



UvA-DARE (Digital Academic Repository)

Boy's responses to the integration of advertising and entertaining content

van Reijmersdal, E.A.; Rozendaal, E.; Buijzen, M.

DOI

[10.1108/YC-10-2014-00487](https://doi.org/10.1108/YC-10-2014-00487)

Publication date

2015

Document Version

Final published version

Published in

Young Consumers

License

Article 25fa Dutch Copyright Act

[Link to publication](#)

Citation for published version (APA):

van Reijmersdal, E. A., Rozendaal, E., & Buijzen, M. (2015). Boy's responses to the integration of advertising and entertaining content. *Young Consumers*, 16(3), 251-263. <https://doi.org/10.1108/YC-10-2014-00487>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Boys' responses to the integration of advertising and entertaining content

Eva A. van Reijmersdal, Esther Rozendaal and Moniek Buijzen

Eva A. van Reijmersdal is based at Amsterdam School of Communication Research, University of Amsterdam, Amsterdam, The Netherlands. Esther Rozendaal and Moniek Buijzen are both based at Behavioural Science Institute, Radboud University, Nijmegen, The Netherlands.

Abstract

Purpose – The purposes of this paper are to investigate the effects of integrated advertising formats on the persuasion of children, children's awareness of the persuasive intent of these formats and how this awareness mediates the level of persuasion.

Design/methodology/approach – An one-factor between-subjects experiment was conducted among 117 boys from 8 to 12 years old.

Findings – This study showed that boys were more aware of the persuasive intent of a non-integrated catalog than of a brand-integrated magazine. In addition, higher awareness of the persuasive intent of the catalog enhanced persuasion in boys.

Research limitations/implications – This study only focused on boys' responses and not on girls.

Practical implications – Findings imply that advertisers could focus on non-integrated print advertising formats, such as catalogs, to promote positive product attitudes among boys. Catalogs are also a more ethical way of communicating to boys because boys are generally aware of catalogs' persuasive intent.

Social implications – This study implies that even if children have sufficient persuasion knowledge, they do not necessarily use it to critically evaluate advertising.

Originality/value – This paper is the first to systematically test the differences in effects of brand-integrated magazines versus catalogs targeted toward children. Importantly, it shows that persuasion knowledge plays a fundamentally different role in the persuasion process of children than of adults: awareness of the persuasive intent of catalogs increases persuasion among boys, whereas previous studies among adults showed opposite results.

Keywords Consumer socialization, Children and brands, Quantitative methods

Paper type Research paper

Introduction

Since the start of the new millennium, dramatic changes in the commercial media environment have occurred because the boundaries between advertising, entertainment and information have become increasingly blurred (Balasubramanian *et al.*, 2006). In particular, children's media environment has been saturated with integrated advertising techniques, including advergames, branded Web sites and brand-integrated magazines (Buijzen *et al.*, 2010). This integration between advertising and entertainment has fuelled debates in both academia and society. It is generally assumed that children are easily persuaded by these subtle formats, which often involve integrated advertising, because children are expected to be less aware of the persuasive intent of these formats. Therefore, critical processing mechanisms are thought to remain inactivated (Nairn and Fine, 2008).

Even though children's awareness of advertising's persuasive intent has gained increased attention from both academics and policy-makers over the past few years, much remains unclear about the actual role of this awareness in children's processing of advertising messages (Rozendaal *et al.*, 2011). Several studies have focused on children's awareness

Received 28 October 2014
Revised 18 February 2015
28 April 2015
Accepted 29 May 2015

The Netherlands Association for Scientific Research (NWO) provided funding for this research. The funder had no role in the research or the article. The authors thank Annemarie van Gent for her assistance with the data collection.

of the intent of advertising, including integrated advertising formats (An and Stern, 2011; Owen *et al.*, 2013). However, only few studies have linked this awareness to advertising effects (Mallinckrodt and Mizerski, 2007; Van Reijmersdal *et al.*, 2012; Waiguny *et al.*, 2012). Moreover, the studies that did investigate this link have yielded mixed results and therefore do not provide conclusive evidence.

Clearly, to reach an informed conclusion about the effects of integrated advertising on children and about the role of children's awareness of the persuasive intent of these formats, there is a vital need to extend research into this topic. Therefore, the aims of this study are to investigate:

- the effects of integrated advertising formats on the persuasion of children;
- children's awareness of the persuasive intent of these formats; and
- how this awareness mediates the level of persuasion.

Specifically, in this study, we focus on integrated print advertising. Brand-integrated magazines are print formats that are owned by advertisers and especially created as a vehicle to promote the advertisers' products, thereby increasing behavioral loyalty, or repeat purchase behavior (Bronner, 2004; Haeusermann, 2013). Although print accounts for considerable amounts of the total integrated advertising volume (Bhatnagar *et al.*, 2004), print has been largely ignored in the literature on children and advertising (Cordy, 2004; McMahan, 2002 for exceptions). This gap is surprising for two reasons. First, brand-integrated magazines targeted toward children are very popular and highly attractive to children (Jones and Reid, 2010; McMahan, 2002). To illustrate, in the USA, the second most popular children's magazine in terms of circulation is *Nintendo Power*, a brand-integrated magazine by Nintendo (Nitz, 2012). Globally, one of the most popular brand-integrated magazines is *Lego Club Magazine*, which is available in 12 countries and has an estimated circulation of 3.2 million copies (Skelly, 2009). In particular, toy-focused magazines and catalogs that are associated with presents are very popular because these magazines function as an important source of information for children's toy wish lists (Buijzen and Valkenburg, 2000; Clarke and McAuley, 2010).

Second, results from other studies on the effects of brand integration on children mainly focused on digital media. These results cannot be directly applied to print. Brand-integrated magazines differ from most digital integrated advertising formats in terms of the cognitive capacity needed for processing, which may affect the role of persuasion knowledge in children's responses (Buijzen *et al.*, 2010). Print formats only include visual features that children can process at their own pace and are not interactive. This characteristic puts a lower demand on children's capacities than do games for example. Therefore, brand integration may have a greater ability to evoke children's awareness of persuasive intent. Thus, to understand the impact of highly popular brand-integrated magazines on children, new research is needed.

To address our research aims, we compare boys' responses to a toy store's brand-integrated magazine (i.e. integrated advertising format) with responses to a traditional toy store catalog (i.e. non-integrated advertising format), both targeted toward boys. We focus on advertised-product attitude (i.e. children's liking of and desire for the advertised products; D'Alessio *et al.*, 2009) as an indicator of advertising persuasion (Aim 1) because product attitude is considered to be one of the most important predictors of the behavioral outcomes of advertising exposure, such as purchase intent and consumption (Brown and Stayman, 1992). In addition, we compare 8- to 12-year-old boys' awareness of the persuasive intent of a brand-integrated toy magazine to their awareness of the intent of a traditional toy store catalog (Aim 2) and investigate whether this awareness mediates the effects of both advertising formats (Aim 3).

Theoretical background

The effect of brand-integrated magazines compared with catalogs on children's product attitudes

It is generally assumed that integrated formats are more effective in evoking persuasive outcomes, such as product attitudes, than non-integrated formats (Balasubramanian *et al.*, 2006). The most important theoretical explanation for this assumption is that people are expected to be more critical toward advertising than toward editorial content (Cameron, 1994). Because integrated formats deliberately mask advertising messages as editorial content, people in general, and children in particular, are less likely to be aware of the persuasive intent of integrated formats. Consequently, these individuals are more likely to process a brand-integrated magazine in a positive and less critical manner than a non-integrated product catalog.

Another explanation for the assumed effectiveness of brand-integrated magazines is that these print formats integrate advertising with entertainment. People's positive associations with the entertaining context are likely to spill over to the products that are advertised (Nairn and Fine, 2008; Van Reijmersdal *et al.*, 2012). Spillover theory suggests that the pleasant experience of reading an entertaining magazine is attributed to the products in the magazine. In addition, compared with a catalog, a brand-integrated magazine has the advantage of a theoretical process called "third-party endorsement" (Cameron, 1994). The branded messages in the magazine seem to be advocated or endorsed by a journalist or editor of the magazine (a third party) rather than the advertiser itself. This feature lends credibility to the persuasive message and is likely to increase persuasion (Van Reijmersdal, 2011). The information in a non-integrated catalog, however, is clearly produced by the advertiser, making the catalog less credible and less convincing (Van Reijmersdal *et al.*, 2010).

Thus, because the commercial content of brand-integrated magazines is disguised as editorial content and is often entertaining, children are more likely to be persuaded. We formulated the following hypothesis:

- H1.* A brand-integrated magazine leads to more persuasion (i.e. more positive attitudes toward the advertised products) than a toy store catalog.

Children's awareness of persuasive intent

Awareness of the persuasive intent of an advertising message, which is the understanding that a specific message attempts to influence purchase behavior by changing attitudes and cognitions about the product or advertisement (Rozendaal *et al.*, 2011), is argued to be an important component of persuasion knowledge (Friestad and Wright, 1994). Persuasion knowledge encompasses different types of knowledge regarding the motives, strategies and tactics of specific advertising formats and advertising in general, which children start to develop during childhood (Moses and Baldwin, 2005; Rozendaal *et al.*, 2011; Wright *et al.*, 2005). Several empirical studies on children's persuasion knowledge regarding traditional television advertising have shown that at approximately 8 years of age, children become increasingly aware of the intent of television commercials, but awareness of persuasive intent does not fully mature until the age of 12 (Boush *et al.*, 1994; John, 1999; Lacznik and Carlson, 2012; Oates *et al.*, 2002; Robertson and Rossiter, 1974).

When compared to traditional television advertising, it is assumed that children are less aware of the persuasive nature of integrated advertising formats, because the source of the information and the persuasive message are masked by entertaining content (Nairn and Fine, 2008; Owen *et al.*, 2013). Several studies have investigated children's awareness of integrated forms of advertising, such as brand placement in movies, in-game advertising and advergames (An and Stern, 2011; Mallinckrodt and Mizerski, 2007; Owen *et al.*, 2013; Rozendaal *et al.*, 2013; Van Reijmersdal *et al.*, 2012; Waiguny *et al.*, 2012). Only one study explicitly compared children's awareness of the persuasive intent of integrated advertising

formats with traditional formats. Owen *et al.* (2013) investigated and compared children's (ages 6-7 and 9-10) awareness of the intent of traditional television commercials and of several forms of integrated advertising (advergaming, in-game advertising, brand placement in movies, program sponsorship and product licensing). The researchers indeed found that children of these ages are less aware of the persuasive intent of all integrated forms of advertising than of traditional television commercials.

Thus far, little is known about children's awareness of the persuasive intent of integrated print advertising. Based on previous research into integrated advertising formats, we expect children to be less aware of the persuasive intent of a brand-integrated toy magazine than of a non-integrated toy store catalog. Specifically, we expect that children are less aware that brand-integrated magazines are persuasive in nature because the persuasive intent is masked by the entertaining content of the magazine. To test this assumption, we formulated the following hypothesis:

H2. A brand-integrated magazine leads to lower levels of awareness of persuasive intent than a toy store catalog among children.

The mediating effect of awareness of persuasive intent

Awareness of persuasive intent is generally considered to be an important mediator of advertising persuasion (Rozendaal *et al.*, 2011). Specifically, theories on persuasion knowledge and cognitive advertising defenses predict that people are more easily persuaded when they are unaware of the attempted persuasion (Friestad and Wright, 1994; Rozendaal *et al.*, 2011). That is, when audiences are aware of the persuasive intent of an advertising message, they process the message more critically, decreasing the likelihood of persuasion. Research on adults indeed showed that increased awareness of the persuasive intent of brand integration in television programs (Matthes *et al.*, 2007) and in print (Van Reijmersdal *et al.*, 2010) resulted in more negative attitudes. However, it is uncertain whether this mediating effect of awareness of persuasive intent also applies to children. Empirical evidence for a relationship between children's awareness of persuasive intent and persuasion is scarce and inconclusive and focuses primarily on television advertising (Robertson and Rossiter, 1974; Ross *et al.*, 1984; Rozendaal *et al.*, 2009). Several studies found no significant relationship between awareness of persuasive intent and advertising effects (Ross *et al.*, 1984), whereas others found evidence for a negative (Robertson and Rossiter, 1974) or a positive (Rozendaal *et al.*, 2009) relationship.

Moreover, recent theoretical insights into child development and advertising processing have highlighted important limitations of awareness of persuasive intent as a defense against advertising effects (Rozendaal *et al.*, 2011). It has been argued that due to the affect-based nature of persuasion in child-directed advertising and due to children's immature cognitive skills, it is highly unlikely that awareness of the persuasive intent of an advertising message triggers critical defenses among children (Buijzen *et al.*, 2010; Livingstone and Helsper, 2006). For this process to occur, a child's motivation and ability to process an advertising message should be relatively high. However, the affect-based nature of contemporary advertising, combined with children's immature cognitive skills, makes it very difficult for children to engage in an elaborate persuasion process.

This argument particularly applies to integrated advertising formats, such as brand-integrated magazines. The entertaining and involving nature of such magazines distracts children from processing the content on a highly elaborate and critical level. Moreover, because of the highly involving nature and powerful emotional appeals of most advertised products, children's desire to conform to the message may be much stronger than their desire to defend against the message (Harris *et al.*, 2009). However, the limited empirical evidence is mixed. To our knowledge, four studies explicitly tested the relationship between children's awareness of persuasive intent and the effects of brand integration (Mallinckrodt and Mizerski, 2007; Van Reijmersdal *et al.*, 2012; Waiguny and Terlutter, 2011; Waiguny *et al.*, 2012). All of these studies focused on advergaming, but

several studies found no significant relationship between children's awareness of persuasive intent and cognitive or affective responses to the brands integrated in games (Mallinckrodt and Mizerski, 2007; Van Reijmersdal *et al.*, 2012). Other studies found negative relations, with increased awareness of persuasion leading to more negative brand responses (Waiguny and Terlutter, 2011; Waiguny *et al.*, 2012).

However, the effects that were found for advergames could be different for brand-integrated magazines because brand integration in magazines requires fewer cognitive resources to process due to the magazine's non-interactive nature. Interactivity refers to active control by voluntary and instrumental action, which influences the medium experience (Liu and Shrum, 2009). Readers cannot interact with magazine content but do interact with game content, which requires additional cognitive resources. Thus, children may have more cognitive resources available when processing brand-integrated magazines compared with games. This aspect may increase the children's ability to critically process brand integration. Because of these contradictory findings and predictions, we decided to formulate a research question about the possible mediating role of awareness of persuasive intent:

RQ1. To what extent is the effect of the integration of advertising in entertaining content on advertised-product attitudes mediated by boys' awareness of persuasive intent?

Method

Design and stimulus materials

The experiment was based on a one-factor between-subjects design. Boys were exposed to either a brand-integrated magazine or a toy store catalog. The source of both print formats was the Dutch toy store *Bart Smit*. Both formats were full color and focused only on toys, games and DVDs for boys between 8 and 12 years old. While selecting the stimulus materials, great care was taken to ensure that the print formats were equal in most aspects, except for the integration.

A brand-integrated magazine called *Stoer! (Brave!)* was recently launched by the toy store. The magazine is specifically targeted toward boys between 8 and 12 years old. This means that only toys, games and DVDs for boys were portrayed in the magazine, making it highly relevant for our sample. The magazine contained 67 pages and included comics, stories, games, pictures and texts about toys, games and DVDs. Content analysis showed that 79 per cent of the pages included pictures of toys, games or DVDs. Product prices were provided on 8 per cent of the pages. The name of the toy store was mentioned in the colophon. In the integrated magazine, the content about toys, games or DVDs was always integrated into entertaining content such as short texts (in the form of short stories or "news-like" items), cartoons or puzzles.

The non-integrated format was a toy store catalog that originally included 159 pages. To make this catalog as suitable as the brand-integrated magazine to the boy subjects, the pages that portrayed products for babies and girls were removed. The final catalog had 69 pages. Toys, games and DVDs with short information about product features (limited to 10 to 20 words) were portrayed on 99 per cent of the pages, and price information was provided on 96 per cent of the pages. Thus, the products were almost always accompanied by sales information. The name of the toy store was present on the cover and inside of the catalog.

The initial analyses showed that there was no significant difference in the boys' attitudes between the two formats, $F(1, 115) = 2.22$, $p = 0.14$, $\eta^2 = 0.02$. However, boys were more often exposed to the catalog before the experiment; they indicated having read the catalog significantly more often than the magazine in the past, $F(1, 115) = 43.92$, $p < 0.05$, $\eta^2 = 0.28$; $M_{\text{magazine}} = 2.08$, $SD = 1.21$, $M_{\text{catalog}} = 3.43$, $SD = 0.98$, Scale 1 (*no, definitely not*) to 4 (*yes, certainly*).

Participants and procedure

A total of 117 boys from 8 to 12 years old ($M = 9.67$, $SD = 1.24$) participated in the study. Only boys were invited to participate because the brand-integrated magazine was targeted toward boys. The boys were recruited from two elementary schools in different urban and suburban areas. Prior to participating, institutional approval, parental consent and the children's informed consent were obtained. The boys were informed that they could stop participating at any time. The study occurred in a quiet room in the school with groups of five boys. Each group of boys read either the catalog or the brand-integrated magazine. The boys were randomly assigned to one of the two conditions. After a short introduction, the boys read the catalog or the brand-integrated magazine and were then instructed to close it and to fill out a questionnaire individually.

Demographic questions were asked initially, followed by questions addressing advertised-product attitudes, awareness of persuasive intent and attitudes toward the format. The boys were then questioned about the aim of the research. None of them expressed awareness of the study's aim. Lastly, the children were debriefed and instructed not to talk with any of their classmates about the research until all children had participated.

Measures

All measures used are suited for children aged between 8 and 12 years old. The measures were extensively tested in previous research and have proven to be understandable and valid for children of this age. Based on the literature, we used questions rather than statements because children at this age have difficulty responding to statements (Borgers *et al.*, 2000; Greig *et al.*, 2007). Moreover, all measures used four-point scales. Methodological research among children has shown that an even number of answering options is optimal because children have a strong tendency to choose the midpoint of the scale when using uneven answering options (Borgers *et al.*, 2004). In addition, four answering options make it easier for children to choose but still provide enough variance (Borgers *et al.*, 2004).

Awareness of persuasive intent. Awareness of persuasive intent was measured with six questions: "Do you think this magazine is created to make you want to buy [. . .]?", followed by "toys", "DVDs" and "games," and "Do you think this magazine is created to make you want to have [. . .]?", also followed by "toys", "DVDs" and "games". The answers were given on the following scale: "no, certainly not"; "no, I don't think so"; "yes, I think so"; and "yes, for sure" (Rozendaal *et al.*, 2013). All questions loaded on one factor and proved to be reliable. Therefore, a single measure of awareness of persuasive intent was created by averaging the scores for the six questions ($EV = 3.50$, $R^2 = 58.26$, Cronbach's alpha = 0.76, $M = 3.17$, $SD = 0.74$).

Advertised-product attitude. Attitudes toward the advertised products were measured by asking the six questions:

- Q1. "Do you like the toys you saw in the magazine?"
- Q2. "Do you like the DVDs you saw in the magazine?"
- Q3. "Do you like the games you saw in the magazine?"
- Q4. "Do you want to have the toys you saw in the magazine?"
- Q5. "Do you want to have the DVDs you saw in the magazine?"
- Q6. "Do you want to have the games you saw in the magazine?", with answers on the same four-point scale as used for awareness of persuasive intent (D'Alessio *et al.*, 2009; Rozendaal *et al.*, 2009).

All items loaded on one factor (factor loadings between 0.67 and 0.74, $R^2 = 88.05$). Therefore, the scores were averaged to create a single measure of advertised-product attitude (Cronbach's alpha = 0.78, $M = 3.11$, $SD = 0.60$).

Covariates. Boys' ages, attitudes toward the print format and prior exposure to the format were also ascertained. The experimental conditions did not differ with respect to age, $F(1, 115) = 1.20$, $p = 0.28$, $\eta^2 = 0.01$. Attitude toward the magazine was measured with the following five questions:

- Q1. "Do you like the magazine?"
- Q2. "Do you think the magazine is funny?"
- Q3. "Do you think the magazine is boring?" (reverse)
- Q4. "Do you think the magazine is great?"
- Q5. "Do you think the magazine is stupid?" (reverse)

The questions were answered on the following scale: "no, not at all"; "no, not really"; "yes, a little bit"; and "yes, very much". Boys were asked this question only for the format to which they were exposed. The scale was based on Derbaix and Pecheux's (2003) and D'Alessio *et al.*'s (2009) scales for attitude toward television advertising. These scales are particularly suitable and valid for children aged between 8 and 12 years. As mentioned before, the formats did not differ with respect to attitudes. Scale items were averaged to create a single measure of magazine attitude (Cronbach's alpha = 0.81, $M = 3.29$, $SD = 0.50$). Prior exposure to the magazines was measured by the question "Have you read the magazine before?" with answers on the same four-point scale ($M = 2.75$, $SD = 1.29$). As mentioned before, boys were significantly more often exposed to the catalog than to the brand-integrated magazine before the experiment.

Age, attitude toward the format and prior exposure to the magazines were included as covariates in the analyses because these characteristics were significantly related to the dependent variables.

Results

Effects on advertised-product attitude and awareness of persuasive intent

To test our hypotheses, a multivariate analysis of covariance (MANCOVA) was conducted with the conditions (brand-integrated magazine compared with catalog) as a between-subjects factor and awareness of persuasive intent and advertised-product attitudes as dependent variables. The results are depicted in Table I.

The analysis showed a significant multivariate effect, Wilk's Lambda = 0.86, $F(2, 110) = 9.22$, $p < 0.001$, $\eta^2 = 0.14$, and two significant main effects: on advertised-product attitude, $F(1, 111) = 6.13$, $p < 0.01$, $\eta^2 = 0.05$, and on awareness of persuasive intent, $F(1, 111) = 17.55$, $p < 0.001$, $\eta^2 = 0.14$. Contrary to what was expected in *H1*, the results showed that the catalog resulted in more persuasion than the brand-integrated magazine. The boys who were exposed to the catalog showed more positive attitudes toward the advertised products than the boys who were exposed to the brand-integrated magazine. However, as predicted in our second hypothesis, the boys were more aware of the catalog's persuasive intent than of the brand-integrated magazine's persuasive intent.

Table I Effects of integration on persuasion knowledge and persuasion

| | <i>Brand-integrated magazine</i> | <i>Catalog</i> |
|--------------------------------|----------------------------------|--------------------------|
| Advertised-product attitude | 2.97 (0.69) ^a | 3.28 (0.42) ^b |
| Awareness of persuasive intent | 2.87 (0.80) ^a | 3.49 (0.52) ^b |

Notes: Mean scores are portrayed with standard deviations between parentheses; ^{a,b} means with different superscripts in the same row differ significantly at $p < 0.01$

Mediation analyses

To answer our research question, we used the INDIRECT SPSS macro developed by Preacher and Hayes (Hayes, 2013). This macro provides an analysis of the mediation effect following the causal steps approach (Baron and Kenny, 1986). First, the effect of the independent variable on the dependent variables is tested. The effect of the independent variable on the mediator and the effect of the mediator on the dependent variables are then tested. Lastly, the effect of the independent variable on the dependent variables controlled for the mediator is tested. In addition, bootstrap confidence intervals are produced to test the significance of the mediated effect (Hayes, 2013). Bootstrap confidence intervals are preferred over the Sobel test because bootstrapping respects the non-normality of the sampling distribution of the indirect effect. In addition, in contrast to the Sobel test, the bootstrapping method can adjust all paths in the mediation model for the potential influence of covariates (Hayes, 2013).

The analysis showed that the catalog and the brand-integrated magazine (independent variable) resulted in significantly different attitudes toward the advertised products (the dependent variable) ($B = -26$, $SE = 0.10$, $p = 0.01$). The analysis also showed that the effect of awareness of persuasive intent (the mediator) on advertised-product attitude (the dependent variable) was significant ($B = 0.26$, $SE = 0.06$, $p < 0.001$). In addition, the effect of advertising format on product attitude became non-significant when controlled for awareness of persuasive intent ($B = -10$, $SE = 0.11$, $p = 0.34$), which seemed to indicate mediation. Bootstrapping indeed showed that the mediated effect was significant, as the 95 per cent bias-corrected and accelerated confidence interval did not include zero (BC 95 per cent CI $[-32, -06]$, $B = -16$, $SE = 0.06$). Thus, the catalog led to more awareness of persuasive intent than the brand-integrated magazine, which resulted in more positive attitudes toward the advertised products.

Discussion

The first aim of this study was to examine whether the integration of advertising in an entertaining print format would evoke more positive product attitudes than a catalog. Second, this study aimed to understand how a brand-integrated magazine affects boys' awareness of persuasive intent compared with a toy store catalog. The third aim was to test whether awareness of persuasive intent mediated the effect of the advertising format. Surprisingly, the non-integrated catalog had a more positive effect on attitudes toward the advertised products than the brand-integrated magazine. This effect was mediated by awareness of persuasive intent, such that boys' increased awareness of the persuasive intent of the catalog explained why the boys were more positive about the advertised products.

Persuasion and awareness of persuasive intent

Contrary to what we expected based on research on adults, our results indicate that non-integrated advertising formats have a stronger effect on persuasion than does an integrated print format. Specifically, boys held more positive attitudes toward the advertised products when exposed to a non-integrated toy store catalog than when exposed to a brand-integrated magazine.

In addition, boys were less aware of the persuasive intent of a brand-integrated magazine (68 per cent > 2.5 , which is the midpoint of the scale) than of a non-integrated catalog (93 per cent > 2.5). This finding is consistent with the results of studies on adults, showing that audiences are less aware of the persuasive intent of integrated advertising formats than of "traditional" advertising, such as commercials and advertisements (Cameron, 1994; Van Reijmersdal *et al.*, 2010; Van Reijmersdal, 2011).

Previous research into the effects of advergames proposed that children's limited understanding of integrated online formats might be attributed not only to their limited

cognitive capacities to recognize such integrated advertising but also to the games' interactive nature (Mallinckrodt and Mizerski, 2007; Nairn and Fine, 2008; Van Reijmersdal *et al.*, 2012). The interactivity may overwhelm children to such an extent that their critical thinking is not activated at all. However, our study demonstrates that when exposed to a traditional non-interactive print medium, boys are also less aware of persuasive intent when advertising is integrated with entertaining content.

Awareness of persuasive intent mediates effects on persuasion

Importantly, awareness of persuasive intent mediated this effect in such a way that higher awareness of persuasive intent resulted in enhanced persuasion. Previous studies on adults have shown an opposite effect: persuasion knowledge of brand integration triggered a more critical mode of processing, leading to resistance and less persuasion (Matthes *et al.*, 2007; Russell, 2002; Van Reijmersdal *et al.*, 2010). The Cognitive Defense Theory and the Persuasion Knowledge Model explain these findings by postulating that when audiences are aware of the persuasive intent of a message; this knowledge is used to critically process advertising and results in a defense against persuasion (Friestad and Wright, 1994; Rozendaal *et al.*, 2011; Wright *et al.*, 2005).

For children, the relationship between awareness of persuasion and persuasion has already been heavily debated in the literature and is based on inconclusive findings (Livingstone and Helsper, 2006; Robertson and Rossiter, 1974; Ross *et al.*, 1984; Rozendaal *et al.*, 2009). Children are highly unlikely to use their awareness of persuasive intent as a critical defense against advertising because of their limited emotion regulation ability and their poor executive functioning (Rozendaal *et al.*, 2011). Children have difficulty controlling their emotions, thoughts and actions because these skills are still developing. When confronted with emotional, entertaining and engaging media content in which advertising is integrated, children's ability to "stop and think" about the ulterior motive of information is further hampered (Livingstone and Helsper, 2006; Rozendaal *et al.*, 2009). Our findings demonstrate that boys aged 8 to 12 do not use their awareness of the persuasive intent of a catalog as a critical defense against advertising. In contrast, the boys' persuasion awareness enhances the persuasive effects. This finding is in line with the results of Rozendaal *et al.* (2009), who found that for children 8 to 10 years of age, awareness of the selling and persuasive intent of television advertising resulted in increased product desire.

Several theoretical explanations for these significant findings can be found in the literature. First, ease of processing may play a role. Boys demonstrated more awareness of the persuasive intent of the toy store catalog than of the brand-integrated magazine. The non-integrated format activates existing advertising-related knowledge, meaning that boys can link the information in the catalog to their existing knowledge, making it easier to process this format. Stimuli that are easy to process lead to processing fluency that is positive and pleasant in nature (Reber *et al.*, 1998). The positive feelings associated with processing fluency tend to be attributed to the information that is processed rather than to the information processing itself (Bornstein and D'Agostino, 1994). Regarding our results, the positive feelings associated with the processing fluency of a catalog may be attributed to the advertised products, resulting in more positive product attitudes.

A second explanation for our findings may be related to the boys' positive associations with toy, game and DVD advertising. When children are aware that information is created to sell products – that a catalog is created to sell toys, games and DVDs – positive associations with buying and owning these products may be activated. Children use toy advertisements and toy store catalogs in particular as sources of information for their birthday and Christmas wish lists (Buijzen and Valkenburg, 2000). The catalog may trigger commercial schemas of liking, desiring and owning, resulting in more positive product attitudes. When advertising is integrated with entertaining content, awareness of persuasion and positive commercial associations are not activated.

Third, one may assume that children are more aware of the persuasive intent of a non-integrated catalog because they are more familiar with the format type. Control measures indeed showed that the boys were more often exposed to the catalog than with the brand-integrated magazine before the experiment. However, additional correlational analyses showed that there was no significant relationship between prior exposure to the brand-integrated magazine and the boys' awareness of the persuasive intent of the magazine. This finding means that boys who were more familiar with the integrated format did not have a better understanding of its persuasive intent than boys who were less familiar or who had not seen the magazine before. Similarly, there was no correlation between prior exposure to the catalog and awareness of the catalog's persuasive intent. This result implies that the effects are caused by the integration of persuasion into entertaining content, rather than by a familiarity effect.

Implications, limitations and future research

Our study demonstrates that there is a vital need for a better theoretical understanding of the role of children's awareness of persuasive intent in persuasion by both integrated and non-integrated advertising formats. Although awareness of persuasion and persuasion knowledge have garnered more attention from both academics and policy-makers over the past few years, our theoretical understanding of the role of persuasion awareness in children's susceptibility to advertising in general and to integrated advertising in particular is still immature. Future research should help to explain the mechanisms underlying the relationship between children's awareness of persuasive intent and children's persuasion. Specifically, our findings give direction for future research to explicitly test whether non-integrated advertising formats lead to more processing fluency and whether awareness of persuasive intent activates positive associations with advertising and products rather than negative associations with bias and deception.

In addition, it would be interesting to compare the effects of integrated formats on children and adults. Previous studies found that awareness of persuasive intent and more general persuasion knowledge are *negatively* related to persuasion among adults (Henrie and Taylor, 2009). Our study again shows that advertising processes among children are fundamentally different than among adults: awareness of persuasion was *positively* related to persuasion among boys. A systematic comparison of these effects within one study could shed more light on the role of awareness of persuasive intent in persuasion among people of different ages.

The present study focused on magazines that were targeted toward boys; therefore, only boys were included in the sample. Mallinckrodt and Mizerski (2007) showed that boys were more aware of the persuasive intent of advergames than girls. It is possible that girls are also less aware of the persuasive intent of brand-integrated magazines than the boys in the present study. This possibility may imply that the effects found in this study are even stronger for girls. To test these assumptions for brand-integrated magazines and catalogs, further research is needed.

Our study used a post-measure only design. However, future research may also include children's prior knowledge of the advertised brands and product categories. This may give insights into the relative effectiveness of both formats for advertising brands and products with different levels of familiarity among children.

In addition to the theoretical contributions described, this study also provides insights for practitioners. Our findings imply that advertisers could focus on non-integrated print advertising formats, such as catalogs, to promote their products to children for two reasons. First, catalogs were found to be the most effective in creating positive product attitudes. Second, catalogs are a more ethical way of communicating to children because children are generally aware of catalogs' persuasive intent.

References

- An, S. and Stern, S. (2011), "Mitigating the effects of advergames on children", *Journal of Advertising*, Vol. 40 No. 1, pp. 43-56.
- Balasubramanian, S.K., Karrh, J.A. and Patwardhan, H. (2006), "Audience response to product placement: an integrative framework and future research agenda", *Journal of Advertising*, Vol. 35 No. 3, pp. 115-141.
- Baron, R.M. and Kenny, D.A. (1986), "The moderator-mediator variable distinction in social psychology research: conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, Vol. 51 No. 6, pp. 1173-1182.
- Bhatnagar, N., Aksoy, L. and Malkoc, S.A. (2004), "Embedding brands within media content: the impact of message, media, and consumer characteristics on placement efficacy", Shrum, L.J. (Ed.), *The Psychology of Entertainment Media: Blurring the Lines between Entertainment and Persuasion*, Lawrence Erlbaum, Mahwah, NJ, pp. 99-116.
- Borgers, N., de Leeuw, E. and Hox, J. (2000), "Children as respondents in survey research: cognitive development and response quality", *Bulletin de Méthodologie Sociologique*, Vol. 66, pp. 60-75.
- Borgers, N., Hox, J. and Sikkel, D. (2004), "Response effects in surveys on children and adolescents: the effect of number of response options, negative wording, and neutral mid-point", *Quality and Quantity*, Vol. 38 No. 1, pp. 17-33.
- Bornstein, R.F. and D'Agostino, P.R. (1994), "The attribution and discounting of perceptual fluency: preliminary tests of a perceptual fluency/attributional model of the mere exposure effect", *Social Cognition*, Vol. 12 No. 2, pp. 103-128.
- Boush, D.M., Friestad, M. and Rose, G.M. (1994), "Adolescent skepticism toward TV advertising and knowledge of advertiser tactics", *Journal of Consumer Research*, Vol. 21 No. 1, pp. 165-175.
- Bronner, A.E. (2004), "Customer magazines: a tool to create loyalty", in Neijens, P.C., Hess, C., Van den Putte, S.J.H. and Smit, E.G. (Eds), *Content and Media Factors in Advertising*, Spinhuis, Amsterdam, pp. 148-162.
- Brown, S.P. and Stayman, D.M. (1992), "Antecedents and consequences of attitude toward the ad: a meta-analysis", *Journal of Consumer Research*, Vol. 19, pp. 34-51.
- Buijzen, M. and Valkenburg, P.M. (2000), "Televisiereclame en de sinterklaas-en kerstwensen van kinderen [Television advertising and the Christmas Wishes of Children]", *Tijdschrift Voor Communicatiewetenschap*, Vol. 28, pp. 69-83.
- Buijzen, M., Van Reijmersdal, E.A. and Owen, L.H. (2010), "Introducing the PCMC model: an investigative framework for young people's processing of commercialized media content", *Communication Theory*, Vol. 20 No. 4, pp. 427-450.
- Cameron, G.T. (1994), "Does publicity outperform advertising? An experimental test of the third-party endorsement", *Journal of Public Relations Research*, Vol. 6 No. 3, pp. 185-207.
- Clarke, P. and McAuley, A. (2010), "Parental evaluation of popular brand names given as Christmas gifts and sources of information used in these decisions", *Journal of Consumer Marketing*, Vol. 27, pp. 534-542.
- Cordy, D. (2004), "Marketing to children (and mums) through children's magazines", *Young Consumers*, Vol. 5 No. 1, pp. 35-44.
- D'Alessio, M., Laghi, F. and Baiocco, R. (2009), "Attitudes toward TV advertising: a measure for children", *Journal of Applied Developmental Psychology*, Vol. 30 No. 4, pp. 409-418.
- Derbaix, C. and Pecheux, C. (2003), "A new scale to assess children's attitude toward TV advertising", *Journal of Advertising Research*, Vol. 43 No. 4, pp. 390-399.
- Friestad, M. and Wright, P. (1994), "The persuasion knowledge model: how people cope with persuasion attempts", *Journal of Consumer Research*, Vol. 22 No. 1, pp. 1-31.
- Greig, A.D., Taylor, J. and MacKay, T. (2007), *Doing Research with Children*, 2nd ed., Sage, London.
- Haeusermann, T. (2013), "Custom publishing in the UK: Rise of a silent giant", *Publishing Research Quarterly*, Vol. 29 No. 2, pp. 99-109.
- Hayes, A.F. (2013), *An Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, Guilford Press, New York, NY.

- Henrie, K.M.H. and Taylor, D. (2009), "Use of persuasion knowledge by the millennial generation", *Young Consumers*, Vol. 10 No. 1, pp. 71-81.
- John, D.R. (1999), "Consumer socialization of children: a retrospective look at twenty-five years of research", *Journal of Consumer Research*, Vol. 26 No. 3, pp. 183-213.
- Jones, S.C. and Reid, A. (2010), "Children's magazines: reading resources or food marketing tools?", *Public Health Nutrition*, Vol. 13, pp. 393-399.
- Laczniak, R. and Carlson, L. (2012), "A theory of advertising to children", in Thornson, E. and Rodgers, S.L. (Eds), *Advertising Theory*, Routledge Communication Series, New York, NY, pp. 135-148.
- Liu, Y. and Shrum, L.J. (2009), "A dual-process model of interactivity effects", *Journal of Advertising*, Vol. 38 No. 2, pp. 53-68.
- Livingstone, S. and Helsper, E.J. (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 choice", *Journal of Communication*, Vol. 56 No. 3, pp. 560-584.
- McMahon, L. (2002), "Understanding the dynamics of youth readership", *Young Consumers*, Vol. 3 No. 2, pp. 53-61.
- Mallinckrodt, V. and Mizerski, D. (2007), "The effects of playing an advergaming on young children's perceptions, preferences, and requests", *Journal of Advertising*, Vol. 36 No. 2, pp. 87-100.
- Matthes, J., Schemer, C. and Wirth, W. (2007), "More than meets the eye: investigating the hidden impact of brand placements in television magazines", *International Journal of Advertising*, Vol. 26 No. 4, pp. 477-503.
- Moses, L.J. and Baldwin, D.A. (2005), "What can the study of cognitive development reveal about children's ability to appreciate and cope with advertising?", *Journal of Public Policy & Marketing*, Vol. 24 No. 2, pp. 186-201.
- Nairn, A. and Fine, C. (2008), "Who's messing with my mind? The implications of dual-process models for the ethics of advertising to children", *International Journal of Advertising*, Vol. 27 No. 3, pp. 447-470.
- Nitz, M. (2012), "Children's magazines ranked by circulation", available at: <http://apjperiodicalscommittee.pbworks.com/w/page/54531103/Children%27s%20Magazines%20ranked%20by%20Circulation> (accessed 24 March 2013).
- Oates, C., Blades, M. and Gunter, B. (2002), "Children and television advertising: when do they understand persuasive intent?", *Journal of Consumer Behaviour*, Vol. 1, pp. 238-245.
- Owen, L.H., Lewis, C., Auty, S. and Buijzen, M. (2013), "The role of personal salience in children's implicit processing of brand placements in movies", paper presented at the Annual Conference of the International Communication Association.
- Reber, R., Winkielman, P. and Schwarz, N. (1998), "Effects of perceptual fluency on affective judgments", *Psychological Science*, Vol. 9, pp. 45-48.
- Robertson, D. and Rossiter, J.R. (1974), "Children and commercial persuasion: an attribution theory analysis", *Journal of Consumer Research*, Vol. 1 No. 1, pp. 13-20.
- Ross, R., Campbell, T., Wright, J.C., Hustona, A.C., Ricea, M. and Turk, P. (1984), "When celebrities talk, children listen: an experimental analysis of children's responses to TV ads with celebrity endorsement", *Journal of Applied Developmental Psychology*, Vol. 5, pp. 185-202.
- Rozendaal, E., Buijzen, M. and Valkenburg, P.M. (2009), "Do children's cognitive advertising defenses reduce their desire for advertised products?", *Communications*, Vol. 34 No. 3, pp. 287-303.
- Rozendaal, E., Lapierre, M.A., Van Reijmersdal, E.A. and Buijzen, M. (2011), "Reconsidering advertising literacy as a defense against advertising effects", *Media Psychology*, Vol. 14 No. 3, pp. 333-354.
- Rozendaal, E., Slot, N., Van Reijmersdal, E.A. and Buijzen, M. (2013), "Children's responses to advertising in social games", *Journal of Advertising*, Vol. 42 Nos 2/3, pp. 142-154.
- Russell, C.A. (2002), "Investigating the effectiveness of product placements in television shows: the role of modality and plot connection congruence on brand memory and attitude", *Journal of Consumer Research*, Vol. 29 No. 3, pp. 306-318.
- Skelly, B. (2009), "Lego rebuilds customer loyalty brick by brick", available at: www.anpost.ie/anPost/anPostDm/news/Dmnews/2009/richard+stollery+-+lego.htm (accessed 25 March 2013).

Van Reijmersdal, E.A. (2011), "Mixing advertising and editorial content in radio programmes: appreciation and recall of brand placements versus commercials", *International Journal of Advertising*, Vol. 30 No. 3, pp. 425-446.

Van Reijmersdal, E.A., Neijens, P.C. and Smit, E.G. (2010), "Customer magazines: effects of commerciality on readers' reactions", *Journal of Current Issues and Research in Advertising*, Vol. 32 No. 1, pp. 59-67.

Van Reijmersdal, E.A., Rozendaal, E. and Buijzen, M. (2012), "Effects of prominence, involvement, and persuasion knowledge on children's cognitive and affective responses to advergames", *Journal of Interactive Marketing*, Vol. 26 No. 1, pp. 33-42.

Waiguny, M.J., Nelson, M.R. and Terlutter, R. (2012), "Entertainment matters! The relationship between challenge and persuasiveness of an advergame for children", *Journal of Marketing Communications*, Vol. 18 No. 1, pp. 69-89.

Waiguny, M.J. and Terlutter, R. (2011), "Differences in children's processing of advergames and TV commercials", in Shintaro, O. (Ed.), *Advances in Advertising Research*, Gabler, Wiesbaden, pp. 35-55.

Wright, P., Friestad, M. and Boush, D.M. (2005), "The development of marketplace persuasion knowledge in children, adolescents, and young adults", *Journal of Public Policy & Marketing*, Vol. 24 No. 2, pp. 222-233.

Further reading

Pawlowski, D.R., Badzinski, D.M. and Mitchell, N. (1998), "Effects of metaphors on children's comprehension and perception of print advertisements", *Journal of Advertising*, Vol. 27, pp. 83-98.

About the authors

Eva A. van Reijmersdal (PhD, University of Amsterdam) is an Assistant Professor of Marketing Communication. Her research focuses on children's and adults' responses to mixtures of advertising and editorial content, such as advergames, brand placement and advertorials. She has published in leading international journals, including *International Journal of Advertising* and *Journal of Advertising Research and Psychology & Marketing*. Her work was acknowledged with awards from the International Communication Association, the European Advertising Academy and The Netherlands Flanders Communication Association. Eva A. van Reijmersdal is the corresponding author and can be contacted at: e.a.vanreijmersdal@uva.nl

Esther Rozendaal (PhD, University of Amsterdam) is an Assistant Professor of Persuasive Communication. Her research focuses on children's advertising literacy (i.e. advertising-related knowledge, attitudes and skills) and the empowerment of children as consumers. She has published in leading international journals, including *Human Communication Research*, *Journal of Advertising* and *Media Psychology*. Her work has been awarded by several international research organizations.

Moniek Buijzen (PhD, University of Amsterdam) is a full Professor of Youth Communication. Her research is focused on young people's consumer behavior, family marketing and social marketing. She has published more than 75 peer-reviewed articles, which have been awarded by several international research organizations. She recently obtained a prestigious ERC-Consolidator grant for a five-year research project investigating social network implementation of obesity prevention campaigns among youth. She is the Chair of the communication group, Radboud University Nijmegen.

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com