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Mitigating product placement effects induced by repeated exposure: Testing the effects of existing textual disclosures in children's movies on disclosure awareness

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Abstract: In certain cases, children can react strongly in favor of product placements inserted in movies. Scholars therefore argue that existing disclosures might be one strategy in protecting children from any negative effects. However, disclosure research indicates that viewers should both notice disclosures and, in cases of textual cues, read them. We conducted an experiment with 139 children (M_{age} = 8.46; SD = 1.12; girls = 53.2 %) and tested the influence of textual disclosure format on disclosure awareness as well as brand-related effects. When comparing with no disclosure, results showed that exposure to an existing textual disclosure positively affects disclosure awareness while exposure to an expanded version of it (i.e., by using more textual elements) did not. Further analyses revealed that prior movie exposure positively affected brand evaluation. However, disclosure awareness reversed this effect. We conclude that children appear to be socialized with the existing textual disclosure and that disclosure awareness might be of importance in shielding children against persuasive influence.

Keywords: product placements, textual disclosures, reading ability, social co-viewing, prior exposure, children's movies

1 Introduction

In the movie series *Alvin and the Chipmunks*, Alvin, Simon, and Theodor cannot keep their hands off their favorite snack, a branded product of the company Utz; in the movie *Home Alone,* a bottle of Pepsi stands prominently on the family's

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dinner table. These scenes exemplify prominent placements of brands in popular children's movies that young viewers tend to watch repetitively, and often in the presence of their parents (Borzekowski and Robinson, 2007). Product placements (PP) are commercial messages that are purposefully embedded into entertainment media content such as movies, series, or games (Balasubramanian et al., 2006). Young viewers daily encounter a large proportion of embedded messages. For instance, a content analysis on how brands appear in children's movies indicates that PP are omnipresent (Naderer et al., 2019).

Empirical research on PP effects implies that in certain cases (e.g., if PP have a strong plot connection), PP can lead to preferences for and better evaluations of the advertised product in children (e.g., Auty and Lewis, 2004; Naderer, Matthes, and Zeller, 2018; Naderer, Matthes, Marquart, et al., 2018; Russell, 2002). PP embedded in entertainment media content targeted at children are therefore deemed as unethical and raise concerns among parents, educators, and scholars (Hudson et al., 2008; van Reijmersdal and Rozendaal, 2020). This is based on the conjecture that children are less able to recognize PP as an advertising technique and cope with persuasive attempts than adults, and this makes them especially susceptible (Buijzen et al., 2010; Rozendaal et al., 2009, 2011).

In the present body of literature, scholars argue that disclosures (e.g., "PP"-symbol; "This program contains product placement") might be one strategy to help children to detect and cope with embedded advertising (De Jans et al., 2018; Hudders et al., 2017; van Reijmersdal and Rozendaal, 2020). However, several scholars point to the fact that being aware of disclosures seems to be relevant for disclosure effects to occur (e.g., Boerman and van Reijmersdal, 2016, 2020; Rozendaal et al., 2021; van Reijmersdal et al., 2020).

While research agrees that disclosure awareness is very important, research on PP disclosures in movies and TV series that examines which factors influence this important variable is rather scarce (see e.g., Vanwesenbeck et al., 2017). Thus, a more comprehensive in*vestigation of the antecedents of disclosure cue processing* is still missing (for an exception with adults see Boerman et al., 2015a). Hence, the present study addresses several important gaps. In line with previous research in this field (e.g., Boerman et al., 2015a; De Jans et al., 2018; van Reijmersdal et al., 2022; Vanwesenbeeck et al., 2017), we focus on disclosure format (i.e., existing textual disclosure vs. expanded disclosure vs. no disclosure), an individual factor (i.e., reading ability), and children's environment (i.e., social co-viewing). More specifically, previous research in this field points to the fact that children's processing of PP symbols is different to *textual* disclosures (De Jans et al., 2018). Based on theories of persuasion processing (Buijzen et al., 2010; Petty and Cacioppo, 1986), exposure to textual disclosures might increase children's *opportunities* of disclosure cue processing and textual disclosures might become even more eye-catching when using

more textual elements (Boerman et al., 2015a, 2015b). Most importantly, there is a lack of studies which investigate cue processing of *existing* disclosures (exceptional cases for PP symbols see De Jans et al., 2018; for music videos see van Reijmersdal et al., 2022; for internet advertising see Vanwesenbeeck et al., 2017). In the present study, we focus on an existing textual disclosure prevalent in Austria. This complements current disclosure studies that examine how the format of textual disclosures affects children and adolescents by also taking existing disclosure cues into account.

Furthermore, although the important role of parents in the context of PP in children's movies is undeniable (Naderer, Matthes, Marquart, et al., 2018), the examination of parental factors in the context of disclosures is still scarce. In the present study, we focus on one frequently used but under-investigated parental style of television mediation known as social co-viewing (Borzekowski and Robinson, 2007; Valkenburg et al., 1999). Based on previous results (Rasmussen et al., 2017), we argue that when parents frequently co-view with their children at home, children's *motivation* to process disclosure cues may increase. Also, given that several existing disclosures constitute textual messages (Spielvogel et al., 2021), having pronounced reading skills might be also of great importance when testing the effects of textual disclosure cues on children aged six to eleven years. In this case, reading ability constitutes one crucial indicator for children's *ability* to process cues. Furthermore, we investigate *children's processing of the promoted brand* by also taking the role of prior movie exposure into account (Auty and Lewis, 2004; Matthes and Naderer, 2015).

Moreover, when following literature on resisting persuasion (Brehm, 1966; Friestad and Wright, 1994) and previous disclosure studies on the role of disclosure awareness (see e.g., Boerman and van Reijmersdal, 2016), we can presume that disclosure awareness might *mitigate persuasive effects of PP induced by repeated exposure*. By investigating the interaction effect of prior exposure and disclosure awareness, we aim to add to existing literature on consumer strategies for resisting advertising (Fransen et al., 2015).

2 Investigating antecedents of children's disclosure cue processing

Whatever the form of the disclosure, each disclosure has the same aim: to make viewers aware of embedded advertising and also to protect minors against persuasive influence (De Jans et al., 2018; Hudders et al., 2017). However, to be effective, current research presumes that young viewers must be aware of disclosures used

within editorial content (Rozendaal et al., 2021; van Reijmersdal et al., 2020). Hence, irrespective of advertising type, disclosure awareness appears to determine how effective disclosures can communicate their message to viewers (Boerman et al., 2015a; Boerman and van Reijmersdal, 2016, 2020; Krouwer et al., 2017).

In the context of entertaining content, only a small number of empirical studies has examined consumer's processing of the disclosure cue itself by focusing on participant's disclosure awareness (Boerman et al., 2015a; van Reijmersdal et al., 2020). Just one study with adult viewers provides empirical evidence that specific audience characteristics (i.e., program and disclosure familiarity, program involvement) as well as the disclosure itself (i.e., disclosure timing and duration) constitute antecedents of disclosure cue processing (Boerman et al., 2015a). To our knowledge, no study so far has tested the antecedents of disclosure cue processing with children.

In order to understand how children process embedded persuasive messages such as PP and disclosures, the authors, Buijzen et al. (2010), introduce a theoretical framework of children's persuasion processing with respect to both changes in the media environment and children's development in a cognitive way. Based on triple-level processing models (i.e., systematic, heuristic, and automatic processing – characterized by decreasing cognitive elaboration) and different developmental frameworks the authors conclude that *"developmental changes characterizing childhood are likely to inhibit the motivation and ability to process persuasive messages systematically and critically. Additionally, these developmental changes are likely to affect how children respond to specific message characteristics."* (p. 434) In our study, we concentrate on children who enter both middle (6–9 years) and late childhood (10–12 years). Most importantly, although processing skills seem to evolve during late childhood, children in this age group still require cues for critical systematic processing activation (see Buijzen et al., 2010).

Disclosure format: Existing and textual disclosures

Disclosures of PP were established in the EU in 2007 with the Audiovisual Media Services Directive (2018) – a fact that can lead viewers to socialize with disclosures over a period of time. Since the airing of disclosures is not a new development, the chance is high that viewers are quite familiar with the respective appearance prevalent in different EU countries (Boerman et al., 2015a, 2021). In this light, a content analysis focused on how disclosures of PP appear in the TV content of popular EU broadcasters concludes that the content of many disclosures solely comprises of an abbreviation of PP (i.e., a PP symbol) and hardly ever refers to the presence and commercial purpose of PP (Spielvogel et al., 2021). However, previous disclosure

studies with both adult and young viewers agree on the limited effectiveness of PP symbols due to lack of understanding of the meaning of the symbol (e.g., De Jans et al., 2018; Tessitore and Geuens, 2013). In connection with children, De Jans and colleagues (2018) are the first who have shown that children at the age of 10 and 11 are less aware of existing PP symbols than of a completely new and conspicuous cue (i.e., a self-created textual disclosure "Contains Advertising"). In sum, it can be concluded that existing PP symbols are less clear to young viewers and that the ease of processing is lower than in the case of textual disclosures (Boerman et al., 2015b; De Jans et al., 2018; Tessitore and Geuens, 2013).

As a result, we focus on how children process different existing *textual* disclosure formats. In this light, two major points must be considered: the appearance, and the specific content of textual disclosures. Regarding the disclosure appearance, it has been shown that textual disclosures are more eye-catching when using more textual elements (e.g., Boerman et al., 2015b); moreover, the content may be more informative and effective when expanding the cue by also referring to the source and persuasive intent (e.g., Boerman and van Reijmersdal, 2016; van Reijmersdal et al., 2022). Hence, a textual disclosure with a large number of textual elements and a lot of information might affect cue processing the best.

While the study conducted by De Jans and colleagues (2018) concentrates on the effects of existing PP *symbols* on children, to this date it is not clear how existing *textual disclosures*– to which young viewers are exposed in various EU countries (Spielvogel et al., 2021) – affect disclosure cue processing. Based on theories of information processing (Buijzen et. al., 2010; Lang, 2000), the processing of familiar content increases the ease of processing. Hence, we can presume that existing textual disclosures should be processed more easily and thus might positively affect children's awareness of textual disclosures (Boerman et al., 2015a).

On the contrary, we can assume that children require more cognitive resources for processing a modified and expanded version of the existing disclosure cue (i.e., by using more textual elements). Most importantly, this may be too much and complex textual information in a very short time frame as most PP disclosures aired by EU broadcasters are only being shown four to six seconds (Spielvogel et al., 2021). However, providing textual disclosures with a larger number of textual elements might also be more eye-catching and informative (e.g., Boerman et al., 2015b; Boerman and van Reijmersdal, 2016), especially when adding more child-appropriate words (i.e., "Advertising!"), as it is assumed that current formats of existing disclosures are not suitable for children (De Jans et al., 2018). To be clear about that, we pose our first research question:

> RQ1: What is the effect of disclosure format (i.e., existing textual disclosure vs. expanded textual disclosure vs. no disclosure) on disclosure awareness?

The role of reading ability

When it comes to the examination of textual disclosures, children's reading ability must be considered. Hence, children's reading ability as a measurable cognitive construct might be relevant for effects to occur. As several existing disclosures include textual information (Spielvogel et al., 2021), young viewers should, in an ideal scenario, not only pay sufficient attention to but also read disclosures and thus cognitively process them more intensively (Buijzen et al., 2010). Therefore, when referring to textual disclosures, having pronounced reading skills constitutes one crucial indicator for children's cue processing *ability* (Boerman et al., 2015a; Petty and Cacioppo, 1986).

H1: Higher levels of reading ability strengthen disclosure effects on disclosure awareness.

The role of social co-viewing

Parents in using different advertising mediation styles are considered as relevant agents for their children's consumer socialization (Ward, 1974) and for mitigating persuasive effects of PP (Buijzen, 2014; Valkenburg et al., 1999). In the present study, we focus on one frequently used but highly under-investigated style of television mediation known as social co-viewing (Borzekowski and Robinson, 2007; Valkenburg et al., 1999). That is, merely the presence of parents seems to alter children's processing of persuasive messages (Rasmussen et al., 2017). We therefore presume that frequent viewing of TV-series and movies together with their parents and sharing the viewing experience might also strengthen children's disclosure awareness. During viewing, it can be assumed that parents make children aware of disclosures. In fact, previous research has shown that while watching television and commercials, nondirective cues (e.g., "Look at that") and reactions of family members is of great benefit to children (see e.g., Borzekowski and Robinson, 2007).

H2: Higher levels of social co-viewing strengthen disclosure effects on disclosure awareness.

Figure 1 illustrates the proposed model.

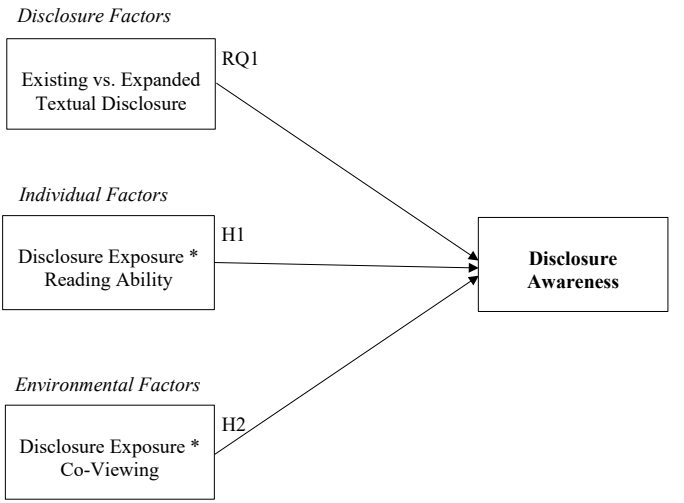

Figure 1: Proposed model for investigating antecedents of children's textual disclosure cue processing.

3 Investigating children's processing of the promoted brand

Past research identified three possible outcomes of PP effects (Balasubramanian et al., 2006): cognitive outcomes which are gauged through measures of brand memory; affective outcomes which are often measured in terms of brand evaluation or attitude; and conative outcomes including purchase intentions but also actual brand choice.

Several studies in the context of PP effects determine that in certain cases PP can lead to strong, positive brand reactions in children (e.g., Auty and Lewis, 2004; Matthes and Naderer, 2015; Naderer, Matthes, Marquart, et al., 2018; Naderer, Matthes, and Zeller, 2018). However, if and how both adult and young viewers react to PP in movies and TV series is contingent upon several factors (see e.g., Russell, 2002). This includes for example, PP's connection to the plot (Naderer, Matthes, Marquart, et al., 2018; Naderer, Matthes, and Zeller, 2018).

The role of prior exposure

Furthermore, young viewers tend to watch their favorite movies repetitively (see e.g., Naderer et al., 2019). The pioneer study by Auty and Lewis (2004) found

that children (6–7-years-olds as well as 11–12-years-olds) were much more likely to choose a specific branded product after viewing a movie excerpt in which the brand was inserted. This behavioral effect, however, only occurred in children who were already familiar with the movie. Matthes and Naderer (2015) found similar results as children from 6 to 14 years old exposed to a movie before were more likely to choose the targeted snack in a product choice situation.

Based on this, we assume a priming effect through reminder. That is, repeated exposure to a media content containing PP can positively influence children's brand outcomes on a cognitive, affective, and conative level. More specifically, it is presumed that the processing of a stimulus is simplified by the processing of familiar content and this form of processing can be perceived as a gratifying experience; and "by repetition, the positive emotional experience will be transferred to the brand and automatically activated when the brand is brought to memory. As a consequence, there will be an increase in brand evaluation and brand choice." (Naderer, Matthes, and Zeller, 2018, p. 4)

H3: Prior exposure to the movie will positively influence children's a) aided brand recall, b) brand evaluation, and c) purchase intention of the promoted brand.

The role of disclosure awareness

It is of significant importance to investigate how children can cope with persuasive messages and what kind of strategies can mitigate persuasive PP effects. Resisting persuasion can be theoretically explained by *reactance theory* (Brehm, 1966). Similarly, the authors Friestad and Wright (1994) call this phenomenon the *change of meaning* (p. 13). In this light, viewers become less subject to unwanted persuasion by employing more critical processing and correcting their responses toward the ad (for a typology of consumer strategies for resisting advertising see Fransen et al., 2015).

To our knowledge, no study clearly postulates how disclosure awareness affects brand responses in children. However, current research presumes that being aware of disclosures stimulates consumers to think about the ad more critically (see e.g., Krouwer et al., 2017; van Reijmersdal et al., 2020; Weitzl et al., 2020). According to theories on knowledge of resisting persuasion (Brehm, 1966; Friestad and Wright, 1994), resistance to advertising predominantly occurs in a negative way.

H4: Children's disclosure awareness will negatively influence a) aided brand recall, b) brand evaluation, and c) purchase intention of the promoted brand.

Interaction effect of disclosure awareness and prior exposure

We are also interested in whether children's disclosure awareness can mitigate persuasive PP effects potentially triggered by repeated exposure (Auty and Lewis, 2004; Matthes and Naderer, 2015). As outlined above, we argue that being explicitly aware of disclosures might be one effective strategy which helps children to resist the persuasive influence of PP. In this case, we would assume a negative interaction effect.

> H5: There is a negative interaction between disclosure awareness and prior exposure when investigating children's a) aided brand recall, b) brand evaluation, and c) purchase intention.

Figure 2 illustrates our proposed model.

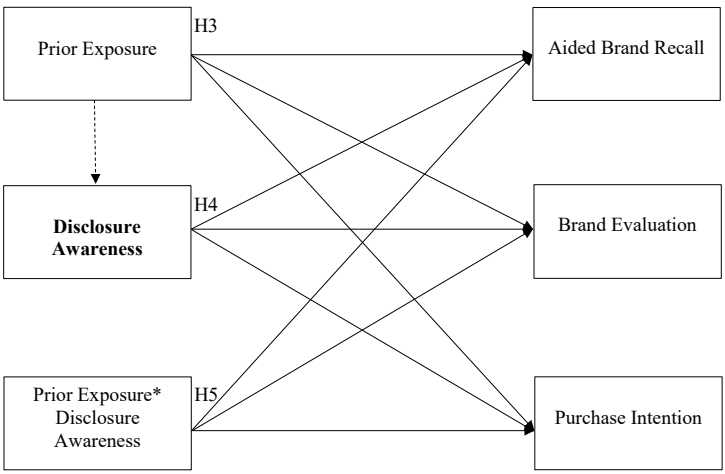

Figure 2: Proposed model for investigating children's processing of the promoted brand.

4 Method

Sample, design, and stimulus

To test our first model (see Figure 1), we initially conducted a randomized experiment with 142 children between the ages of 6 and 11. We excluded three children due to language issues. Hence, N= 139 children (M_{age} = 8.46; SD = 1.12; 53.2 % girls) remained. All participating children viewed an excerpt from the movie *Alvin and The*

Chipmunks including an additional excerpt from the movie *Alvin and the Chipmunks: The Squeakquel*. The movie presented included prominent product placements of the brand Utz. The placements show the Chipmunks eating the product and dedicating a song to Utz Cheeseballs. We decided to use a real stimulus for high external validity.

Our experiment followed a one-factorial between subject design. Children saw the movie excerpt either with *no textual disclosure* (n = 40), the *existing textual disclosure* typically aired by a public EU broadcaster (n = 50), or an *expanded textual disclosure* (n = 49). Compared to the existing textual disclosure (English translation: P – SUPPORTED BY PRODUCT PLACEMENT), the expanded disclosure cue included an additional text ADVERTISING! more appropriate for children (see Appendix). Based on the disclosure implementation of public broadcasting in Austria, disclosures appeared both at the beginning and at the end of the program for six seconds at the top of the screen.

To test our second model (see Figure 2), we used a one-factor quasi-experimental design as disclosure awareness was not manipulated but treated as a quasi-experimental factor.

Procedure

Before conducting the randomized experiment, parents' written consent was obtained. We also obtained children's oral consent several times and all children could withdraw from the study at any time. Approximately two weeks before the experiment started, a reading ability test (WLLP-R©) involving a psychologist and 132 participating children took place. The reading performance test was done for each class in groups of up to 17 and took five minutes to complete. Children were randomly assigned to one of two forms (versions A and B), each with 140 items for first to third graders and 180 items for fourth graders. Before the reading test started, the psychologist gave verbal instructions to each group.

We conducted the experiment in June 2018 in four primary schools in Austria. Concurrent with the present study, another experimental study took place[1]. Children were assigned randomly to one condition. One research assistant was present while children watched the stimulus in groups of up to six. After watching, the children were brought to another room and individually interviewed. We debriefed all children in their classes once all children from one class were interviewed.

1 For the results of the experimental study see: Spielvogel, I., Naderer, B., & Matthes, J. (2020). Again and again: Exploring the influence of disclosure repetition on children's cognitive processing of product placement. *International Journal of Advertising*, *39*(5), 611–630. https://doi.org/10.1080/02650487.2019.1648984

Measures

Disclosure awareness. After stimulus presentation, children were shown different textual disclosure depictions, including the existing textual disclosure, the expanded textual disclosure, and a filler disclosure (see Appendix). The content of the filler disclosure combines both the existing and expanded textual disclosure. We asked the children if they had seen one of these textual disclosures at the top of the screen. Children's answers to this question included 'yes, I saw one of the textual disclosures' (existing textual disclosure: 24.5 %; expanded disclosure: 20.9 %; filler disclosure: 17.3 %), 'no' (27.3 %), 'I don't know' (5.8 %) and 'other answer' (4.3 %; e.g., the broadcasting logo).

For the analysis, we then coded a dummy variable that includes 1 = all children who indicated seeing any textual disclosure and 0 = all children who did not indicate seeing any disclosure. We measured children's disclosure awareness this way because previous research on measurement methodologies in connection with primary school children was highly critical of the current use of visual self-reports in view of two aspects; first, when giving children the choice between a small number of pictures, the chance is high that type II errors occur due to merely guessing (chance effect) (see Lapierre, 2019); second, concentrating on only one correct answer lacks a report about broader aspects of children's choices as the other pictures represent possible textual disclosures as well (see Zarouali et al., 2019).

Brand outcomes and prior exposure. As a memory-related variable, we assessed aided brand recall right at the beginning of the interview. We showed the children a picture of Utz Cheeseballs and asked them whether they had seen this brand somewhere. If yes, we additionally asked the children where they had seen it (81.3 % indicated that they had seen Utz Cheeseballs in the movie).

We measured brand evaluation and purchase intention almost at the end of the questionnaire. By using this procedure, we tried to avoid measurement effects. When measuring right at the beginning of the interview, children might have guessed the purpose of the study. For brand evaluation, children were again showed a picture of Utz Cheeseballs and asked how a) likeable and b) interesting they deemed this picture (4-point scale; 1 = *not likeable at all/very boring*; 4 = *very likeable/very interesting*). Both items were combined to gauge brand evaluation (α = .75; M = 2.50; SD = .82). For purchase intention, we showed three different pictures of branded snack products, including the promoted brand Utz, Ruffles, and Fritos. In Austria, all these brands are rather unknown and are not available in regular supermarkets. We asked children which of these three snack foods they would ask their parents to buy if they could now choose one of these snack foods in the supermarket (Utz: 43.5 %; Ruffles: 28.3 %; Fritos: 22.3 %; None of them: 5.8 %; 1 missing value). We then calculated a dummy variable (1 = Utz; 0 = Other/None of them).

For prior exposure, we asked the children if they had seen the movie before (dummy coded; 0 = *no/I don't know*; 1= *yes*; yes 57.6 %). In line with previous research (Auty and Lewis, 2004; Matthes and Naderer, 2015), we did not gauge prior exposure with a frequency measurement due to the limited cognitive capacities of the children.

Reading ability. For reading ability, a psychologist calculated a standard value based on the analysis procedure of the used test (WLLP-R©) provided. This test measures the decoding (= reading speed) of primary school children by comparing written words with four alternative images out of which children have to select the corresponding picture in a given time. The *t* value is calculated based on children's grade level and sex. The mean t-value of reading ability of our sample (M = 46.90; SD = 9.76) is in the range of average reading performance. We then individually matched the values of reading ability with the experimental data of each child. Children's age and reading ability scores did not correlate (Pearson r = .02, p = .787).

Social co-viewing. We asked the parents to fill out a questionnaire that was handed out together with the parents' written consent prior to the study. The surveys of the parents were also linked to the experimental data of each child. In total, n = 122 parents of the participating children provided information on social co-viewing (How often do you see the following media content *together* with your child?) and children's narrative media content consumption (How often does your child consume the following media content?) including a) entertaining TV series targeted at children, b) entertaining TV series targeted at adults, c) children's movies, and d) movies targeted at adults (answer options: 1 = *never*, 2 = *several times a year*, 3 = *monthly*, 4 = *once a week*, 5 = *several times a week*, 6 = *daily*). Since mean values of each item varied a lot, we made summative indexes to avoid risk of measurement artifacts. We made indexes ranging from 1 to 20 for social co-viewing (M = 9.61; SD = 3.63; 2 missing values) and children's narrative media content consumption (M = 11.70; SD = 3.13). In line with other studies with parents (e.g., Naderer, Matthes, Marquart, et al., 2018), most parents were female (72.6 %, 5 missing values) and their education level was high (55.6 % university degree, 5 missing values).

5 Results

Randomization checks

Randomization checks for gender ($\chi^2(2) = 0.02$, p = .990), age ($F(2, 134) = 0.43$, n = 137, p = .649) and reading ability ($F(2, 129) = 2.03$, n = 132, p = .121) were successful. However, prior exposure to the movie varies according to the experimental con-

Table 1: Hierarchical logistic regression explaining children's disclosure awareness.

			95 % CI for Odds Ratio		
	B (SE)	***Wald χ2***	***Lower***	***Odds Ratio***	***Upper***
Final model (step 3):					
Constant	0.98(2.30)	0.18	–	2.66	–
Existing Textual Disclosure	3.32(0.94)**	12.32	4.32	27.53	175.28
Expanded Textual Disclosure	0.99(0.59)	2.82	0.85	2.68	8.49
Prior Exposure	0.02(0.55)	0.00	0.35	1.02	3.00
Reading Ability	0.01(0.04)	0.11	0.93	1.01	1.10
Existing Disclosure*Reading Ability	0.10(0.07)	1.93	0.96	1.11	1.27
Expanded Disclosure*Reading Ability	–0.02(0.06)	0.09	0.88	0.98	1.10
Social Co-Viewing	–0.25(0.16)	2.38	0.56	0.78	1.07
Existing Disclosure*Co-Viewing	0.62(0.23)*	7.17	1.18	1.85	2.91
Expanded Disclosure*Co-Viewing	0.30(0.19)	2.60	0.94	1.35	1.95
Age	–0.39(0.22)	3.12	0.44	0.68	1.04
Narrative Media Content Consumption	0.14(0.12)	1.42	0.91	1.15	1.46
Step 1 (2) (3): Cox & Snell R^2 = .17 (.25) (.29) Nagelkerke: .23 (.34) (.39)					

Note: *N* = 112; No disclosure condition as reference group. *p < .01,**p < .001; Model Step 1: $\chi^2(6)$ = 20.34, p < .01.; Model Step 2: $\chi^2(3)$ = 12.06, p < .01.; Model Step 3: $\chi^2(2)$ = 5.19, p = .075.

ditions (χ^2 (2) = 7.09, p = .029), indicating that slightly more children of the control group had seen the movie before. We also tested group differences for movie liking (How much do you like the movie in general?; 4-point scale, 1 = *not at all*, 4 = *very much*; *M* = 3.72, *SD* = .55). Analyzes show no group differences (F(2, 136) = 1.26 n = 139, p = .288).

Investigating antecedents of children's textual disclosure cue processing

First, we mean-centered all continuous moderators (i.e., reading ability, social co-viewing). We ran a hierarchical logistic regression using SPSS (version 27) with disclosure awareness as our dependent variable. In a first step, we inserted in our model dummy variables of the two textual disclosure conditions (no disclosure as reference group), reading ability, and corresponding interaction terms. Furthermore, we controlled for prior exposure (CoxandSnell R^2 = .17, Nagelkerke R^2 = .23). In a second step, we looked for the main effects of co-viewing and the corresponding interaction terms (CoxandSnell R^2 = .25, Nagelkerke R^2 = .34). Finally, we included

our covariates age and children's narrative media content consumption (CoxandSnell R^2 = .29, Nagelkerke R^2 = .39). The inclusion of social co-viewing provides significant additional explanatory contribution to our model (n = 112; $\chi^2(3)$ = 12.06, p = .007) but our covariates do not ($\chi^2(2)$ = 5.19, p = .075). Table 1 summarizes the results for the final model.

Disclosure format. Our results demonstrate that compared to no disclosure, exposure to the existing textual disclosure has a direct, positive impact on children's disclosure awareness (n = 112; step 1: b = 2.16, Exp(b)= 8.66; Wald χ^2 = 11.69, p = .001; step 3: b = 3.32, Exp(b) = 27.53; Wald χ^2 = 12.32, p < .001) while exposure to the expanded textual disclosure does not (step 1: b = 0.77, Exp(b) = 2.15; Wald χ^2= 2.15, p = .143; step 3: b = 0.99, Exp(b)= 2.68; Wald χ^2 = 2.82, p = .093). Hence, exposure to the existing textual disclosure heightens children's disclosure awareness and their disclosure awareness of the expanded disclosure is equal to the control group (RQ1).

For contrasting both disclosure formats, we ran the same model with another reference group. Results show that exposure to the expanded textual disclosure negatively influences disclosure awareness when comparing with the existing textual disclosure (step 1: b = –1.40, Exp(b) = 0.25.; Wald χ^2 = 5.86, p = .05; step 3: b = –2.33, Exp(b) = 0.10; Wald χ^2 = 6.96, p = .008). This result emphasizes that the existing textual disclosure influences children's disclosure awareness the most (RQ1).

Reading ability. There is only a tendency towards a positive, moderating influence of reading ability for the effect of the existing textual disclosure on children's disclosure awareness when comparing to no disclosure (step 1: b = 0.11, Exp(b)= 1.12; Wald χ^2 = 3.18, p = .074). Yet, when controlling for our covariates, the effect disappears (step 3*:* b = 0.10, Exp(b) = 1.11; Wald χ^2 = 1.32, p = .165). Furthermore, we find no moderating influence of reading ability for the effect of the expanded textual disclosure (step 1: b = 0.02, Exp(b) = 1.02; Wald χ^2 = 0.13, p = .722; step 3: b = –0.02, Exp(b)= 0.98; Wald χ^2= 0.09, p = .760). Also, reading ability does not directly influence disclosure awareness (step 3: b = 0.01, Exp(b) = 1.01; Wald χ^2 = 0.11, p = .746). It follows that reading ability does not strengthen disclosure effects on disclosure awareness (H1).

Social co-viewing. We find a positive, moderating effect of social co-viewing for the effect of the existing textual disclosure on disclosure awareness (step 2: b = 0.55, Exp(b) = 1.74; Wald χ^2 = 7.02, p = .008). This effect even holds when controlling for our covariates (step 3: b = 0.62, Exp(b)= 1.85; Wald χ^2 = 7.17, p = .007). As an additional examination of the interaction term indicated, above the threshold of 6.87 (summative index for social co-viewing ranging from 1 to 20; M = 9.61; SD = 3.63) the interaction effect becomes significant. The results reveal no interaction effect for the expanded textual disclosure (step 2: b = 0.28, Exp(b) = 1.32; Wald χ^2 = 2.63, p = .105; step 3: b = 0.30, Exp(b)= 1.35; Wald χ^2 = 2.60, p = .107). Also, social co-viewing does not directly influence disclosure awareness (step 3: b = –0.25, Exp(b)= 0.76; Wald χ^2= 2.38, p = .123). We thus only find partial support for H2.

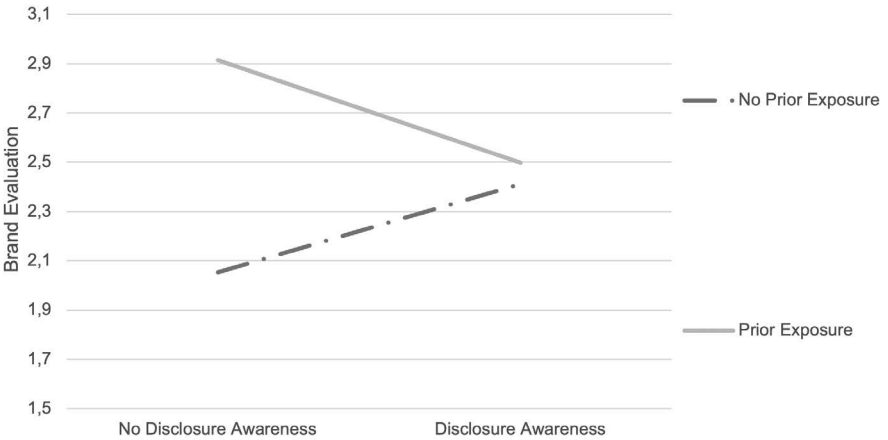

Figure 3: Visualization of the interaction effect of disclosure awareness and prior exposure on brand evaluation.

Investigating children's processing of the promoted brand

For the effects on brand outcomes, we ran moderated regressions for each dependent variable (i.e., aided brand recall, brand evaluation, purchase intention) using macro-PROCESS (model 1; 1,000 bootstrapping). Disclosure awareness serves as independent variable and prior exposure as moderator. Moreover, we inserted the two disclosure conditions as controls.

Aided brand recall. Findings show no impact on aided brand recall for both disclosure awareness (n = 139; b = 0.25, p = .712, LLCI = –1.09, ULCI = 1.60) and prior exposure (b= 0.24, p= .744, LLCI = –1.17, ULCI = 1.64) as well as no interaction effect of disclosure awareness and prior exposure on aided brand recall (b = 0.90, p = .341, LLCI = –0.96, ULCI = 2.76). Interestingly, children exposed to the existing textual disclosure (b = –1.28, p = .040, LLCI = –2.50, ULCI = –0.06) but not to the expanded textual disclosure (b = 0.36, p = .611, LLCI = –1.01, ULCI =1.72) showed lower aided brand recall when comparing with no disclosure. In sum, our findings do not confirm H3a and H4a. Furthermore, no negative interaction effect for aided brand recall occurred (H5a).

Brand evaluation. Findings reveal that disclosure awareness does not influence brand evaluation (n = 139; b = 0.36, p = .102, LLCI = –0.07, ULCI = 0.79). However, prior exposure positively affects brand evaluation (b = 0.86, p < .001, LLCI = 0.42, ULCI = 1.30). In addition, there is a negative interaction effect of disclosure awareness and prior exposure on brand evaluation (b = –0.77, p = .006, LLCI = –1.33, ULCI = –0.22; for a visualization see Figure 3). Also, group does not influence brand eval-

Table 2: Moderated regression explaining children's brand outcomes.

	Brand Outcomes		
	Aided Brand Recall		
Independent Variables			
	B (SE)	*LLCI*	*ULCI*
Constant	1.42 (.67)	0.10	2.74
Disclosure Awareness	0.25 (.69)	–1.09	1.60
Prior Exposure	0.24 (.72)	–1.17	1.64
Disclosure Awareness*Prior Exposure	0.90 (.95)	–0.95	2.76
Existing Textual Disclosure	–1.27 (.62)*	–2.50	–0.06
Expanded Textual Disclosure	0.36 (.70)	–1.01	1.72
	Brand Evaluation		
	B (SE)	*LLCI*	*ULCI*
Constant	2.09 (.20)	1.70	2.49
Disclosure Awareness	0.36 (.22)	–0.07	0.79
Prior Exposure	0.86	0.42	1.30
Disclosure Awareness*Prior Exposure	(.22)***	–1.33	–0.22
Existing Textual Disclosure	–0.77 (.28)**	–0.48	0.21
Expanded Textual Disclosure	–0.13 (.18)	–0.32	0.36
	0.02 (.17)		
	Purchase Intention		
	B (SE)	*LLCI*	*ULCI*
Constant	0.17 (.52)	–0.85	1.18
Disclosure Awareness	–0.03 (.56)	–1.13	1.06
Prior Exposure	0.38 (.57)	–0.74	1.50
Disclosure Awareness*Prior Exposure	–1.09 (.73)	–2.52	0.35
Existing Textual Disclosure	–0.32 (.46)	–1.23	0.58
Expanded Textual Disclosure	–0.43 (.46)	–1.32	0.46

Note: N = 139; No disclosure condition inserted as reference group; Using PROCESS model 1, 1,000 bootstrapping; *p < .05, **p < .01, ***p < .001

uation (existing textual disclosure: b = –0.13, p = .453, LLCI = –0.48, ULCI = 0.21; expanded textual disclosure: b = 0.02, p = .915, LLCI = –0.32, ULCI = 0.36). In sum, our findings confirm H3b but not H4b. Furthermore, a negative interaction effect for brand evaluation occurred (H5b).

Purchase intention. Findings show no impact on purchase intention for both disclosure awareness (n = 139; b = –0.03, p = .951, LLCI = –1.13, ULCI = 1.06) and prior exposure (b = 0.38, p = .509, LLCI = –0.74, ULCI = 1.5). We also observe no interaction

Table 3: Overview of the hypotheses, research questions, and results.

Investigating Antecedents of Children's Textual Disclosure Cue Processing	
RQ1: What is the effect of disclosure format (i.e., existing textual disclosure vs. expanded textual disclosure vs. no disclosure) on disclosure awareness?	Exposure to the existing textual disclosure has a positive impact on disclosure awareness (compared to the control group). Exposure to the expanded textual disclosure has no impact on disclosure awareness (compared to the control group). Exposure to the expanded textual disclosure has a negative impact on disclosure awareness (compared to the existing textual disclosure).
H1: Higher levels of reading ability strengthen disclosure effects on disclosure awareness.	Not supported
H2: Higher levels of social co-viewing strengthen disclosure effects on disclosure awareness.	Partly Supported
Investigating Children's Processing of the Promoted Brand	
H3: Prior exposure to the movie will positively influence children's a) aided brand recall, b) brand evaluation, and c) purchase intention of the promoted brand.	Not supported Supported Not supported
H4: Children's disclosure awareness will negatively influence a) aided brand recall, b) brand evaluation, and c) purchase intention of the promoted brand.	Not supported Not supported Not supported
H5: There is a negative interaction between disclosure awareness and prior exposure when investigating children's a) aided brand recall, b) brand evaluation, and c) purchase intention.	Not supported Supported Not supported

effect of disclosure awareness (b = –0.03; p = .951) and prior exposure (b = –1.09, p = .137, LLCI = –2.52, ULCI = 0.35) on purchase intention. Also, group does not affect purchase intention (existing textual disclosure: b = –0.32, p = .484, LLCI = –1.23, ULCI = 0.58; expanded textual disclosure: b = –0.43, p = .342, LLCI = –1.32, ULCI = 0.46). Hence, our findings do no support H3c and H4c. Furthermore, no negative interaction effect for purchase intention occurred (H5c).

Table 2 summarizes the results for all brand-related outcomes. Table 3 gives an overview on the results for each hypothesis and research question.

6 Discussion

The present study for the first time investigates how existing textual disclosures and moderating influences affect children's disclosure awareness. Additionally, our study for the first time examines the effects of disclosure awareness on brand outcomes and its interaction effect with prior exposure in the context of children's movies containing PP. The findings indicate that exposure to the existing textual disclosure seems to raise disclosure awareness in children. However, we found no direct effect for the expanded textual disclosure. Based on this, we argue that the existing textual disclosure somehow manifested in children's minds and children appear to be socialized with the disclosure prevalent in their country over the period of time being aired (Boerman et al., 2015a, 2021).

Regarding the missing effect for the expanded textual disclosure, one explanation could be that children are not familiar with that form of appearance and the content provided (Boerman et al., 2015a; Boerman and van Reijmersdal, 2016). In this light, a priming effect (Roskos-Ewoldsen et al., 2009) assumes that children exposed to the expanded textual disclosure, which conveyed a modified version of the existing one, might constitute an unusable prime for the upcoming embedded advertising content. Furthermore, this version might incorporate too complex textual information shown in a very short time frame (Spielvogel et al., 2021). Thus, disclosure effectiveness may be diminished. In sum, exposure to textual disclosures prevalent in the respective country seems to increase children's opportunities for cue processing (Boerman et al., 2015a; Petty and Cacioppo, 1986).

Moreover, the current study for the first time in disclosure research tested the role of children's reading ability. However, the findings showed no moderating influence of reading ability for the effect of disclosure format on disclosure awareness. Instead, children do not seem to consciously encode the textual disclosure or at least do not have to be capable of doing so. Against this background, information-processing theories suggest that young viewers are hardly able to deeply process additional information such as disclosures in their popular TV programs or movies (Buijzen et al., 2010; Lang, 2000). Hence, existing textual disclosures might rather work as implicit cues for children (Spielvogel et al., 2020) as they raise their awareness of textual disclosures regardless of whether their reading skills are pronounced. In general, children seem to pay less attention to disclosures and hardly read them (Rozendaal et al., 2021). In sum, in line with theories of persuasion processing (Petty and Cacioppo, 1986), children's reading ability might not be a relevant indicator for children's ability to process textual disclosure cues.

Instead, environmental factors appear to play a significant role for children's disclosure cue processing. That is, children who were exposed to the existing textual disclosure and who frequently consume audiovisual media content together with

their parents, are more likely to show disclosure awareness than children who engage in less co-viewing with their parents. This finding emphasizes the important role of parents as relevant agents for their child's consumer socialization (Ward, 1974). Based on theories of persuasion processing (Buijzen et al., 2010; Petty and Cacioppo, 1986), it can be presumed that while watching TV programs together, parents might motivate children to process existing textual disclosures by making them aware of textual PP disclosures. In a further step, parents might also explain their aim. This assumption, however, needs to be empirically tested.

When further investigating children's brand outcomes, our findings revealed both a positive, direct effect of prior exposure to the movie on brand evaluation as well as a negative interaction effect of prior exposure and disclosure awareness. It follows that being explicitly aware of textual disclosures can (only) protect children who have been exposed to the movie before; the results of the current study, however, also indicate that if children are not aware of textual disclosures, persuasive effects of PP, once established, seem to be activated through repeated exposure (Auty and Lewis, 2004; Matthes and Naderer, 2015).

Unlike traditional forewarning strategies, being explicitly aware of textual disclosures might be comparable with a less cognitively demanding strategy by reminding individuals of past situations in which they had been subjects of a persuasive attempt (Fransen and Fennis, 2014). In particular in the case of emotionally demanding media content that also includes PP (Buijzen et al., 2010), present literature on how to improve children's coping with embedded advertising indeed emphasizes the value of implicit strategies (Hudders et al., 2017; Spielvogel et al., 2020). In the present study, disclosure awareness only negatively affected brand evaluation in the case of repeated exposure and not in a direct way. Hence, being aware of textual disclosures might remind children of previous experiences with persuasive messages in this specific movie. Furthermore, in line with the "banner blindness phenomenon" (Benway and Lane, 1998), children who are aware of disclosures might assume the textual disclosure typically located within the movie and to be associated with a known message. This might have triggered a learning process in children prior to study participation.

In contrast to previous research, we only found effects on children's brand evaluation. Regarding aided brand recall, it has to be stressed that the majority of children indicated that they had seen Utz Cheeseballs within the movie. This may be due to the fact that a very prominent placement was used. Furthermore, although we found no effects on purchase intention, additional analyzes revealed that brand evaluation and purchase intention highly correlate (Spearman rho = .386; $p < .001$). Hence, in the case of repeated exposure, children's negative brand evaluations triggered by explicit disclosure awareness may also be associated with lower purchase intentions.

7 Limitations and future research

As with each study, some limitations and suggestions for future research need to be mentioned. Most importantly, our measurement of disclosure awareness has some weaknesses as children self-reported whether they encountered (no) disclosures. However, younger children in particular might be more tempted to choose one of the three depicted disclosures. In general, children have the tendency for yea-saying (see e.g., Lapierre, 2019), Additionally, along with several studies in this research field (e.g., Hudson et al., 2008; Naderer, Matthes, Marquart, et al., 2018), another limitation of the study is that the data of the parents has a gender imbalance as most parents were female.

Although our findings hinted that children appear to be socialized with the textual disclosure prevalent in their country, we can only assume a socialization process. For testing this assumption, we lack longitudinal disclosure studies (for an exception with adult viewers see, Boerman et al., 2021) as well as cross-national studies in which various existing disclosures are tested. Also, if EU broadcasters intend to change their disclosure for PP (Audiovisual Media Services Directive, 2018), it would be interesting to investigate a possible socialization process with existing disclosures from the beginning.

Furthermore, the result of the present study emphasizes the important role of social co-viewing for with that children's disclosure awareness arises. While our measurement focuses on the intensity of watching specific media content together, future research could refer to active co-viewing or could even manipulate social co-viewing and investigate how in-class co-viewing influences children's situational disclosure awareness. Future research is also strongly encouraged to test whether specific advertising mediation styles (i.e., active versus restrictive) strengthen children's processing of disclosure cues. Also, other variables of interest than disclosure awareness for children's disclosure cue processing merits more scientific attention (e.g., disclosure understanding, see De Jans et al., 2018).

Regarding the missing moderating effect of children's reading ability, future research is also stronly encouraged to test the role of other relevant and corresponding constructs for children's processing of existing disclosure cues such as children's dispositional persuasion knowledge. Moreover, as we only found effects on brand evaluation, future research could concentrate on spontaneous responses such as actual food choice (see e.g., Matthes and Naderer, 2015), and whether children's disclosure awareness (in connection with repeated exposure) can also mitigate placements effects in this case.

8 Conclusion

With the present study, our major aim was to explore both how existing textual disclosures affect children's disclosure awareness and whether awareness of textual disclosures mitigates persuasion effects in children. By doing so, we also investigate the role of several moderating factors including—for the first time in disclosure research—children's reading ability.

The present study delivers several valuable insights into how children process PP and (existing) textual disclosures. Most importantly, the findings of the present study contribute to the present body of disclosure literature by showing that young viewers' awareness of textual disclosures not only diminishes but also reverses the persuasive effect of PP through repeated exposure on brand evaluation. It therefore adds to existing literature on consumer strategies for resisting advertising (Fransen et al., 2015). Finally, the results underline the interaction between regulation and parents to protect children against the persuasive power of PP in children's favorite programs (Hudson et al., 2008; van Reijmersdal and Rozendaal, 2020).

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Ethics declarations: Since 2017, school partners (i.e., the school forum) of the respective schools and not the Vienna Board of Education decide on the admissibility of a scientific survey at schools. All participating primary schools have given their consent in advance of the study conducted. Furthermore, the study was conducted in compliance with all principles for research ethics (APA). Moreover, before conducting the experiment, parents' written consent was obtained for each participating child.

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