = .000$ ), and for the interaction of these variables ( $F = 2.600$ ,  $p = .036$ ). Scheffé post hoc analyses showed a significant decrease in the disposition toward the brand between the control group and both single ( $M_{\text{Dif}} = 0.43$ ,  $p = .011$ ) and double disclosure groups ( $M_{\text{Dif}} = 0.55$ ,  $p = .001$ ), which provides support to this hypothesis (Table 4).

Hypothesis 10 predicted a stronger effect when using double disclosure (compared to the use of a single one) on brand disposition. Post hoc examination using Scheffé test showed the absence of differences between both treatments, which allows one to reject this hypothesis.

Hypothesis 11 suggested a decrease in the effect of product placements on brand disposition as children mature. The

presence of a main effect for the variable age in the ANOVA demonstrated the existence of significant differences. Scheffé post hoc analyses showed that regardless of the presence or absence of disclosures, 15-year-old children exhibited a significant decrease in the brand disposition compared with the other two groups ( $M_{\text{Dif}} = 1.01$ ,  $p = .000$ ). Similarly, the 12-year-old group showed lower disposition toward the brand than the 9-year-old group ( $M_{\text{Dif}} = 1.01$ ,  $p = .000$ ).

Finally, Hypothesis 12 of this study proposed a synergic action between age and use of disclosures. As mentioned above, it was observed a significant interaction between age and use of disclosures, detecting that the use of any form of disclosure depicted significant differences with the control group only among those at 9 and 12, but not in the case of those at 15. Thus, this hypothesis is partially accepted, because disclosures enhance the effect of age only in the two youngest groups of this study (9 and 12).

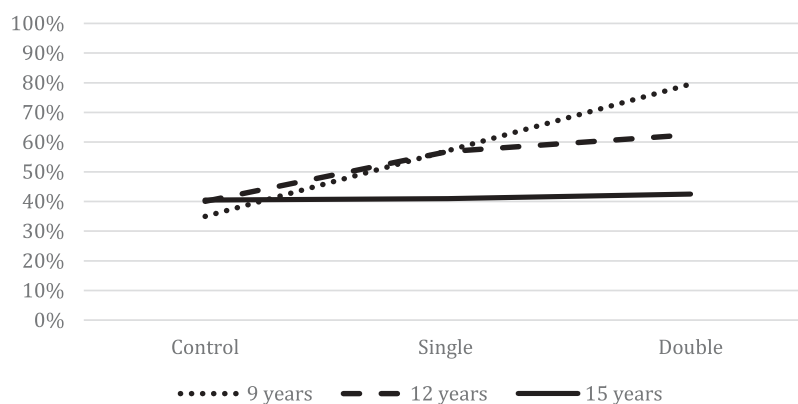
## Discussion

Considering there is scarce information on the effects of disclosures for junk food placement on children, this paper explores the role of age and the use of disclosures (in two formats) on both the recognition of the persuasive nature of product placements and brand effects (in this case brand recall and brand preference). Results of this study may be broken down into four central points.

Firstly, the results shed light on the significant effect of the presence of disclosures on the recognition of placements as a commercial message. This effect was detected in the case of the use of double warnings (at the beginning and after the commercial break), but not when using disclosures only at the beginning of the program. This result supports the importance of a disclosure policy in terms of both the use of warnings and the need to reinforce its use after commercial breaks, at least in the case of children and junk food. Not only the presence of disclosures, but the repetition of disclosures played a significant role in increasing the recognition of the commercial nature of brand placements (Schmidt & Eisend,

**Table 3.** Effect Of Disclosures On Brand Recall.

|          | Disclosure |        |        | Total |
|----------|------------|--------|--------|-------|
|          | Control    | Single | Double |       |
| 9 Years  | 35.0%      | 57.1%  | 79.5%  | 57.9% |
| 12 Years | 40.0%      | 56.8%  | 62.5%  | 49.2% |
| 15 Years | 40.5%      | 40.9%  | 42.5%  | 41.3% |
| Total    | 38.5%      | 51.5%  | 62.1%  | 49.5% |



**Table 4.** Effect Of Disclosures On Brand Preference.

|          | Control | Disclosure |        | Total |
|----------|---------|------------|--------|-------|
|          |         | Single     | Double |       |
| 9 Years  | 4.73    | 4.07       | 3.66   | 4.13  |
| 12 Years | 3.50    | 2.89       | 3.08   | 3.15  |
| 15 Years | 3.19    | 3.23       | 2.95   | 3.13  |
| Total    | 3.80    | 3.38       | 3.24   | 3.46  |

2015). This is based on the need to provide assistive recognition of the commercial messages to children, considering their limited understanding of marketing actions (Panic et al., 2013).

One possible explanation for this result could be understood in terms of a cumulative effect. In advertising theory, it has largely been observed that multiple exposures to a stimuli increase consumer awareness of the advertising message and facilitate consumer processing of the information (Schmidt & Eisend, 2015; Vuokko, 1997). Another complementary explanation is related to the prime function of disclaimers. A higher level of the prime activation would produce more effective information processing among people (Murphy & Zajonc, 1993; MacKay, 1987; Silvestrini & Gendolla, 2011). Thus, this study provides evidence to support those in favor of the disclosure policy implemented in Europe, as well as indirectly supports those claiming the importance of more stringent regulation of other forms of embedded messages such as advergames or sponsored social media posts targeting children (Paek et al., 2014).

It is interesting to note that the findings of this study supported prior research in adults and adolescents (van Reijmersdal et al., 2017), but contradicted research on children who play advergames developed by An and Stern (2011), who detected that ad breaks did not help children to detect the commercial nature of the content. The differences may be explained by the fact that the study with advergames used a younger sample (ages 8 to 11). Moreover, the youngest group in the present study (age 9) showed similar results (no effect) as the study with advergames.

Secondly, both formats (single and double) of disclosures used in this study were associated with brand effects. Firstly, brand recall increased following to exposure of any form of warnings. This outcome has been explained in terms of the increase in the processing of brand information as a result of receiving a cue that triggers greater attention to the brand (Boerman et al., 2013). Moreover, it follows the same line of reasoning as prior studies which have reported that disclosures increase attention to and memory of the advertised brand (De Pauw et al., 2017; van Reijmersdal et al., 2017).

Regarding brand preference, it also decreased among those exposed to any form of disclosure (single or double). These findings are similar to those of several studies in both adult (Tessitore & Geuens, 2013; van Reijmersdal et al., 2016) and child samples (An & Stern, 2011; Panic et al., 2013). Although the general objective of placement disclosure policy is not necessarily to produce a negative effect on brand preference or purchase intention (but developing critical processing of the commercial message), it is very important to consider this effect in the case of food rich in fat, calories and sodium. Thus, this result reinforces the benefit of this regulation for the consumer in the field of fast food marketing and provides support for the UK regulation, that prohibits product placement promoting junk food.

Thirdly, it was observed that the variable age -as a proxy of cognitive development- plays a significant role in the case of child audiences in terms of the recognition of placement as commercial messages and brand preference. As expected, an increase in the recognition of the commercial nature of placement as children mature was detected in this study. This effect was evident in the total sample, and particularly in the 12-year-old and 15-year-old groups. This result follows the same line of research conducted on children in late childhood (12 years) -traditionally defined as strategic processors- who have started to understand the persuasive nature of non-traditional forms of advertising (Uribe & Fuentes-García, 2017). In terms of brand preference, age was associated with a decrease in brand disposition. In other words, the control group and experimental groups showed significant decreases across each age group evaluated in this study. This result seems to illustrate the existence of a general process or a more critical viewpoint of brands as children mature, particularly once they reach middle childhood, consistent with what has been largely illustrated in the literature. It has been documented that children as young as 9-years-old are able to express their ability to critically evaluate and compare products and information (Roedder, 1999; Valkenburg & Cantor, 2001).

Finally, a synergic interaction between the use of disclosure and age was detected in the case of the recognition of the commercial nature of placement (age and double disclosures) and brand preference (both formats of disclosures among those

at 9 and 15). Disclosures allowed children to detect the persuasive nature of placement earlier (starting at age 9 year), accelerating the likelihood of younger children recognizing the promotional nature of product placement (An & Kang, 2013).

All told, these results allow one to highlight the important role of disclosures in the case of the fast food marketing industry, particularly in terms of how the regulator designs them (presence at the beginning and after each commercial break), at least in the case of child audiences to recognize the commercial nature of product placement (which is the primary objective of this policy). In addition, it is interesting to corroborate that as children mature, the effects of placements tend to be weaker and the utility of disclosures tend to increase.

### Limitations and future research

This study is the first to clarify the role of different types of disclosures and age in the process of disclosure reception. However, it has several limitations. One of the most important restraints is the use of just one type of disclosure. Since prior research has provided extensive evidence showing that disclosure length and format are critical issues (Tessitore & Geuens, 2013), it is important to examine whether different types of warnings affect responses. This problem could be particularly critical in the case of children, who may need different types of disclosures than adults, as has been demonstrated in the case of bumpers on children's TV programming (Kunkel & Roberts, 1991).

A second limitation is that this piece of research did not measure persuasion knowledge, but only awareness of the commercial nature of placement. Future research with children at different ages may measure and compare this process, including its double dimension conceptual and attitudinal. The significance of measuring persuasion knowledge is that, as some studies have demonstrated, the recognition of the persuasive nature of placements does not necessarily imply that children actually critically process the information (De Pauw et al., 2017; van Reijmersdal et al., 2017).

Furthermore, this study was conducted in Chile, a country where the debate on this type of regulation is in an incipient stage. This means that the public (including children) does not have access to much information on the effects of embedded messages. Moreover, considering the unconventional nature of disclosures in Chile, the information provided by the warning may have had a sort of 'novelty effect' that increased its influence in the study.

### Note

1. It Is Important To Notice That In The European Union The Product Placement Only Of Tobacco Products And Medicinal Products For Prescription Is Prohibited Under Any Circumstances. Nevertheless, In The Case Of The UK, The Law Also Prohibits Product Placement Promoting Alcohol, Gambling, Baby Milk And Junk Food (Al-Kadi, 2013).

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