

How intervention can empower children as consumers in dealing with advertising

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Keywords

Children as consumers, consumer education, advertising literacy, effectiveness of consumer interventions, attitudes towards advertising, dealing with advertising.

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doi: 10.1111/ijcs.12305

Abstract

In today's society, children are surrounded by advertising. Within this context, this paper presents a set of activities designed to make children aware of various marketing tactics, mainly related to advertising, so that they become empowered to make informed consumer choices. The design of the intervention and the evaluation of its effectiveness make a number of contributions to current research. Firstly, teachers carried out the activities, a role traditionally assigned to parents or researchers in previous literature. Secondly, we broaden the scope of indicators measuring the effectiveness of the activities by including the evaluation of changes not only in advertising literacy, but also in attitudes towards advertising and in children's behaviours. Results show the effectiveness of the intervention in preparing children to better deal with advertising. Suggestions for further research and the design of this type of interventions are presented.

Introduction

Children are continually exposed to advertising. According to Nielsen (2015), children between 2 and 11 years old spend on average 20 h and 46 min per week watching TV. This provides marketers with plenty of time for exposing children to advertising stimuli. Indeed, in Sweden, Olafsdottir and Berg (2016) found that 67% of children watch TV daily after school. So much so, that watching TV is the second most popular free-time activity. Of course, nowadays advertising goes well beyond the confines of the TV set and extends to other media such as radio, magazines, Internet, etc. (Moses and Baldwin, 2005). So much so that it could be reasonably argued that children live in an environment saturated by advertising (Calvert, 2008). This is likely to have an effect on their development in the short term (e.g. on their dietary choices or what they ask from their parents), and in the long term as they grow into adult consumers (Preston, 2004).

There is growing concern about the negative effects of over-exposure to advertising and other marketing stimuli on children. There have been two main responses to this situation. First, there has been a focus on reducing or banning advertising targeted specifically at children. Second, there has been a move towards making children aware of the nature and intent of advertising (Oates *et al.*, 2002) so that they can develop mechanisms for coping with its effects. Considering the omnipresence of advertising and the practical difficulties of controlling or reducing exposure to advertising, this paper focuses on empowering children. Therefore, the aim of the present study is to

present a number of initiatives designed to raise advertising awareness among children and to consider their effectiveness. Indeed, the value of such interventions is not entirely clear in the existing literature on the topic. One issue that requires further clarification relates to the meaning of effectiveness in this context. Therefore, the contribution of this paper also involves considering a broader range of elements when accounting for or evaluating the success of similar interventions.

Interventions to prepare children to cope with the negative effects of advertising

The purpose of advertising literacy interventions with children is to raise their awareness as consumers and provide them with the tools they need to be active rather than passive receivers of advertising messages. Numerous studies have focused on children's comprehension of advertising (Donohue *et al.*, 1980; Macklin, 1983; Boush *et al.*, 1994; Gunter and Furnham, 1998) as an antecedent of advertising's effect on children (Bijmolt *et al.*, 1998). A common aim of these studies is to enable children to activate their defences, thus protecting themselves from advertising (Brucks *et al.*, 1988). Therefore many authors focus on the need to better inform and educate children about the nature and intent of advertising (Oates *et al.*, 2002). In this sense, by participating in activities that increase advertising literacy, children become more conscious of the commercial world and more empowered to deal with advertising. Some studies focus on the broader concept of *media literacy*. Jeong

et al.'s (2012) meta-analysis concluded that, in general, media literacy interventions have a positive effect on increasing children's knowledge and critical view of media messages. A smaller number of studies have dealt more specifically with activities that focus specifically on increasing children's *advertising literacy*. However, there is some disagreement as to the effectiveness of these initiatives. While some studies conclude that providing children with training reduces their desire for products seen in advertisements (e.g. Feshbach *et al.*, 1982), others find no relationship between advertising literacy interventions and the preference for the advertised products (e.g. Christenson, 1982). Indeed, some studied even suggest a contrary effect, that is, the intervention can lead to an increased desire for the products advertised (e.g. Chernin, 2007). In any case, it is important to highlight that the type, content and overall quality of the interventions vary across these studies, which may account for some of these inconclusive results.

When considering initiatives designed to increase children's advertising and media literacy, an important decision is who will be carrying out the activity. First, some studies report on activities enacted by *parents* (e.g. Wiman, 1983; Bijmolt *et al.*, 1998; Buijzen and Valkenburg, 2003, 2005), but these have led to inconclusive and at times contradictory results. The main forms of intervention enacted by parents aimed at increasing their children's awareness as consumers are active mediation and restrictive mediation (Calvert, 2008). Active mediation consists of parents and children viewing advertisements together. The main objective is to raise the awareness of the child as the parent points out various aspects of the advertisement. Research is inconclusive on this form of mediation, with some evidence of a positive influence on children's understanding of advertising (Buijzen, 2007), further evidence of no effect (Bijmolt *et al.*, 1998) and even the suggestion that kids may take advantage of these sessions to ask their parents for even more products (Wiman, 1983). In restrictive mediation, parents limit the amount of TV advertising that children are exposed to by placing restrictions on the amount of TV hours they can watch. However, there is evidence that this creates an unexpected negative effect as children who are less exposed to advertising may have fewer opportunities to develop strategies for coping with advertising (Bijmolt, 1998). Nevertheless, Wiman (1983) found that this form of intervention does indeed lead to children asking their parents less often to buy them products. Notably, Wiman's (1983) study considered if an increase in advertising savvy by children reduces children's demands for products. However, other studies generally consider if increased advertising savvy leads to less trust in advertisements. Indeed, this difference in approach may explain some of the inconsistencies in the results across research. It is reasonable to expect that even though children become more aware of the nature of advertising, and less trusting of it, their desire for a product may not necessarily decrease. In addition, it is important to note that these studies report on specific activities or interventions. However, a parent's impact on their children's consumer education is most probably on-going. This would include a much broader array of everyday activities such as the learning that takes place during co-shopping (Keller and Ruus, 2014).

Second, most studies report on initiatives carried out by *researchers* (e.g. Brucks *et al.*, 1988; Buijzen, 2007), where children tend to be divided in two groups, one participating in the intervention and the other as a control group. In general, these types of interventions conclude that the participating group of children increase their advertising literacy and their attitudes, particularly in terms of becoming more sceptical to advertising claims. For example, Roberts *et al.* (1980) found that a group of children that viewed a documentary about the persuasive techniques of advertisers increased their awareness and degree of scepticism towards advertising. Similarly, Brucks *et al.* (1988) compared the outcomes for two groups of children, only one of which got to view a documentary about advertising. When a few days later, both groups of children were shown a series of toy advertisements, the group that had seen the documentary took a more critical approach to the advertisements. Nevertheless, this study also suggests that younger children tend to be critical of advertisements only when adults point out specific aspects of the advertisements to be wary of. Buijzen (2007) compared three types of interventions (evaluative, factual and no intervention) that involved showing a series of TV advertisements to groups of children. The results suggest that both evaluative (the researcher made negative comments about the advertisements) and factual (the researcher pointed out ways the advertisement might influence them) interventions lead to an increase in advertising knowledge and scepticism and a decrease in buying intention. While both evaluative and factual interventions influenced children of 7 years of age and older, 5 and 6 year olds were only influenced by the factual intervention.

Finally, *teachers* may also carry out these advertising and media literacy initiatives. For example, a web and institutional search of initiatives related to increasing child media literacy awareness in Spain identified 22 such projects, of which 15 were lead or implemented by teachers. Nevertheless, even though there are examples of teacher-led activities, the literature has not generally reported on them. Of the 22 programmes identified here, none involved a follow up study to evaluate the effectiveness of the programme or the changes occurred in children's knowledge, attitudes or behaviours. The one exception is Robinson *et al.* (2001). In this study, the school children were encouraged by teachers through a series of imaginative initiatives to decrease the number of hours they dedicated to watching TV. The results suggest that by doing so, the children's demand for products was reduced. Nevertheless, as we mentioned, this study is the exception to the norm. This situation is surprising, as teachers spend a considerable amount of time with children and represent a key source of knowledge transmission and credibility to children (Csikszentmihalyi and McCormack, 1986), and their relationship with children is considered to be the single most crucial resource in their development (Resnick *et al.*, 1988). Therefore, the initiatives carried out by teachers should afford a high degree of impact. To address this specific gap, the present article will report on a series of activities carried out by teachers and designed to raise marketing and advertising literacy among children.

Evaluating interventions' effectiveness

In the previous section, we addressed the types of initiatives that may be carried out to raise children's awareness and literacy when faced with advertising and other marketing tactics that are designed to convince children to purchase products. In this section, we address how we may evaluate and measure the effectiveness of these interventions.

In general, previous research has focused on measuring knowledge as the main indicator of interventions' success. Indeed, this seems to constitute an appropriate baseline for the evaluation of such activities. According to Livingstone and Helsper (2006) the less literate children are about advertising, the more at risk they are to be influenced by advertising. In the 1980s and 1990s, the literature focused on determining the age at which children become aware of the aims and intentions behind commercials and advertising in general. This research was often undertaken with a view to setting TV advertising policies (e.g. Donohue *et al.*, 1980; Boush *et al.*, 1994). Subsequently, children's advertising knowledge was measured by examining an array of very specific dimensions (for an overview, see Wright *et al.*, 2005): a key element is the ability to distinguish between commercials and TV programmes, which is closely related to the comprehension of the advertising intent (Bijmolt *et al.*, 1998). The comprehension of advertising's intent can be understood both in terms of its more basic selling intent (by convincing the customer of the product's qualities) and its persuasive intent, by increasing its desirability through attractive techniques (Robertson and Rossiter, 1974). Further dimensions include the perception of the intended audience, that is, when the child comprehends that the advertisement is directed towards a target group; and the recognition of an external source, that is, the knowledge about who funds the production and showing of advertisements (Mallalieu *et al.*, 2005). Finally, research examines children's comprehension of advertising partiality and the fact that the information about a product is often presented in a biased manner that emphasises its best features (Moses and Baldwin, 2005). In most studies testing these dimensions, the central aim is to identify at what age children are mature enough to recognise them (Roedder, 1981; John, 1999; Moses and Baldwin, 2005).

However, Brucks *et al.* (1988) highlight an important weakness in this line of inquiry, namely, that although children may have the knowledge or literacy regarding advertising, they may not actually use this to defend themselves from its persuasive intent. In the same vein, Rozendaal *et al.* (2011) suggest that focusing exclusively on these prevailing measures of knowledge may not be enough. They propose two additional dimensions of advertising literacy: attitudinal and performance (the actual use of the knowledge). They propose a scale to measure the conceptual and attitudinal dimensions of advertising literacy (Rozendaal *et al.*, 2016), in which they re-locate the 'understanding advertising bias' dimension into the attitudinal realm rather than as a conceptual dimension of advertising literacy. Moreover, this ability to identify the partiality of commercials leads to a scepticism or mistrust towards advertising. Thus, children's attitudes towards advertising constitute a step beyond measuring their conceptual capability and should be considered

when attempting to measure the effectiveness of interventions to raise children's awareness.

Nevertheless, when taking into account attitudinal factors, it should be noted that even when children become more sceptical of advertisements, they do not necessarily use this capacity when viewing advertisements (John, 1999). This may be for two main reasons: First, despite the negative aspects of advertising, children may still want to buy the product (John, 1999). Second, children may require a cue from an adult that a defence towards advertising is needed (Roedder, 1981). Therefore, we propose the need to move beyond the measurement of knowledge and attitudes to enter the realm of intended or actual *behaviours*. Indeed, Christenson (1982) had already shown that even when children have a critical attitude towards advertising, they may still ask for the products they see advertised (a behavioural reaction). In this context, the work of Jacks and Cameron (2003) may be useful in terms of identifying the stages of persuasion resistance by children. Ultimately, we should be able to focus on how children act (behave) when confronted with advertising and what choices they make as young consumers. In this final behavioural dimension we avail of no standard scales or studies of intervention effectiveness. In this sense, we may draw from the more general consumer behaviour literature and base our measurements on notions of consumer behavioural intentions (Cronin *et al.*, 2000). Only D'Alessio *et al.* (2009) developed a scale that included some items dealing with specific behavioural intentions enacted by children when faced with advertising, such as changing channels, asking parents to buy the products advertised, believing that commercials show them good things to buy, or trusting the commercials.

In sum, a wide array of approaches and methodologies has been employed to address the question of how to assess the effectiveness of interventions. Many of these studies take an experimental approach, whereby 'before vs after' intervention measures are taken (Robinson *et al.*, 2001) or 'treatment vs non-treatment' groups are compared (Feshbach *et al.*, 1982; Brucks *et al.*, 1988; Buijzen, 2007). The results have varied little between these two approaches. With regards to measurement scales, we can highlight four main contributors: D'Alessio *et al.* (2009), Derbaix and Pecheux (2003), Rossiter (1977) and Rozendaal *et al.* (2016). These scales have mostly built upon Rossiter's (1977) initial contribution. They have focused on knowledge (literacy) and attitudinal dimensions, such as recognition of advertisement, dislike for ads, bias, entertainment value, selling and persuasive intent, etc., but have only tangentially addressed behavioural elements (e.g. Rozendaal *et al.*, 2016). They have correlated literacy to resistance strategies, but only used this relationship as a statistical aid to their scale development.

To address these issues, the aim of the present paper is to examine the extent to which teacher-led activities designed to raise children's marketing and advertising literacy are effective in terms of increasing the three dimensions described above: conceptual advertising literacy, attitudes towards advertising and behaviours when confronted with advertisements.

Methodology

To address the aims of the study, a number of initiatives were carried out in Pla de Mar, a public primary school in Comaruga (Catalonia, Spain) as part of a programme entitled

'Becoming clever and responsible consumers.' To examine the effect of these initiatives on children's advertising knowledge, attitudes and behaviours, a survey was administered to two groups of students (second and fourth graders) before and after the programme activities took place. Other studies on this topic have opted for a treatment versus control group design, but in our case, we wanted to evaluate precisely the effects of the intervention on each specific child (paired samples design).

The sample consisted of 61 students (35 boys and 26 girls) aged between 7 and 10, averaging 8.3 years of age. The reason for choosing this age range was based on previous literature, particularly coinciding with John's (1999) analytical phase. It is in this phase that children may be most influenced by advertising as they may already have some advertising literacy but may not yet be able to use it as a defence mechanism due to their immature cognitive abilities.

The clever consumer activities

The programme 'Becoming clever and responsible consumers' was part of a university-primary school collaboration with the general objectives of raising children's awareness of their societal role as consumers and of empowering children as decision makers and future independent consumers. Within the general programme, the first three activities were designed to place the emphasis on advertising, as follows:

The first activity was called *Tasting Yogurts!* The aim of this activity was to prompt children to take a critical view of products, their attributes and their advertising through an activity based on tasting and comparing yogurts. Yogurt was chosen because it is a product that most children are accustomed to and consume on a regular basis. Specifically, the activity consisted of tasting two yogurts and selecting their favourite: The first yogurt had colourful and attractive packaging depicting popular characters aimed at children. The yogurt was coloured with a bright yellow colour. The second yogurt was contained in a basic transparent packaging and the yogurt was white. Despite these visual differences, both yogurts were in fact the same (except for the yellow food colouring added to one of them). The children were asked to taste both yogurts, to choose the one they preferred and to explain why. Later, the children were shown a video of their teachers preparing the colouring and putting the yogurt into the different pots. The video clearly demonstrated how the children had been tricked into thinking the yogurts were two different products. The video led to a discussion about product presentation. The children were encouraged to consider how different products in a supermarket are often essentially very similar and the difference is many times in the packaging and the advertising.

The second activity was called *I want this toy!* The aim of this activity was to make children aware that advertising does not always tell the (whole) truth. The activity started by showing four toy commercials and asking children to speak about what they expected from the toys advertised. Then, children were given the actual toys and invited to play with them for a while. Afterwards they were asked about the differences they found between advertising and reality. Finally, the teacher led a discussion about how advertising sometimes exaggerates

product features. This activity was designed to stress the importance of being aware of the advertising bias or partiality.

The third activity was entitled *We choose cereals!* The main objective of this activity was to become aware of product packaging and nutritional characteristics through the analysis of the products' packaging, labels and advertisements. The activity began with students speaking about the cereal brands they normally eat at home and the role of cereals in the food pyramid. Then, students were asked to analyse the cereal products packaging and advertising, taking note of who the cereals were targeted at, whether they seemed like a healthy food choice, etc. Later, the children examined the product labels to identify the amount of sugar, fat, vitamins and other nutritional content (only fourth graders did this part). The children then calculated the amount of sugar contained in 100 grams of three different cereal products, placed the equivalent weight of sugar in separate bowls and compared them. They highlighted some of the discrepancies between package decorations and nutritional values, much in the vein of Song *et al.* (2014) in their content analysis of cereal packaging. The children reflected upon the importance of checking the labels before buying cereals and other products.

For each of these activities, the last stage involved showing a series of TV advertisements to the children to facilitate a discussion on advertising tactics. In particular, the children were asked to identify central cues (information given about the attributes of the product), peripheral cues (such as fun, peer and parent approval, fantasy, free gifts or other types of rewards), and special effects (Kim *et al.*, 2016).

The activities were first designed by the researchers. The proposed activities were then presented to the teachers to ensure that materials, texts, etc. were age-appropriate. As the teachers led the in-class activities, they were provided with a detailed set of notes and instructions for preparing the activities. Researchers and teachers went through all activities together to make sure that teachers were fully prepared before each session.

Measures

A number of authors have focused on developing scales to measure children's advertising literacy (Rozendaal *et al.*, 2016) and children's attitude towards advertising (Rossiter, 1977; Derbaix and Pecheux, 2003; D'Alessio *et al.*, 2009). Less attention has been placed on the behavioural aspects of children's reactions to advertising and their consumption patterns. We decided to use existing validated scales where available. Specifically, to measure *literacy*, we took four of the six dimensions of the conceptual advertising literacy scale for children (CALSC-c, Rozendaal *et al.*, 2016): recognition of advertising, understanding selling intent, perception of intended audience and understanding persuasive intent. To measure children's *attitude* towards advertising, we used the full 9-item Attitudinal Advertising Literacy Scale for Children (AALS-c, Rozendaal *et al.*, 2016) with its three dimensions: advertising bias, scepticism towards advertising and dislike of advertising. Finally, for the *behavioural* reactions to advertising, we first measured three resistance strategies as proposed by Jacks and Cameron (2003) and employed by Rozendaal *et al.* (2016): source derogation,

attitude bolstering and assertion of confidence. And second, we took three items related to the classic consumer behavioural intentions (CBI), two in terms of recommending and repurchasing (Cronin *et al.*, 2000), and one on intention to purchase (by asking their parents) borrowed from D'Alessio *et al.* (2009). Although the activities were led by the teachers, the researchers administered the questionnaires and were present in the classrooms at all times during the activities to assist teachers and pupils. To avoid socially desirability bias, when teachers explained the instructions of each activity, we emphasized that there were no right or wrong answers. We provided examples such as – What is your favourite colour? – so that children would understand that they should really answer what they personally thought or perceived.

Analysis and results

Preliminary data analysis

Although this study does not intend to contribute to further developing the two previously existing scales used in the study, a set of preliminary data analysis was conducted to assess their properties with SPSS and EQS. For the *literacy scale* (four dimensions of CALS-c, Rozendaal *et al.*, 2016), a first confirmatory factor analysis (CFA) with all items did not yield satisfactory results. The main problematic items were those related to perception of intended audience. Once these were removed, the remaining three factors provided acceptable fit using goodness of fit robust measures ($\chi^2 = 28.36$, $df = 24$, Bentler–Bonett normed fit index = 0.805, Bentler–Bonett non-normed fit index = 0.907, CFI = 0.944, RMSEA = 0.046). For the *attitude scale* (AALS-c, Rozendaal *et al.*, 2016), the CFA showed good fit ($\chi^2 = 25.97$, $df = 24$, Bentler–Bonett normed fit index = 0.914, Bentler–Bonett non-normed fit index = 0.963, CFI = 0.975, RMSEA = 0.037).

To examine the reliability of all the dimensions used in the questionnaire, we estimated their Cronbach α . Except for the dimension perception of intended audience, which showed poor reliability (Cronbach $\alpha = 0.359$), values for all the other 8 dimensions were considered reliable with values above 0.6 (Hair *et al.*, 2010), ranging from 0.624 (understanding selling intent) to 0.819 (dislike of advertising). We decided to still use the perception of intended audience dimension, since removing any of its items only slightly improved the resulting Cronbach α .

Regarding convergent validity of the literacy and attitude scales, all factor loadings showed values above 0.5, meaning that all factors are important in contributing towards a common scale. Finally, regarding discriminant validity, we conducted χ^2 pairwise CFA, and all χ^2 differences were greater than the 3.84 threshold (Bagozzi and Phillips, 1982), which demonstrates that the different dimensions indeed measure different concepts.

Results

Table 1 shows the descriptive analysis of the nine dimensions examined. Each item on the table represents the average of the different variables (usually 3) of which each was composed. All variables were measured before and after the activities had ended, with the 'B' items referring to the first round of surveys

Table 1 Paired samples statistics

		Mean	N	Standard deviation	Standard error mean
Pair 1	B-RecognitionAd	3.6913	61	.36621	.04689
	A-RecognitionAd	3.7486	61	.32436	.04153
Pair 2	B-SellingIntent	3.1475	61	.73163	.09368
	A-SellingIntent	3.4426	61	.58285	.07463
Pair 3	B-IntAudience	.9454	61	.13851	.01774
	A-IntAudience	.9508	61	.11920	.01526
Pair 4	B-PersuasIntent	2.8689	61	.78003	.09987
	A-PersuasIntent	3.4481	61	.54733	.07008
Pair 5	B-UnderstBias	2.2951	61	.58404	.07478
	A-UnderstBias	2.8579	61	.60693	.07771
Pair 6	B-Skepticism	2.5410	61	.68897	.08821
	A-Skepticism	3.0219	61	.58331	.07469
Pair 7	B-DislikeAdvert	2.2350	61	.68406	.08759
	A-DislikeAdvert	2.5246	61	.82655	.10583
Pair 8	B-ResistStrategy	2.5492	61	.56976	.07295
	A-ResistStrategy	2.8811	61	.60140	.07700
Pair 9	B-CBehaviorInt	2.8087	61	.57882	.07411
	A-CBehaviorInt	3.0219	61	.62618	.08017

(*Before* treatment) and the 'A' referring to the second round (*After* treatment). In general, the value of most dimensions in Table 1 present an increase in their mean between the first round (before treatment) and the second round (after treatment).

To examine whether the activities were effective and provoked significant changes in the children's advertising literacy, attitudes and behaviours, we carried out a *t*-test of mean differences for each pair (before-after) of variables. Table 2 shows the paired samples correlations and the results of the *t*-tests.

Conceptual advertising literacy

With regards to the changes in children's *advertising knowledge* or *conceptual advertising literacy* (pairs 1–4), we can observe that only two of the four dimensions analysed showed significant differences (only two pairs have values below 0.05 on the right hand side Sig. (two-tailed) column). The two dimensions that were not significantly different before and after the treatment were 'recognition of advertising' and 'perception of intended audience'. Recognition of advertising was measured by asking the children if the images shown to them were advertisements, and they answered in a scale of 1–4 representing 'definitely not', 'probably not', 'probably yes', 'definitely yes' (and reverse coded when the images shown were not advertisements, such as a children's programme or a piece of news for children). Thus, a perfectly guessed score on this question would be a 4. In perception of intended audience, children were shown advertisements for which they had to identify their target audience (children, adults, both, neither). Here, only one answer was right, and thus a perfect score would be 1 for each of the three advertisements shown. As can be seen in Table 1, pair 1 (RecognitionAd) already had a very high score in the first round (3.69 out of a maximum possible of 4) before any literacy enhancing initiatives had taken place. This showed that most children were already able to identify video sequences

Table 2 Paired samples correlations and *t*-test

	Correlation	Sign.	Paired differences					t	df	Sig. (two-tailed)
			Mean	Standard deviation	Standard error	Confidence interval 95% of the difference				
						Lower	Upper			
Pair 1 B-RecognitionAd – A-RecognitionAd	.684	.000	-.05738	.27703	.03547	-.12833	.01357	-1.618	60	.111
Pair 2 B-SellingIntent – A-SellingIntent	.365	.004	-.29508	.75055	.09610	-.48731	-.10286	-3.071	60	.003
Pair 3 B-IntAudience – A-IntAudience	.620	.000	-.00546	.11372	.01456	-.03459	.02366	-.375	60	.709
Pair 4 B-PersuasIntent – A-PersuasIntent	.409	.001	-.57923	.74759	.09572	-.77070	-.38777	-6.051	60	.000
Pair 5 B-UnderstBias - A-UnderstBias	.256	.046	-.56284	.72659	.09303	-.74893	-.37675	-6.050	60	.000
Pair 6 B-Skepticism – A-Skepticism	.316	.013	-.48087	.74913	.09592	-.67274	-.28901	-5.013	60	.000
Pair 7 B-DislikeAdvert – A-DislikeAdvert	.600	.000	-.28962	.68712	.08798	-.46560	-.11364	-3.292	60	.002
Pair 8 B-ResistStrategy – A-ResistStrategy	.410	.001	-.33197	.63692	.08155	-.49509	-.16884	-4.071	60	.000
Pair 9 B-CBehaviorInt – A-CBehaviorInt	.298	.020	-.21311	.71501	.09155	-.39624	-.02999	-2.328	60	.023

that were advertisements and to distinguish them from other videos that had other aims, even when these were also targeted at children. The same occurred with pair 3 (IntAudience), where the score before the activities was 0.95 out of a maximum possible of 1. This means that there was very little leeway for improving on these high scores.

Two further dimensions of advertising literacy, that go beyond recognising an ad and whom it is made for, were also measured. These dimensions are designed to measure if children are able to identify the selling and persuasive intention of advertisements. In the case of these two dimensions, there was a strong significant increase in the literacy of children before and after the activities, particularly in the persuasive intent measures. This means that although children already knew how to identify an advertisement and who it is targeted at, the activities improved their awareness of how advertisements try to sell their products and also of the tactics used to persuade them. This was particularly apparent in the children's comments during and after the toy activity:

I'm not going to believe what these ads are saying anymore, they just want to sell me the thing!

When I watch the ad at home, I notice the girl always looks so happy playing with the dolphin, and I thought I'd also feel happy. But after playing with it, it does not make me happy. Next time I'll only be watching the toy, not the girl playing with it.

In this sense, we can say that the 'Clever Consumer Activities' were effective in increasing children's conceptual advertising literacy.

Attitudes towards advertising

With regards to the changes in children's attitudes towards advertising (pairs 5 to 7), all three dimensions showed significant differences between before and after the clever consumer activities. This can be seen from the close to 0 significance values on the right hand side of Table 2. This means that not only were children more literate about advertising after participating in the activities, they were also more aware that advertisements may present products in an enhanced manner, to the point of

being biased (UnderstBias). Because of this, the children became more sceptical about advertisements (Skepticism). The results on this measure were also very much present in the children's comments, particularly in the yogurt activity after they realised that both yogurts were the same. Many of them concluded that companies might want to 'trick' them with their advertisements, the packaging and the products to make them look different. After the session many of the children commented about the need to check products before actually purchasing them:

It was just the same yogurt [angrily], I can't believe how they tricked me!

I better get my mother to check what there is inside, there's no point in spending more to end up getting the same.

The teachers later reported that there was a lot of talk about this activity for many days after. We felt that the activity represented a significant benchmark or critical incident for the children in their experience as consumers. Changes in the children's attitudes were also significant to the extent to which they disliked advertisements (DislikeAdvert). Some of them mentioned that now that they knew that the information in advertisements was not always accurate, they would prefer not to watch so many ads. Instead they would prefer to go to the store to see the products for themselves. This was particularly salient after the toy activity:

I wouldn't trust that the transformer changes so quickly anymore. In the ad it looked so easy!

There's no point in watching the ads, they don't really tell the truth, what a waste of time!

Overall, the activities were effective in changing children's attitudes towards advertising.

Behaviours when faced with advertising

Finally, and with regards to the changes in the children's behaviours (pairs 8 and 9), we can observe that there were also significant differences in how children acted when exposed to advertising. Both dimensions of resistance strategies (ResistStrategy), with actions such as changing channels when the ads were on, and consumer behavioural intentions (CBehaviorInt),

such as asking/not asking their parents to buy everything they see advertised, experienced a change after the 'Clever Consumer Activities'.

NOW I understand why my mother changes channels when the ads come on.

Look, I realise that when I tell my friends about what I saw in an ad, I am also being an ad.

In this sense, the activities were also successful in changing children's behaviours, which is ultimately what the intervention was designed for.

Discussion

Overall, the results of this study show that interventions in the form of school activities, carried out by teachers and designed to raise children's awareness of marketing and advertising strategies can affect children's advertising-related literacy, attitudes and subsequent behaviours towards advertising. Hence, this study contributes to the literature on children's advertising literacy after an intervention.

Regarding conceptual advertising literacy, it is important to highlight the high level of advertisement recognition (what an ad is and isn't) and target audience perception (who the ad is intended for) that the children already had before they began the activities. These are seen in the high scores in this sample of 7–10 year olds. The results on advertisement recognition are similar to Rozendaal *et al.*'s (2016). The results on target audience perception coincide with Donohue *et al.* (1980), but to some extent differ from Mallalieu *et al.* (2005). Mallalieu *et al.* found that children in the 11–12 years age group were capable of understanding the concept of target audience, but children in their 5–7 year old group were not. However, it is difficult to directly compare our results with this study as we did not employ the same age groups. In addition, as Mallalieu *et al.* used focus groups in their study, they did not have a closed question item on 'target audience'. Overall, the fact that these indicators were so high even before the activities took place meant that there was no leeway for experiencing a significant change through intervention. This highlights a generation of children who are highly advertising savvy and in tune with the commercial world that surrounds them.

The remaining measures of conceptual advertising knowledge, attitudes towards advertising, and subsequent behaviours, showed significant changes after the intervention.

Contributions

This study extends the literature on the effectiveness of interventions for empowering children in dealing with advertising with two main contributions.

First, we have broadened the scope of enquiry by adding a behavioural dimension to the existing literature, which mainly considers the effects of interventions in terms of literacy (knowledge) and attitudinal dimensions. We believe that this behavioural dimension is of key importance as it represents the acid test in terms of effectiveness of interventions, thus representing the ultimate objective of such interventions. On a scientific level, this represents a wider contribution to the topic, as we have broadened the scope of elements to be measured when considering the effectiveness these kinds of interventions.

Indeed, most studies on this topic measure the changes in literacy and attitudes after interventions. However, the ultimate effect that interventions seek is to change children's behaviours. Yet some studies suggest that even when children improve their knowledge and sharpen their attitudes towards advertising, they may not necessarily modify their behaviour to resist the effects of advertising (Harris *et al.*, 2009; Rozendaal *et al.*, 2010). By including the three levels of response (literacy, attitudes and behaviours) and testing the impact of interventions on each of them separately, this paper adds to the literature by obtaining a wider-ranging picture than previous contributions. In particular, we build on the ideas by Rozendaal *et al.* (2011) about the need to focus on more actionable aspects of advertising literacy, since the more conceptual aspects of literacy have not clearly provided adequate defense mechanisms against the effects of advertising. On a practical level, this suggests that the impact of interventions may be farther-reaching than expected and should thus be considered as investments with positive returns.

Second, an important contribution to note is the fact that the activities designed for the intervention in this study were prepared by researchers but delivered by teachers. Although programmes designed to raise children's awareness of advertising are available to teachers, and we have evidence that these are employed in different settings, teacher-led initiatives are not generally being followed up by measurements of effectiveness. Consequently, they have not appeared in the literature (with the exception of Robinson *et al.*, 2001). As teachers are among the key transmitters of knowledge and values to children, they have a credibility value that other agents lack. Thus, we propose that the collaboration between teachers and researchers as shown in this study should be taken up in the future. This could prove beneficial for data collection and for the rigour and contents that researchers can bring to the table in the design and delivery of the activities.

Limitations

As with all studies, this project has a number of limitations. On a methodological level, a larger sample with a broader range of age groups would have facilitated a more complex analyses and the detection of age effects, as the literature has identified this topic to be closely related to child development. Also, we need to use caution in relying upon results generated with bivariate analysis since this can mask spurious and suppressor effects. On a practical level, with this study we have not been able to assess if the changes observed are sustainable over time. This should be the objective of further studies and initiatives. In the case of the Pla de Mar school, in light of the positive results of the activities, the school has embarked on a project to design similar activities for all grades of primary school education. In this way, they plan to carry out two activities per year with each age group and make this an on-going intervention at the school. Thus the initiative will become an integral part of the school calendar and not just a once-off event.

Further research

Measuring the behavioural outcomes of advertising awareness interventions designed for children, as employed in this study, should be incorporated into future studies. Moreover, the measurement items of this dimension should be further developed. Additionally, the effects of interventions should be separately tested on conceptual, attitudinal and behavioural outcomes. Further research on this topic should also evaluate the results of on-going versus once-off initiatives. This would involve longitudinal research designs. A further line of research could focus on the more attitudinal and behavioural changes that interventions bring about, since moulding active consumer attitudes and behaviours are the ultimate goal of such initiatives. In this sense, to refine the measurements of attitudes and behaviours, parents should be considered as informants to avoid both social desirability bias and single informant bias (for example, for measures on changes in aspects such as 'pestering' behaviours). From a methodological perspective, the scales by Rozendaal *et al.* (2016) have proved to be very pertinent for the study of this topic. However, further studies should consider whether some of the dimensions of their conceptual advertising literacy are in some way ordered into a growing degree of sophistication of the knowledge they evaluate (from advertising recognition initially, through to target audience perception, understanding selling intent, finally understanding persuasion intent). In fact, while this may not have been tested using Rozendaal's scale, the literature on children's cognitive development (Piagetian perspective) suggests these tasks are sequential in children's development.

Implications

The general topic of children's education as consumers and the more specific aspect of their knowledge, attitudes and behavioural responses to advertising are of significant relevance in our consumer society. It depends on a set of agents, including teachers, researchers, parents and policy makers to put the necessary interventions in place to prepare children to be knowledgeable consumers in the future. If initiatives such as the ones carried out in this study can aid in enhancing children's awareness of this matter, they should be made available to them. In the same way that children learn other valuable lessons at school, this is also a way of preparing them to be more informed citizens and consumers.

References

- Bagozzi, R.P. & Phillips, L.W. (1982) Representing and testing organizational theories: a holistic construal. *Administrative Science Quarterly*, **27**, 459–489.
- Bijmolt, T.H.A., Claassen, W. & Brus, B. (1998) Children's understanding of TV advertising: effects of age, gender and parental influence. *Journal of Consumer Policy*, **21**, 171–194.
- Boush, D.M., Friestad, M. & Rose, G.M. (1994) Adolescent skepticism toward TV advertising and knowledge of advertiser tactics. *Journal of Consumer Research*, **21**, 165–175.
- Brucks, M., Armstrong, G.M. & Goldberg, M.E. (1988) Children's use of cognitive defenses against television advertising: a cognitive response approach. *Journal of Consumer Research*, **14**, 471–482.
- Buijzen, M. (2007) Reducing children's susceptibility to commercials: mechanisms of factual and evaluative advertising interventions. *Media Psychology*, **9**, 411–430.
- Buijzen, M. & Valkenburg, P.M. (2003) The unintended effects of advertising: a parent-child survey. *Communication Research*, **30**, 483–503.
- Buijzen, M. & Valkenburg, P.M. (2005) Parental mediation of undesired advertising effects. *Journal of Broadcasting and Electronic Media*, **49**, 153–165.
- Calvert, S.L. (2008) Children as consumers: advertising and marketing. *Future of Children*, **18**, 205–234.
- Chernin, A. (2007) The relationship between children's knowledge or persuasive intent and persuasion: the case of televised food marketing. *Dissertations available from ProQuest. Paper AAI3292015*. <http://repository.upenn.edu/dissertations/AAI3292015>
- Christenson, P.G. (1982) Children's perceptions of TV commercials and products: the effects of PSA's. *Commercial Research*, **9**, 491–524.
- Cronin, J.J., Jr., Brady, M.K. & Hult, G.T.M. (2000) Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of Retailing*, **76**, 193–218.
- Csikszentmihalyi, M. & McCormack, J. (1986) The influence of teachers. *Phi Delta Kappa* **67**, 415–419.
- D'Alessio, M., Laghi, F. & Baiocco, R. (2009) Attitudes toward TV advertising: a measure for children. *Journal of Applied Developmental Psychology*, **30**, 409–418.
- Derbaix, C. & Pecheux, C. (2003) A new scale to assess children's attitude toward TV advertising. *Journal of Advertising Research*, **43**, 390–399.
- Donohue, T.R., Henke, L.L. & Donohue, W.A. (1980) Do kids know what TV commercials intend? *Journal of Advertising Research*, **20**, 51–57.
- Feshbach, S., Feshbach, N.D. & Cohen, S.E. (1982) Enhancing children's discrimination in response to television advertising: the effects of psychoeducational training in two elementary school-age groups. *Developmental Review*, **2**, 385–403.
- Gunter, B. & Furnham, A. (1998) *Children as Consumers. A Psychological Analysis of the Young People's Market*. Routledge, New York, USA.
- Hair, J.F., Jr., Black, W.C., Babin, B.J., Anderson, R.E. (2010) *Multivariate Data Analysis* (7th edn.). Pearson, NJ, USA.
- Harris, J.L., Brownell, K.D. & Bargh, J.A. (2009) The food marketing defense model: integrating psychological research to protect youth and inform public policy. *Social Issues and Policy Review*, **3**, 211–217.
- Jacks, J.Z. & Cameron, K.A. (2003) Strategies for resisting persuasion. *Basic and Applied Social Psychology*, **25**, 145–161.
- Jeong, S.H., Cho, H. & Hwang, Y. (2012) Media literacy interventions: a meta-analytic review. *Journal of Communication*, **62**, 454–472.
- John, D.R. (1999) Consumer socialization of children: a retrospective look at twenty-five years of research. *Journal of Consumer Research*, **26**, 183–213.
- Keller, M. & Ruus, R. (2014) Pre-schoolers, parents and supermarkets: co-shopping as a social practice. *International Journal of Consumer Studies*, **38**, 119–126.
- Kim, H., Lee, D., Hong, Y., Ahn, J. & Lee, K. (2016) A content analysis of television food advertising to children: comparing low and general-nutrition food. *International Journal of Consumer Studies*, **40**, 201–210.
- Livingstone, S. & Helsper, E.S. (2006) Does advertising literacy mediate the effects of advertising on children? A critical examination of two linked research literatures in relation to obesity and food choices. *Journal of Communication*, **56**, 560–584.
- Macklin, M.C. (1983) Do children understand TV ads? *Journal of Advertising*, **23**, 63–70.
- Mallalieu, L., Palan, K.M. & Laczniak, R.N. (2005) Understanding children's knowledge of beliefs about advertising: a global issue that spans

- generations. *Journal of Current Issues and Research in Advertising*, **27**, 53–64.
- Moses, L.J. & Baldwin, D.A. (2005) What can the study of cognitive development reveal about children's ability to appreciate and cope with advertising? *American Marketing Association*, **24**, 186–201.
- Nielsen. (2015) The total audience report. *The Total Audience Series*, **Q2**, 2015.
- Oates, C., Blades, M. & Gunter, B. (2002) Children and television advertising: when do they understand persuasive intent? *Journal of Consumer Behaviour*, **1**, 238–245.
- Olafsdottir, S. & Berg, C. (2016) Food appearances in children's television programmes in Sweden. *International Journal of Consumer Studies*, **40**, 484–491.
- Preston, C. (2004) Children's advertising: the ethics of economic socialisation. *International Journal of Consumer Studies*, **28**, 364–370.
- Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., Tabor, J., Beuhring, T., Sieving, R.E., Shew, M., Ireland, M., Bearinger, L.H., Udry J.R. (1988) Protecting adolescents from harm. Findings from the national longitudinal study of adolescent health. In *Adolescent Behaviour and Society: A Book of Readings* (ed. by R.E. Muuss & H.D. Porton), pp. 376–95. McGraw-Hill: New York.
- Roberts, D.F., Christenson, P., Gibson, W.A., Mooser, L. & Golberg, M. (1980) Developing discriminating consumers. *Journal of Communication*, **30**, 94–105.
- Robertson, T.S. & Rossiter, J.R. (1974) Children and commercial persuasion: an attribution theory analysis. *Journal of Consumer Research*, **1**, 13–20.
- Robinson, T.N., Saphir, M.N., Kraemer, H.C., Varady, A. & Haydel, K.F. (2001) Effects of reducing television viewing on children's requests for toys: a randomized controlled trial. *Developmental and Behavioral Pediatrics*, **22**, 179–184.
- Roedder, D.L. (1981) Age differences in children's responses to television advertising: and information processing approach. *Journal of Consumer Research*, **8**, 144–153.
- Rossiter, J.R. (1977) Reliability of a short test measuring children's attitudes toward TV commercials. *Journal of Consumer Research*, **3**, 179–184.
- Rozendaal, E., Buijzen, M. & Valkenburg, P. (2010) Comparing children's and adults' cognitive advertising competences in Netherlands. *Journal of Children and Media*, **4**, 77–89.
- Rozendaal, E., Lapierre, M.A., van Reijmersdal, E.A. & Buijzen, M. (2011) Reconsidering advertising literacy as a defense against advertising effects. *Media Psychology*, **14**, 333–354.
- Rozendaal, E., Oprea, S.J. & Buijzen, M. (2016) Development and validation of a survey instrument to measure children's advertising literacy. *Media Psychology*, **19**, 72–100.
- Song, H., Halvorsen, B. & Harley, A. (2014) Marketing cereal to children: content analysis of messages on children's and adults' cereal packages. *International Journal of Consumer Studies*, **38**, 571–577.
- Wiman, A.R. (1983) Parental influence and children's responses to television advertising. *Journal of Advertising*, **12**, 12–18.
- Wright, P., Friestad, M. & Boush, D.M. (2005) The development of marketplace persuasion knowledge in children, adolescents, and young adults. *Journal of Public Policy & Marketing*, **24**, 222–233.