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**Reference:**

Vanwesenbeeck Ini, Walrave Michel, Ponnet Koen.- Young adolescents and advertising on social network games : a structural equation model of perceived parental media mediation, advertising literacy, and behavioral intention

The journal of advertising - ISSN 0091-3367 - 45:2(2016), p. 183-197

Full text (Publisher's DOI): <http://dx.doi.org/doi:10.1080/00913367.2015.1123125>

To cite this reference: <http://hdl.handle.net/10067/1304830151162165141>

**equation model of perceived parental media mediation, advertising literacy and behavioral intention.**

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This research was funded by the Research Foundation – Flanders.

**Title: Young adolescents and advertising on Social Network Games: a structural equation model of perceived parental media mediation, advertising literacy and behavioral intention.**

Abstract

This study tested a model in which perceived parental media mediation in Social Network Games (SNGs) was related to adolescents' conceptual and attitudinal advertising literacies, both of which were in turn related to purchase request intention. The 780 participants, aged between 10 and 14 years, watched a video clip of SNG Habbo which included a commercial message before completing a questionnaire. Perceived autonomy-supportive restrictive media mediation was found to be positively associated with understanding selling intention. Perceived autonomy-supportive active media mediation was positively related to understanding persuasive intention. Understanding persuasive intention was positively related to purchase request intention.

Children and teenagers are spending increasing amounts of time on social network games (SNGs) (Ward 2014), defined as online communities in which players can interact and play games with old and new friends (Rozendaal, Slot, van Reijmersdal and Buijzen 2013). Examples of well-known SNGs include Habbo and Stardoll (Ward 2014). In 2014, Habbo had 295 million registered users aged 13-15 years. Because of the minimum age limit of 13 on most SNGs, considerable numbers of children aged 10-13 years also have accounts on similar websites (Kzero 2014). As a result of their popularity, advertisers use SNGs to reach young people (Rozendaal *et al.* 2013). Yet, little academic attention has been paid to the commercial strategies used on SNGs, such as the integration of advertising messages within the games themselves (Martínez 2014). One study investigated SNG advertising effects on children, confirming that children aged 9-12 who are easily influenced by peers have a strong preference for brands advertised within SNGs (Rozendaal *et al.* 2013). Our study aims to build further on these findings by focusing on another important actor in children's advertising literacy, namely parents. Previous studies have shown that parents assist in the consumer socialization of their children by providing them with essential consumer knowledge (John 1999).

In recent years, more research on online media has begun to investigate parental styles and parental attitudes towards online advertising, such as advergaming (see for example Evans, Carlson and Hoy 2013). However, few studies have examined the influence that parents have on children's understanding of online advertising (Terlutter and Capella 2013). We address this gap by investigating whether perceived parental media mediation styles are related to children's understanding of advertising and/or critical attitude towards SNG advertising. Unlike previous research on advertising and parents, we do not focus on advertising mediation or family communication patterns (e.g. Buijzen and Valkenburg 2005) but turn instead to general media mediation strategies. Existing research has established that parents

themselves are often unaware of the subtle advertising forms used in advergames, which leads to the assumption that they may be incapable of protecting or educating their children about the intentions of subtle marketing (Cornish 2014). Given this finding, we felt that a scale which focused on parental mediation and SNG advertising was not entirely appropriate, since parents do not seem to have sufficient knowledge for discussing SNG advertising.

Consequently, we opted to examine how parents might influence children's SNG advertising literacy in other ways. A general theory of media mediation might be expected to provide insights into parental influence on advertising literacy, since media mediation not only determines how children use media, but also influences their media literacy (Buijzen and Valkenburg 2005), an important aspect of which is advertising literacy. Here, we test a conceptual model in which perceived parental media mediation strategies are related to children's conceptual advertising literacy (i.e. understanding the selling and persuasive intent of SNG advertising) and attitudinal advertising literacy (i.e. maintaining a critical attitude towards SNG advertising), both of which are in turn related to purchase request intention as a behavioral outcome.

The focus of this study is on children and young adolescents aged between 10 and 14 years for the following reasons. While it may be assumed that children over 12 years old possess the necessary skill set for understanding advertising (John 1999), SNG advertising might be more difficult to understand than advertising in traditional media since the former has no clear boundaries between content and advertising (Owen, Lewis, Auty and Buijzen 2013). This implies that even older children might not be fully able to identify advertisers' intentions, which would make them more susceptible to advertising influence. Until now, most research has concentrated on children aged between 10 and 12 years old. It is possible, however, that advertising literacy is still developing during early adolescence (Wright, Friestad and Boush 2005). Furthermore, previous research has often assumed that parents' influence on children

diminishes over time (Valkenburg, Piotrowski, Hermanns and Leeuw 2013). Yet, due to a lack of suitable self-reported scales for parental mediation in adolescence, there is little empirical evidence to support this claim (Valkenburg *et al.* 2013). Studying children aged between 10 and 14 years old therefore appears to be worthwhile.

## **LITERATURE REVIEW**

### **Advertising literacy**

The Persuasion Knowledge Model (PKM) conceptualized by Friestad and Wright (1994) states that as children grow older, they acquire fundamental insights that help them process persuasive messages. An important aspect of persuasion knowledge involves understanding advertising intentions, especially selling and persuasive intentions (Kunkel *et al.* 2004). At approximately 8 years old, children begin to understand that an advertisement is attempting to sell something (understanding selling intention). At around 10 years old, children can understand that advertising is designed to change their attitude towards a brand or product (understanding persuasive intention) (Moses and Baldwin 2005). Understanding the selling and persuasive intentions of advertising are key elements of conceptual advertising literacy (Rozendaal, Lapierre, van Reijmersdal and Buijzen 2011).

The age categories for understanding selling and persuasive intention described above were primarily determined in research on TV advertising. For embedded types of advertising, such as in-game advertising, it is likely that understanding occurs later in a child's development (Owen *et al.* 2013). One type of embedded advertising is advertising in SNGs. Unlike traditional video games, SNGs do not involve extensive game play. Instead of completing different levels, participants can 'hang around' in the virtual world (Mäntymäki and Riemer 2014). Brands use various strategies to advertise their products in these virtual worlds, including billboards and even theme rooms dedicated entirely to one brand or product

(Grimes 2013). They also exploit ‘product use’, an active form of in-game advertising which involves an avatar using the advertised brand. For instance, a player might take a candy bar out of a vending machine, thus ‘experiencing’ the brand within the game (Nelson, Yaros and Keum 2004). This integration of brands and products not only makes the game setting more realistic, but also blurs the boundary between the game and the advertising. Research comparing TV advertising with non-traditional advertising such as in-game brand placement found that these embedded forms are more difficult for children to understand (Owen *et al.* 2013).

As mentioned above, children’s advertising literacy concerning SNGs remains an understudied topic (Rozendaal *et al.* 2013). The one study conducted by Rozendaal *et al.* (2013) among 148 children between the ages of 9 and 12 years old showed that children have a good understanding of the persuasive and selling intention of advertising in SNGs. However, Rozendaal *et al.* (2013) focused on theme rooms in SNGs, a rather obvious form of SNG advertising. In our study, we focus on avatars’ use of products, which is more subtle.

Based on the insights of the PKM, it is often assumed that advertising literacy – including understanding the persuasive and selling intention of advertising – helps counteract advertising effects (Rozendaal *et al.* 2011). Yet, empirical research does not demonstrate a clear relationship between persuasion knowledge and advertising effects (Livingstone and Helsper 2006). It is currently accepted that the possession of advertising literacy skills does not guarantee these skills will actually be used as a cognitive defense against commercial messages (Rozendaal *et al.* 2011). This acknowledgement has motivated researchers to seek out other factors that may protect children from advertising effects. One recent contender is attitudinal advertising literacy (Rozendaal *et al.* 2011). While previous research on children and advertising literacy focused primarily on the conceptual knowledge described above (i.e. understanding advertising’s selling and persuasive intention), attitudinal advertising literacy

involves maintaining a critical attitude towards advertising (Rozendaal *et al.* 2011). This critical attitude might be better able to alter children's response to advertising, since it does not require sophisticated processing skills (Rozendaal *et al.* 2013). As regards SNGs, this critical attitude has indeed been found to influence one aspect of children's reactions to advertising, namely their desire for a brand (Rozendaal *et al.* 2013). However, Rozendaal *et al.* (2013) established that children aged between 9 and 12 years are not particularly critical of SNG advertising. Our study therefore aims to establish how parents can increase children's conceptual advertising knowledge and critical attitude towards SNGs, even despite their own limited knowledge of subtle marketing techniques (Cornish *et al.* 2014).

### **Consumer socialization and parental mediation**

Consumer socialization is defined by Ward (1974, p. 2) as “the processes by which young people acquire skills, knowledge, and attitudes relevant to their functioning as consumers in the marketing place”. One aspect of this socialization is advertising literacy (John 1999). An important research question relates to the role parents play in encouraging such processes (Warren *et al.* 2001), as a child's family environment is a significant agent for consumer socialization (John 1999; Bijmolt, Claassen and Brus 1998). This can be explained by the social learning model, which suggests that learning takes place through interaction with socialization agents (Moschis, Moore and Smith 1984).

When we review the literature on television advertising, two important theoretical concepts emerge in relation to the role of parents: family communication and parental mediation. The first of these theories, family communication, was developed in the context of the abovementioned consumer socialization theory and described two communication patterns: (1) socio-oriented and (2) concept-oriented (Moschis *et al.* 1984). Socio-oriented communication emphasizes the importance of obedience to parental authority, while concept-

oriented communication emphasizes open discussion and opportunities for children to express their own views (Buijzen and Valkenburg 2005). When it comes to advertising, the latter communication pattern entails active discussions with children about consumer matters (Buijzen and Valkenburg 2005) and encourages children to develop their own consumer skills (Carlson, Grossbart and Walsh 1990). Previous research has analyzed this type of communication in the context of television advertising (e.g. Buijzen and Valkenburg 2005), finding that concept-oriented communication can be more effective in countering the influence of advertising (Buijzen and Valkenburg 2005).

The literature surrounding the second important theory, parental mediation, often distinguishes between active and restrictive mediation as far as advertising is concerned (Buijzen and Valkenburg 2005). As the terms suggest, active mediation involves actively explaining the nature and intention of advertising, while restrictive mediation attempts to reduce children's exposure to advertising (Buijzen and Valkenburg 2005). Overall, active mediation is considered more effective than restrictive mediation (Buijzen and Valkenburg 2005). With regard to persuasion knowledge, it is assumed that active mediation increases children's understanding of advertising, while restrictive mediation has the opposite effect (Bijmolt *et al.* 1998).

Valkenburg *et al.* (2013) recently developed a new framework for analyzing parental mediation styles and children's media use: perceived parental media mediation. Perceived parental media mediation styles reflect how children perceive their parents' media mediation. The framework was based on existing parenting theories (Valkenburg *et al.* 2013), the most influential of which is Baumrind's classification of parenting styles (Eastin, Yang and Nathanson 2006). Autonomy is a key concept in the theory of Baumrind (1990) and is therefore also central to perceived parental media mediation styles. The new framework also has elements in common with family communication patterns, in that both emphasize the

importance of the child's own point of view. The main advantages of the perceived parental media mediation framework are that it focuses not only on frequency of mediation, but also on its style; and that it distinguishes not only between active and restrictive parental mediation, but also between the ways in which these two strategies are used. In short, the framework suggests that in order to counteract undesirable media effects effectively, parental media mediation should be consistent and autonomy-supportive, with a low degree of control (Valkenburg *et al.* 2013).

The findings outlined above draw on self-determination theory (SDT) (Soenens, Vansteenkiste and Niemiec 2009), which states that children acquire and accept the rules of a society through social influences. The family is therefore seen to have an important influence on the child (Guay, Ratelle and Chanal 2008). Accordingly, internalization of values is more likely to happen when children and young adolescents are motivated to comply with the wishes of their parents; this internalization should then lead to the behaviors desired by the parents (Soenens *et al.* 2009). Children and young adolescents are not always motivated to comply with their parents' wishes, however. In controlling contexts, under pressure to think or act in specific ways, individuals can no longer act on the basis of their own motivation (Ryan and Deci 2000). Such situations do not support internalization, as the individuals concerned are not intrinsically motivated to comply with the rules being imposed (Ryan and Deci 2000).

By contrast, autonomy-supportive contexts are more likely to foster internalization. Autonomy can be described as the 'experience of self-endorsement and volition in one's behavior' (Soenens *et al.* 2009, p. 510); acting autonomously therefore entails a person initiating his/her own actions (Soenens and Vansteenkiste 2005). For children and parents, this means that children are more intrinsically motivated to internalize the rules and values advocated by their parents when the parents support their children's autonomy (Ryan and

Deci 2000). In general, autonomy-supportive contexts are associated with better developmental outcomes (Soenens and Vansteenkiste 2005), while controlling environments lead to maladjustment, such as lower academic performance (Kocayörük, Altıntas and İçbay 2014).

The SDT can be linked to various parenting styles. Firstly, as outlined above, it relates to autonomy-supportive parenting, which takes the child's feelings and perspective into account. Valkenburg *et al.* (2013) apply the concept of autonomy-supportive parenting to a more media-specific parenting context, defining autonomy-supportive media mediation as parents' restriction or active discussion of media in which a rationale is provided and in which the perspective of the adolescent is taken seriously (Valkenburg *et al.* 2013, p. 5). In the perceived parental media mediation framework, two styles of autonomy-supportive parental media mediation are distinguished: active and restrictive. Autonomy-supportive active media mediation involves having active discussions of media content, without imposing restrictions and taking the child's point of view into consideration. Autonomy-supportive restrictive parental media mediation involves placing restrictions on media use, albeit with respect for the child's point of view (Valkenburg *et al.* 2013).

Another style of perceived parental media mediation is controlling mediation, in which a child or adolescent is pressured to comply with externally imposed guidelines (Kocayörük *et al.* 2014; Soenens *et al.* 2009). Controlling parenting styles have been found to have a negative effect on children's and adolescents' development (Soenens and Vansteenkiste 2010). When it comes to media, this style can again be implemented either actively or restrictively. Controlling active mediation involves parents actively giving their opinions about media content, without considering their children's opinions (Valkenburg *et al.* 2013). Controlling restrictive mediation involves parents restricting children's media access, becoming angry with the child and/or threatening punishments. This type of parental mediation is not assumed

to be effective, especially among adolescents, since it can cause reactance effects and incorrect internalization of rules (Valkenburg *et al.* 2013). A threat to freedom leads to a state of arousal, which ultimately leads to a reaction against the desired behavior or even to the opposite behavior (Brehm 1966). Imposing rules for media use can therefore cause a child to feel that his or her freedom is being threatened and induce a reactance effect (Valkenburg *et al.* 2013).

The perceived parental media mediation framework also covers a third style, namely inconsistent parental media mediation. In terms of restrictive parental media mediation, this style is defined by Valkenburg *et al.* (2013, p. 6) as “parents’ tendency to be erratic and unpredictable in their restriction of time that their children spend with media or the content to which they are exposed”. For example, a parent may forbid his/her child to watch a particular programme and then allow it a few hours later. This style can also cause reactance effects (Valkenburg *et al.* 2013).

## **HYPOTHESES DEVELOPMENT**

The subdivision in the literature between active and restrictive mediation is based on the classic parental mediation view and has led researchers to believe that only active parental mediation is effective (see for instance Buijzen and Valkenburg 2005). However, in line with the insights provided by the SDT, both active and restrictive autonomy-supportive mediation could lead to desired outcomes if parents communicate in the correct way. In other words, parents should always take the perspective of the child into account, even when communicating rules for behavior or restricting media use (Soenens *et al.* 2009).

Autonomy-supportive communication can be beneficial for learning purposes (Niemic and Ryan 2009), because it increases a child’s motivation to internalize rules and values (Guay *et al.* 2008). Parents’ communication of their own knowledge with regard to media and

advertising might also be beneficial for children's conceptual advertising literacy (i.e. understanding persuasive and selling intention). Conceptual advertising literacy requires a high level of message elaboration (Buijzen, van Reijmersdal and Owen 2010; Rozendaal *et al.* 2011), meaning that the individual concerned should have the ability and motivation to process the advertisement (Rozendaal *et al.* 2011). Young adolescents have generally acquired the skills necessary for processing advertising, such as perspective taking and abstract thinking (John 1999), which suggests that their motivation to elaborate the message is especially important. Parents' use of autonomy-supportive parental mediation styles could increase this motivation. Children's critical attitude towards advertising might also be influenced by autonomy-supportive parental mediation, since parents who use an autonomy-supportive style inevitably encourage their children to reflect critically on values (Kocayörük *et al.* 2014). An autonomy-supportive mediation style can result in children's internalization of their parents' rules, even if the parents have set restrictions (Soenens *et al.* 2009). As a result, it can be assumed that children internalize critical insights from their parents due to their internalization of the rules. Based on these theoretical insights, we formulate the following hypotheses:

H1: Perceived autonomy-supportive restrictive mediation is positively related (A) to a child's understanding of the selling intention and (B) persuasive intention of advertising in SNGs, and (C) to a child's critical attitude towards advertising in SNGs.

H2: Perceived autonomy-supportive active mediation is positively related (A) to a child's understanding of the selling intention and (B) persuasive intention of advertising in SNGs, and (C) to a child's critical attitude towards advertising in SNGs.

When parents impose rules about media content without explanation, children may not always understand why (Byrne and Lee 2011). This might result in the incorrect internalization of

parental rules (Valkenburg *et al.* 2013). A similar line of reasoning can be applied to controlling active and controlling restrictive behaviors, neither of which are thought to lead to increased levels of advertising knowledge. As conceptual advertising literacy requires high elaboration, a child needs to be motivated enough to elaborate the message (Rozendaal *et al.* 2011). Controlling parenting undermines intrinsic motivation and this in turn leads to non-optimal internalization (Joussemet, Landry and Koestner 2008). Moreover, children might even be motivated to do the opposite of what their parents want (Rummel, Howard, Swinton and Seymour 2000): according to reactance theory, individuals who feel their freedom is being threatened may attempt to restore their sense of freedom by improving their attitude towards the forbidden behavior (Varava and Quick 2015). Therefore, we also expect children who report higher levels of controlling parental mediation to be more likely to report lower critical attitudes towards SNG advertising due to the reactance effect:

H3: Perceived controlling restrictive mediation is negatively related (A) to a child's understanding of the selling intention and (B) persuasive intention of advertising in SNGs, and (C) to a child's critical attitude towards SNG advertising.

H4: Perceived controlling active mediation is negatively related (A) to a child's understanding of the selling intention and (B) persuasive intention of advertising in SNGs, and (C) to a child's critical attitude towards SNG advertising.

Parental consistency in media use rules may have an important influence on whether children perform the desired behavior (Gentile and Walsh 2002), as consistency provides children with a better learning environment (Rutherford, Brown, Skouteris and Bittman 2012). Children have been found to watch less television if their parents are consistent in their parenting styles (Gentile and Walsh 2002). According to the perceived parental media mediation framework,

inconsistent parenting also leads to reactance effects (Valkenburg *et al.* 2013). We therefore formulate the following hypothesis:

H5: Perceived inconsistent restrictive parental mediation is negatively related (A) to a child's understanding of the selling intention and (B) persuasive intention of advertising in SNGs, and (C) to a child's critical attitude towards SNG advertising.

According to the PKM, increased persuasion knowledge should help children and young adolescents resist the influence of persuasive attempts. This study focuses on one behavioral aspect, namely purchase request intention, which refers to children's intention to ask their parents to buy a specific brand or product (Calvert 2008). Advertising exposure has been found to increase purchase requests (Buijzen and Valkenburg 2003), which can lead to parent-child conflict (Buckingham 2009). In an empirical study on children aged 8 to 12 years, Rozendaal, Buijzen and Valkenburg (2009) established that, in the older age group (10-12 years), persuasion knowledge reduced the relation between children's exposure to TV advertising and their desire for the advertised products. Among younger children (8-10 years), the opposite effect was found: the relationship between advertising exposure and the desire for the advertised products increased even as children's understanding of persuasive intention rose (Rozendaal *et al.* 2009). The same positive effect was established in a study by Wei and Chen (2014): children with more knowledge of persuasive intent reported more desire for the advertised products. The few empirical studies that have addressed this phenomenon in relation to online advertising produced inconsistent outcomes. In a study on advergames and children, for example, Mallinckrodt and Mizerski (2007) found that persuasion knowledge did not mitigate children's intention to request the brand. Previous research comparing television commercials and advergames had established that, for television advertising, persuasion knowledge had a negative effect on purchase request intention; for advergames, on the other hand, no effect was found (Panic, Cauberghe and De Pelsmacker 2013). As regards SNGs,

Habbo users' persuasion knowledge has been found to reduce their requests for the advertised brands (Rozendaal *et al.* 2013). Due to this inconsistent empirical evidence, we draw further on the theoretical insights of the PKM to include in our model the relationship between children's understanding of selling and persuasive intentions and their purchase request intentions. According to the PKM, increased persuasion knowledge should help children and young adolescents resist the influence of persuasive attempts. As a result, we formulate the following hypothesis:

H6: A child's understanding of (A) the selling intention and (B) the persuasive intention of SNG advertising is negatively related to the child's purchase request intention regarding a brand seen in an SNG.

A critical attitude towards advertising might also affect purchase request intentions. According to the Elaboration Likelihood Model (ELM) (Petty and Cacioppo 1986), message processing can occur via two routes. The first of these is the central route, which involves thorough consideration of arguments (Petty, Cacioppo and Schumann 1983). The second route, the peripheral route, relies not on thorough consideration but on association with positive or negative elements that are presented together with the message (Petty, Cacioppo and Schumann 1983). For instance, in the latter case, an individual might be persuaded by a message because it is presented pleasantly. As the ELM was developed for adults (Livingstone and Helsper 2006), it may not be fully applicable to children (Te'eni-Harari, Lampert and Lehman-Wilzig 2007). Studies have found, however, that children are more likely to rely on the peripheral route when processing advertising (Rozendaal *et al.* 2011). In contrast to conceptual advertising literacy, attitudinal advertising literacy does not require a high elaboration route and can be activated even when elaboration is low. Therefore, if children rely on the peripheral route to process advertising, it is likely that their critical attitude towards advertising is still activated (Rozendaal *et al.* 2011). In turn, this can

influence behavioral effects after being exposed to advertising. The abovementioned study by Rozendaal *et al.*, which focused on children aged between 9 and 12 years, found that a critical attitude towards SNG advertising reduces brand preference (Rozendaal *et al.* 2013). As our study addresses perceived parental mediation, we deliberately opted to include purchase request intention in the model as this advertising effect reveals whether children intend to ask their parents to buy an advertised brand. Based on the abovementioned theoretical framework, we formulate the following hypothesis:

H7: A child's critical attitude towards SNG advertising is negatively related to purchase request intention regarding brands seen in SNGs.

Although they are not the main focus of this study, we have also included in the conceptual model the direct and indirect effects of the five perceived parental mediation styles on purchase request intention, since research has shown that active mediation is effective in reducing advertising effects (Buijzen and Valkenburg 2005). On the other hand, restrictive parental mediation is often found to be ineffective in minimizing effects such as purchase request intentions. As pointed out by Buijzen and Valkenburg (2005), this seems counterintuitive, since reducing children's media access should also reduce children's exposure to brands. However, Valkenburg *et al.* (2013) suggest that the non-significant results obtained with regard to restrictive mediation might be caused by participants answering questions about the frequency of parental mediation while not being aware of the style (i.e. controlling or autonomy-supportive) in which this takes place.

The proposed model is presented in Figure 1.

\*\*insert figure 1 about here\*\*

## METHOD

This study is part of a larger project being conducted in Flanders, the Dutch-speaking region of Belgium, on children and SNG advertising. Data were collected on 781 young adolescents (aged 10-14 years; 46% boys,  $n = 358$ ; 54% girls,  $n = 412$ ). In total, eight schools – both rural and urban – were chosen at random. The mean age of the respondents was 11.75 years ( $SD = 1.17$ ). Prior to data collection, we obtained approval for the research from the children's schools, teachers and parents.

### Procedure and stimuli

Participants were asked to imagine themselves playing a social network game called Habbo in which players can create their own avatars and make contact with other avatars. Subsequently, participants were shown a five-minute video compilation of scenes from Habbo. Screening a video compilation rather than letting the children play the game themselves allowed us to control the Habbo environment. All participants were thus exposed to the same advertising stimuli, had equal advertising exposure time and followed the same route through the virtual world. In the video, the two avatars visited three rooms together: a game room, which contained a commercial message for Pepsi; a neutral room, which contained no commercial messages; and a theatre, which contained a static commercial message for another brand (not the focus of the present study). The commercial message for Pepsi took the form of a vending machine and bore the Pepsi logo on its side. In the video compilation, the avatars took a bottle of soft drink out of the vending machine. To avoid primacy effects, two versions of the video were made and the order of the rooms reversed. Immediately after viewing one of these videos, the respondents were given a questionnaire measuring items such as perceived parental mediation styles, critical attitude towards SNG advertising, understanding selling and persuasive intention and purchase request intention.

## Measurements

*Perceived Parental Media Mediation Styles.* Children's perceived parental media mediation styles were measured using the Perceived Parental Media Mediation Styles Scale developed by Valkenburg *et al.* (2013). The questionnaire included 8 main items and 20 follow-up items. Four restrictive items addressed the frequency of perceived restrictive parental mediation (e.g. 'how often do your parents forbid you to watch certain television shows or movies because they have too much violence in them?'). Each main restrictive item was followed by the question 'And if your parents would tell you this, how would they discuss this with you?', which was in turn followed by three follow-up items addressing parental mediation style: perceived autonomy-supportive restrictive mediation (e.g. 'my parents explain to me why it's better not to watch such shows or movies'); perceived controlling restrictive mediation (e.g. 'my parents would threaten to punish me if I keep on gaming'); and perceived inconsistent restrictive mediation (e.g. 'my parents would tell me I am not allowed, but I know that most of the time I can just keep on doing it'). Similarly, four active items addressed the frequency of perceived active parental mediation (e.g. 'how often do your parents tell you that what you see in movies and commercials is different from real life?'). Each main active item was also followed by the sentence 'And if your parents would tell you this, how would they discuss this with you', which was in turn followed by two follow-up items addressing parental mediation style: perceived autonomy-supportive active mediation (e.g. 'my parents would encourage me to voice my own opinion') and perceived controlling active mediation (e.g. 'my parents would value their own opinion more than mine').

Only the subscales were used in the analyses, since the main items did not provide enough information for the children to identify the parental mediation style conclusively (Valkenburg *et al.* 2013). While not used in the analysis, the main scales remained necessary as they helped the participants to provide context upon which to base their answers. The reliability of the

four separate parental media mediation styles was good, as evidenced by the Cronbach's alpha scores: .81 for perceived autonomy-supportive restrictive mediation, .81 for perceived inconsistent restrictive mediation and .82 for perceived autonomy-supportive active mediation. The reliability values for perceived controlling active (Cronbach's alpha = .68) and restrictive mediation (Cronbach's alpha = .71) were slightly lower but nevertheless sufficient.

*Conceptual advertising literacy.* Drawing on previous research (An and Stern 2011; Rozendaal, Buijzen and Valkenburg 2010), we developed two four-item scales to measure children's understanding of advertising intention. The first four-item scale covered their understanding of selling intention (e.g. 'the purpose of this ad is to sell product X') while the second scale related to understanding of persuasive intention (e.g. 'this advertisement wants me to feel good about product X'). Each of the items was measured along a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The internal consistency of both scales was good, as shown by Cronbach's alphas of .88 for understanding selling intention and .87 for understanding persuasive intention.

*Critical attitude towards SNG advertising.* Critical attitude towards SNG advertising was measured on a three-item scale adapted from an existing scale (Poels, Janssens and Herrewijn 2013; Pollay and Mittal 1993). The three items (e.g. 'Overall, I consider this type of advertising in a game like Habbo to be a good thing') were measured on a five-point scale and proved reliable (Cronbach's alpha = .85). During the analysis, scores on this scale were recoded so that lower scores indicated a less critical attitude.

*Purchase request intention.* To measure children's purchase request intentions, we used a two-item scale adapted from Rozendaal *et al.* (2013) and van Reijmersdal, Rozendaal and Buijzen (2012) (e.g. 'I would like to ask my parents to buy this product'). Each of the items

was measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

*Habbo play frequency.* In order to measure the respondents' use of Habbo, the children were asked to indicate how often they played on a five-point scale. The scale ranged from 1 (never) to 5 (multiple times a day).

Table 1 provides an overview of descriptive statistics for all indicators.

\*\*Insert Table 1 about here\*\*

## RESULTS

### **Analytic strategy and model specification**

In order to test the abovementioned model, we performed structural equation modelling (SEM) with maximum likelihood estimation in Mplus (Muthén and Muthén 2010). First, we built a measurement model and examined whether the observed variables provided a reliable reflection of the latent variables. Second, we estimated a structural model, using the five parental mediation styles as predictor variables and understanding selling intention, understanding persuasive intention, attitude towards SNG advertising and purchase request intention as endogenous variables. In the structural model, age and gender were included as covariates. Habbo play frequency was used as a covariate to the dependent variables understanding selling and understanding persuasive intention, critical attitude towards SNG advertising and purchase request intention. The default parameterization of Mplus was used, with the first indicator's factor loading forced to 1. The parental mediation factors were then modelled by specifying the four scale scores as indicators. The factors for the endogenous variables were specified by the items mentioned as indicators above.

### **Measurement model**

The initial measurement model provided a good fit to the data:  $\chi^2(459): 1099.45, p < .001$ , CFI = .94, RMSEA = .042 (CI: .039-.046), SRMR = .053. Nevertheless, when examining the factor scores for items which referred to the latent construct perceived controlling active mediation, we found that the first item ('my parents would only tell me how they would feel about it and are not interested in the opinion of others') and the second item ('my parents would have an opinion on this and this cannot be changed') had low factor loadings (.29 and .38, respectively). Following the rule of thumb that only variables with loadings greater than .40 should be considered significant in defining a factor (Kline, 2005), we decided to remove these indicators of perceived controlling active mediation. The adjusted measurement model provided a good fit to the data with  $\chi^2(398): 733.57, p < .001$ , CFI = .97, RMSEA = .033 (CI: .029-.037), SRMR = .032. All factor loadings were now greater than .46 (see Figure 2). Table 2 presents the correlations identified among the variables in the path model. Table 3 provides more information about construct reliability and average variance explained by the latent variables. Parameter estimates and indicator reliability are shown in Table 4.

A closer look at the measurement model revealed correlations between perceived autonomy-supportive restrictive mediation and perceived autonomy-supportive active mediation ( $r = .52, p < .001$ ); understanding selling intention and understanding persuasive intention ( $r = .70, p < .001$ ); perceived controlling active mediation and perceived controlling restrictive mediation ( $r = .43, p < 0.01$ ); and perceived controlling restrictive mediation and perceived autonomy-supportive restrictive mediation ( $r = .53, p < .001$ ). In our proposed model, these constructs had been defined as separate latent variables. To check whether this assumption held for the above-mentioned interdependencies, we tested for discriminant validity using the Fornell-Larcker criterion (Fornell and Larcker, 1981). The average variance extracted (AVE) exceeded the squared correlation between each of the pairs, indicating discriminant validity: perceived autonomy-supportive restrictive mediation (AVE = .54) and perceived autonomy-

supportive active mediation (AVE = .53;  $r^2 = .27$ ); understanding selling intention (AVE = .64) and understanding persuasive intention (AVE = .60;  $r^2 = .49$ ); perceived controlling active mediation (AVE = .73) and perceived controlling restrictive mediation (AVE = .53;  $r^2 = .18$ ); and restrictive controlling mediation (AVE = .53) and autonomy-supportive restrictive mediation (AVE = .54;  $r^2 = .28$ ). As a result, all latent constructs were modelled separately in the analyses.

\*\* Insert Tables 2, 3 and 4 about here \*\*

### **Structural model**

Figure 2 presents the results of the structural model. The overall fit of the structural model was good with  $\chi^2(481): 1046.634$ ,  $p < .001$ , CFI = .95, RMSEA = .039 (CI: .036-.042), SRMR = .056. The final result of our analyses is presented in Figure 2.

Our analyses revealed that perceived autonomy-supportive restrictive mediation is positively related to children's understanding of selling intention (H1a,  $\beta = .12$ ,  $p < .05$ ). Perceived autonomy-supportive restrictive mediation was not found to be related to children's understanding of persuasive intention (H1b,  $\beta = .10$ , *ns*) or to their critical attitude towards SNG advertising (H1c,  $\beta = .04$ , *ns*). The results showed that perceived autonomy-supportive restrictive mediation had a significant negative effect on purchase request intention ( $\beta = -.12$ ,  $p < .05$ ). Neither perceived controlling restrictive mediation nor perceived controlling active mediation were found to be related to any of the endogenous variables (H3a to H4c). Perceived inconsistent restrictive mediation appeared to have a negative influence on children's critical attitude towards SNG advertising (H5b,  $\beta = -.13$ ,  $p < .05$ ) and a positive influence on purchase request intention ( $\beta = .09$ ,  $p < .05$ ). Perceived inconsistent restrictive mediation did not seem to have a negative influence on children's understanding of selling intention (H5a,  $\beta = .04$ , *ns*) or persuasive intention (H5c,  $\beta = .07$ , *ns*). Autonomy-supportive

active mediation was found to be positively related to children's understanding of the persuasive intention of advertising in SNGs (H2b,  $\beta = .14$ ,  $p < .05$ ). Active autonomy-supportive mediation did not prove to be associated either with understanding selling intention (H2a,  $\beta = .14$ , *ns*) or with critical attitude towards SNG advertising (H2c,  $\beta = -.10$ , *ns*).

Contrary to our expectations, children's understanding of the selling intention of SNG advertising did not lead to reduced purchase request intention (H6a,  $\beta = -.03$ , *ns*). However, we did find a significant relationship between understanding persuasive intention and purchase request intention ( $\beta = .25$ ,  $p < .001$ ). In contradiction to H6b, this relationship proved to be positive, indicating that higher levels of persuasive intent knowledge are related to increased purchase request intention. In addition, a negative relationship was found between critical attitude towards SNG advertising and purchase request intention (H7,  $\beta = -.28$ ,  $p < .001$ ).

The covariates age, gender and Habbo play frequency were found to be related to some of the variables in the model, as shown in Figure 2. We also found that the indirect pathway from inconsistent restrictive mediation to purchase request intention via critical attitude towards SNG advertising was significant (indirect  $\beta = .05$ ,  $p < .005$ ). In addition, perceived autonomy-supportive active mediation appeared to have an indirect effect on purchase request intention (indirect  $\beta = .04$ ,  $p < .005$ ).

## DISCUSSION

The aim of this study was to build on previous research by testing a model in which perceived parental mediation styles were associated with children's conceptual advertising literacy (i.e. selling and persuasive intention) and critical attitude towards SNG advertising, which themselves influence purchase request intention. Our model was partially confirmed, thus

contributing to the current literature in several ways. First, our study distinguished not only between active and restrictive mediation, but also between parenting styles. Our results therefore provide a more detailed picture of restrictive mediation and confirm the suggestion made by Valkenburg *et al.* (2013) that some forms of restrictive mediation may have a positive effect on media outcomes. Second, we elaborated on the work of Rozendaal *et al.* (2013) by investigating how parents can contribute to their children's conceptual advertising literacy and critical attitude towards advertising.

While perceived autonomy-supportive restrictive mediation resulted in a better understanding of selling intention in our study, it did not result in a better understanding of the persuasive intent. We suspect that this is because selling intent does not need an in-depth explanation and is easier to understand than persuasive intent. Deeper insights are needed to understand the persuasive intent of SNG advertising, and these might only be attained through the type of active discussions that take place as part of an autonomy-supportive active mediation style.

No relationships were found between perceived controlling parental mediation styles and understanding of selling and persuasive intentions or critical attitude towards SNG advertising. This indicates that a perceived controlling parental mediation style, whether active or restrictive, does not contribute to children's advertising literacy. One possible explanation for this finding might be that children may not understand why their parents are controlling them. Moreover, as no negative relationship was found between the perceived controlling mediation styles and advertising literacy, we could not confirm that the children surveyed in our study reacted in contradiction to their parents' rules. Perceived inconsistent restrictive mediation was found to be associated with higher purchase request intention, meaning that children experiencing inconsistent restrictive mediation were more likely to ask for the brand advertised in the SNG. This confirms the assumption that inconsistent parenting might lead to a reactance effect (Valkenburg *et al.*, 2013).

Contrary to our expectations, we found that if children were more aware that the advertisement in the SNG is trying to persuade them to like the product, then they were more likely to ask for the brand. This implies that their knowledge of persuasive intention was not used to counteract advertising effects, which might be explained by the nature of the advertising. In our study we focused on product use, a form of embedded advertising, which is growing in popularity (Evans and Park, 2015). Given children's previous positive experiences with similar games and embedded types of advertising, they might not be motivated enough to activate their advertising literacy; this lack of activation could lead to increased purchase request intention. Our results did confirm that having a critical attitude towards SNG advertising is associated with reduced purchase request intention, which supports the notion proposed by Rozendaal *et al.* (2009) that attitudinal advertising literacy is more useful in counteracting advertising's effects. Children do not need to be motivated to activate their attitudinal advertising literacy, which then has a negative influence on purchase request intentions.

### **Limitations and directions for future research**

Despite the conscientious preparation of this study, a number of limitations should be acknowledged. First, our research was not conducted in a natural setting. We showed the participants a video rather than letting them play the SNG themselves. While this procedure is consistent with previous research on SNG advertising and children (Rozendaal *et al.* 2013), we acknowledge that it is a major limitation and that the decision had an impact on the external validity of our study's findings. In order to achieve full external validity, the ideal method would have been to have the children play the game instead of watching a video. Yet having the children play the game would have posed major problems with internal validity. For the purposes of this study, it was important that all participants received equal exposure to the advertising message and the rooms visited by the avatars. Using a video compilation

ensured that ad exposure was not influenced by the children's gaming skills. In addition, it ensured that Habbo users outside of our sample could not interact with our participants.

Even when taking this impact on external validity into account, we believe that our design was appropriate for answering our research questions about persuasion knowledge. Watching a video game without participating is an authentic situation which often occurs in real life: as noted by Nelson, Yaros and Keum (2006), game players often watch animated sequences during a game or watch how other people play a game. This may be especially true when it comes to SNGs, as players can witness other players' conversations and actions in the SNG without participating themselves. Yet questions remain as to how our design impacted on our results. From a theoretical point of view, we might expect active game players to have fewer available cognitive resources and to pay less attention to advertising while playing (Nelson *et al.* 2006). Previous empirical research has investigated the differences between players and watchers with regard to in-game advertising (Nelson *et al.* 2006), finding that players' and watchers' scores differed when it came to memory measures such as brand recall (Nelson *et al.* 2006). With regard to persuasion, the study of Nelson *et al.* (2006) established differences in persuasion effects between real brands and fictitious brands for game players, but did not find any differences in persuasion between game players and game watchers. Since our study focused only on real brands, we did not take this distinction into account. Future research interested in these game-related variables might consider employing qualitative research methods in which, for example, the researcher observes game play or conducts eye-tracking research to measure advertising exposure and gamers' attention more precisely.

The second limitation of this study is that it focused only on SNG advertising. Further research is needed on other types of advertising, such as advergaming, in order to generalize the conclusions drawn here. Third, our study concentrated on how parental media mediation strategies are related to advertising literacy. Future research could determine which variables,

such as recognizing commercial content (Waiguny, Nelson and Terlutter 2013), may mediate this relationship. In addition, the concept of internalization was not measured in this study. As this concept is important in parental mediation strategies, it would be interesting to examine it in more detail in future research. Finally, this study established that parents can influence children's advertising literacy significantly. Yet, when we look at the factor loadings, the parental influence appears to be relatively weak. Future research should explore other aspects that might have an impact on children's advertising literacy.

### **Research and practical implications**

This study shows that parents can play a role in assisting their children to counteract persuasive attempts from commercial companies that advertise in SNGs. An important practical implication of this study is that parents should be made aware of the impact of their parental media mediation style on children's advertising knowledge. This can be achieved through training or specific interventions which emphasize autonomy-supportive communication regarding media-related topics. During this training, parents could be encouraged to talk openly to their children about media and advertising and to consider their child's point of view. In addition, parents should be made aware that it is important to be consistent in their mediation style, as inconsistent restrictive mediation is related to undesirable results. Our results also support the assumption that attitudinal advertising literacy is important in reducing the effects of advertising in SNGs. For educators and parents, this means that efforts should be made not only to help children understand advertisers' intentions, but also to stimulate their critical thinking with regard to advertising. In our study, children who had better knowledge of persuasive intention were more likely to ask for a brand being advertised in an SNG. In an ideal developmental context, we would expect children with increased knowledge of advertising to be less influenced by it. Our results showed that this is not the case when it comes to SNGs. This does not imply, however, that teachers and parents

should not invest in helping children to understand advertising. If marketers continue to use embedded types of advertising to reach children and adolescents, then these young people should receive guidance to compensate for their lack of understanding (Owen *et al.*, 2013). One way to help children and young adolescents handle embedded types of advertising is to dedicate more time to the nature of covert advertising in the school curriculum. This could be achieved through advertising literacy lessons, for example. According to the results of our study, such advertising literacy lessons should focus not only on increasing knowledge, but also on providing children and adolescents with the skills to process advertising critically.

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