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“Do you like cookies?” Adolescents' skeptical processing of retargeted Facebook-ads and the moderating role of privacy concern and a textual debriefing

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ABSTRACT

Adolescents are regularly exposed to commercial messages on social networking sites. There is scant knowledge of how they interact with marketing communications on these social platforms. This study examines how advertising on Facebook is associated with adolescents' ad skepticism, and how this influences their purchase intentions. Also, the moderating role of privacy concern and a textual debriefing about the nature of the advertising technique are investigated. In total, 363 adolescents aged 16–18 years participated in an experimental study. The results show that, in general, retargeted Facebook ads (compared to non-retargeting) lead to higher purchase intentions. However, when textual debriefing is provided or for adolescents with a high privacy concern, skeptical attitude toward retargeting increases, which in turn decreases purchase intentions. These research findings hold some important implications for actors from different fields of expertise, such as policy makers, practitioners and educators.

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1. Introduction

During the last decade, the advertising industry has witnessed a sharp increase in innovative online marketing techniques. Advertisers are searching for new ways to adapt their messages to the characteristics or behavior of consumers. In that regard, *retargeting* can be addressed as one of those recent innovative practices. Retargeting refers to exposing an online user to an advertisement including a particular kind of content that (s)he searched for online or saw on a previously visited website (Goldfarb, 2013). For example, if an internet user searched for or saw a pair of shoes on a website, this item or a similar one may appear in retargeted ads as (s)he continues to browse the web. Retargeting is a frequently occurring tactic in the data-rich environment of social networking sites (SNS), and certainly on Facebook, where advertisers have rapidly adopted this technique (Hamman & Plomion, 2013).

Notwithstanding its implementation in practice, scant research has been conducted to investigate the effects of retargeting on SNS, making this a particularly fruitful and relevant area (Knoll, 2015). Although it is important to explore the general tendency of how consumers interact with retargeting on SNS, gaining insights into this practice among adolescents may be of particular importance. Being avid SNS users, adolescents are regularly exposed to retargeting on these social platforms. Consequently, it is important for this group to understand how, when, and why advertisers try to influence them with this technique. However, during adolescence, cognitive abilities and with information processing skills are still developing, which means that their knowledge of advertising techniques and persuasion strategies is not entirely matured (Boush, Friestad, & Rose, 1994; Friestad & Wright, 1994). The latter applies particularly for new advertising formats as adolescents may have limited knowledge about these novel persuasion techniques due to inexperience and unfamiliarity (Verhellen, Oates, Pelsmacker, & Dens, 2014). As a result, adolescents might be less able to critically reflect on advertising on a conscious level, making them a group of consumers at risk of unwanted persuasion effects.

The aim of this study is to investigate how adolescents process (i.e. advertising skepticism) retargeted ads on Facebook, compared

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to non-retargeted ads, and how this influences their behavioral response (i.e. purchase intention). Furthermore, it has been argued that marketplace comprehension and critical processing can be influenced by various personal and situational characteristics (Shimp, 2010). In the context of retargeted advertising, we will therefore investigate the impact of adolescents' privacy concern as a personal factor. As retargeting employs personal information of online consumers to customize advertising (i.e. their browsing history), it can be argued that one's level of online informational privacy concern can be an important factor in the elaboration and effectiveness of retargeting. The contextual factor that will be investigated is a textual debriefing about the nature of the advertising technique. As young consumers may sometimes encounter difficulties to recognize and understand advertising critically, it is said that they must be contextually aided or encouraged to do so (John, 1999). Therefore, a textual debriefing could be effective in triggering critical advertising knowledge.

2. Theoretical framework and hypotheses

To test our hypotheses, we have developed a theoretical model (Fig. 1) representing a moderated mediation relationship, also called conditional process model (Hayes, 2013). In this section, the full model will be broken down into separate but interrelated hypotheses in order to obtain an interpretative overview of how the model is constituted.

2.1. Responses toward retargeting

As studies about retargeting are scarce, we will built upon insights from similar practices that have gone by several names, such as targeting, customization, tailoring, personalization and online behavioral advertising (Taylor, 2013). Although some slight differences, they all share the same basic principle with retargeting: target advertising to those consumers that are most likely to be interested based on personal information. We will, for the sake of clarity, group all these techniques under the term 'targeting'. Studies investigating this topic among adult consumers have yielded inconsistent results (Maslowska, van den Putte, & Smit, 2011; Yu & Cude, 2009). Two main perspectives can be distinguished in the literature. On the one hand, consumers might perceive the content of a targeted ad as more appealing, relevant and aligned with their personal interests (Tucker, 2014). The targeted ad is believed to deliver the right message to the right people at the right time, implicating that people perceive it as more relevant and consistent with their goals and interests (Cho & Cheon, 2004). Empirical support for this perspective was found in studies indicating that targeted advertising content leads to favorable responses, such as positive attitudes (Kalyanaraman & Sundar, 2006; Maslowska et al., 2011), increased purchase intention (Goldfarb &

Tucker, 2011) and click-through rate (Yan et al., 2009). On the other hand, the advantage of receiving relevant ads comes at the expense of people possibly perceiving targeted advertising as both creepy and unpleasant as they may experience greater feelings of privacy invasion (Tucker, 2014). The latter can result in less positive attitudes and a decrease in purchase intention, and an increase in ad avoidance and rejection (Baek & Morimoto, 2012; McDonald & Cranor, 2010; Yu & Cude, 2009).

Given these mixed findings about targeting, it leaves us to wonder how young consumers will react to a specific advertising technique that customizes commercial content based on their on-line search behavior, as retargeting does. Adolescents exposed to a retargeted ad (compared to a non-retargeted ad) generally possess more information (e.g. price, availability, etc.) because they are exposed to an ad containing the very same product or service they have already looked for in an earlier search query. It can be expected that repeated exposure and more information lead to favorable effects on advertising outcomes (Dodds, Monroe, & Grewal, 1991; Pechmann & Stewart, 1988). Therefore, the current study predicts that adolescents will have a higher purchase intention for a product depicted in a retargeted ad, compared to a non-retargeted ad. In summary, we posit the following hypothesis:

- H1 Retargeted ads lead to higher levels of purchase intention compared to non-retargeted ads (i.e. direct relationship).

2.2. Advertising skepticism toward retargeting

During adolescence, young people may become skeptical about different kinds of social communications, including advertising (Friestad & Wright, 1994). This phenomenon can be explained by the reactance theory introduced by Brehm (1989). Most of the time, people want the freedom to think, feel, and act as they choose. When realizing that they are subject to an (external) commercial attempt that tries to persuade them, they will perceive it as a threat to their autonomy and freedom of choice, triggering what has been defined as *reactance* (Brehm, 1989). Subsequently, this reactance can generate resistance to persuasion by people by avoiding the persuasive message, or disagreeing in a more thoughtful manner, i.e. counterarguing and questioning the credibility of the source and the message (Kassin, Fein, & Markus, 2011; Silvia, 2006). Based on the latter, White, Zahay, Thorbjørnsen, and Shavitt (2008) showed that targeted messages result in 'personalization reactance' – a psychological resistance in response to inappropriate personalization of messages. This implies that, given that advertisers track down the personal browsing history of (usually) unaware online consumers to enable retargeting, people may experience this as an invasion of their online privacy and therefore feel deceived. Because of this privacy intrusion and feelings of deception, people may be more likely to deal with this advertising practice by criticizing the tactic and process the ad with more skepticism (Boerman, van Reijmersdal & Neijens, 2014). Next to reactance, Knowles and Linn (2004) assert another prominent factor of resistance to persuasion: a distrust of commercial stimuli. This face of resistance alerts consumers to be guarded and cautious when faced with a persuasive message, especially if the persuaders' goals are mistrusted. As people are usually poorly informed about how companies deal with their private information and data online, they often lack a sense of trust in the advertising industry with regards to targeted advertising (Bergström, 2015; Ur, Leon, Cranor, Shay, & Wang, 2012). Again, this confirms our premise that adolescent consumers might engage in skeptical reasoning when they are confronted with retargeted advertisements on SNS, more so than non-retargeted ads, because it –usually unbeknown-

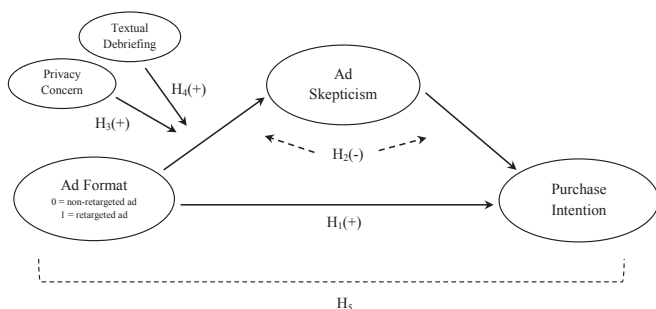


Fig. 1. Conceptual model of adolescents' processing of retargeted ads on Facebook.

employs their previously visited websites. We therefore expect that advertising skepticism to be higher for retargeted ads than for non-retargeted ads among young consumers.

Several scholars have also shown that advertising skepticism leads to negative evaluations. More specifically, studies of Obermiller and Spangenberg (1998; Obermiller, Spangenberg, & MacLachlan, 2005) have supported the notion that the extent of people's skepticism is an important determinant of their (behavioral) responses to advertising. Therefore, we expect that retargeted ads will not only generate higher skeptical processing than non-retargeted ads (see previous paragraph), but we also predict that this effect will subsequently lead to a lower purchase intention for retargeted ads compared to non-retargeted ads (i.e. mediation effect). This leads to the following hypothesis:

- H2 Retargeted ads lead to higher levels of advertising skepticism compared to non-retargeted ads, which in turn will lead to a lower purchase intention.

2.3. Personal moderator: the role of privacy concern

An important issue that advertisers may face when targeting advertising to consumers' online preferences and personal data is informational privacy concern. Westin (1967, p. 7) defines informational privacy as "the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others". Privacy concern can range from users' discomfort with marketers gathering personal information from them based on their online behavior to concerns about personal data becoming available to third parties (other businesses, the government, etc.) (Cranor, 2004). In general, most consumers participate in online communities with insufficient understanding that personal information related to their online interactions will be collected and used for marketing purposes (Smit, Van Noort, & Voorveld, 2014). Eventually, when they do find out, for example when being exposed to retargeted ads, they may experience a feeling of privacy intrusion, especially if they feel uninformed about who is collecting their browsing information, how they obtain it or for what purposes it is used (Nowak & Phelps, 1995). The stronger an individual's concerns about marketers' data gathering practices, the more likely a consumer will adopt privacy protecting behavior (Youn, 2009).

Past research findings already revealed that an increased privacy concern among adolescents elicits various privacy protecting behaviors, such as seeking out interpersonal advice, avoiding websites that ask for personal information and falsifying or providing incomplete personal information (Youn, 2005, 2009). Within a social network environment, privacy concerned adolescents tend to delete comments, untag themselves from photos or content, enhance privacy-setting strategies, and even, deactivate their account if necessary (Feng & Xie, 2014; Madden, Lenhart, Cortesi, & Gasser, 2013). Based on these findings, we also expect a privacy protecting strategy among young consumers in terms of advertising coping behavior. More precisely, it can be assumed that adolescents with a high privacy concern will adopt a protective stance when they are confronted with retargeted ads, in this case a skeptical evaluation. In contrast, adolescents with a low degree of privacy concern should not engage in skeptical elaboration of retargeted messages as a defense mechanism. We therefore expect the level of privacy concern to be a moderator for the skeptical appraisal of retargeting. Consequently, we formulate the following hypothesis:

- H3 Adolescents with a higher privacy concern will have a higher ad skepticism for retargeted ads, as compared to non-retargeted ads. For adolescents with a lower privacy concern, no difference is expected for these two advertising techniques.

2.4. Contextual moderator: the role of a textual debriefing

Besides personal factors, contextual factors might also affect adolescents' skeptical processing. Young consumers may sometimes encounter difficulties to recognize and understand commercial content critically. They may have already acquired some knowledge about advertising, but this does not necessarily mean that they actually retrieve this knowledge when confronted with advertising and apply it as a critical defense to generate critical thoughts and counterarguments (Rozendaal, Lapierre, van Reijmersdal, & Buijzen, 2011). Therefore, it has been asserted that youngsters must be contextually helped or encouraged to engage in critical elaboration of consumer related affairs (John, 1999). More precisely, adolescents can be offered a cue to make them consciously aware of retargeting and trigger their critical advertising knowledge. This can make the commercial nature and the persuasive motives of advertising more accessible in the minds of young consumers (Campbell & Kirmani, 2000). This contextual cue could be particularly suitable and effective for a new, nontraditional advertising technique, such as retargeting, as adolescents might have underdeveloped knowledge about and limited experience with it.

Contextual cues can take various forms (e.g. pre-warnings, after-warnings, texts, symbols, icons, etc.), can vary regarding the content (e.g. semantic content, visual content, etc.) and characteristics (placement, size, exposure time, interactivity, color, vividness, etc.) (see An & Kang, 2013). In the present study, we will investigate the usefulness of using a debriefing tool for improving adolescents critical processing of advertising. Intrinsically, debriefing is a learning process that provides the opportunity for structured reflection whereby experiences are used and converted into learning (Costabile et al., 2008). This learning may originate from individual reflections on prior experiences (Raemer et al., 2011). The principle of debriefing is omnipresent in various domains like education and psychology (e.g. debriefing after experiencing a traumatic event) (Rose, Bisson, Churchill, & Wessely, 2002), and could therefore also be relevant in the multidisciplinary domain of advertising research. Today, debriefing is frequently applied in the field of game-based learning (e.g. Crookall, 2010; Van der Meij, Leemkuil, & Li, 2013). For instance, Crookall (2010) argued that learning comes not from the game itself, but from the debriefing afterwards. As such, it is less likely that young people will withdraw deeper lessons from an experience all by themselves; they will only learn from it when they are stimulated to cognitively reflect on the game once the playing experience is over. We argue that this debriefing method sounds promising to be investigated within an advertising setting.

We expect debriefing to be a moderator for eliciting skeptical advertising thoughts. More precisely, we argue that when no debriefing is provided, critical processing will be triggered to a lesser extent, which will result in little or no difference in skepticism between retargeted and non-retargeted ads. However, when the debriefing is provided, it will stimulate adolescents' critical and skeptical advertising reflection. In this case, we expect a retargeted ad to generate more skepticism than a non-retargeted ad due to its use of personal browser histories for marketing purposes. Therefore, we postulate the following hypothesis:

- H4 Adolescents provided with a debriefing will have higher ad skepticism for retargeted ads, as compared to non-retargeted ads. For adolescents not provided with a textual debriefing, no difference in ad skepticism will be found for these two advertising techniques.

In sum, the abovementioned hypotheses test our theoretical model stepwise by decomposing it in several parts. Now we aim to merge everything into one model, i.e. a moderated mediation model. Therefore, we end with an overarching hypothesis that allows us to test our theoretical model as a whole:

- H5 Privacy concern and a textual debriefing moderate the indirect effect of retargeted ads on purchase intention through advertising skepticism.

3. Methods

3.1. Sample description and design

In total, 363 adolescents aged 16–18 years ($M_{age} = 17.27$, $SD_{age} = 0.80$) participated in the study (61% female). The adolescents were 11th and 12th graders recruited from six different schools situated in [region removed for the purpose of blind peer review]. The experiment used a 2 (non-retargeted ad – retargeted ad) \times 2 (textual debriefing – no textual debriefing) between subject design.

3.2. Pretest and stimuli

In order to choose a suitable product to use in the Facebook ad, a pretest ($n = 87$) was conducted among adolescents including several products (e.g. sunglasses, backpack, bicycle). The product needed to be particularly appealing for adolescents. The results showed that they are highly familiar with sunglasses ($M = 7.01$, $SD = 2.31$) on a scale from one to 10, and, more importantly, are likely to search a pair of sunglasses on the internet to purchase them ($M = 3.31$, $SD = 1.23$, on a scale from one to five), which is a necessary precondition for retargeting to take place. Therefore, we chose sunglasses as product for the advertisement. We opted for the sunglasses of the brand Vans, which is a youth-culture brand highly popular and well-known among teenagers (VF Corporation, 2013). Based on this, we created two test advertisements, a retargeted and a non-retargeted ad (see Appendix). These ads differed slightly from each other because they bear different characteristics: retargeting depicts a specific product a consumer has visited and searched for before, with a clear hint to be directed back to the original website (e.g. by providing a buy button). A non-retargeting ad has a more general content, referring to the whole brand line and not to a specific product as such. Because the visuals of these two ads are different, we tested them in an additional pretest ($n = 40$) to make sure they did not differ from each other in terms of important advertising outcomes and to rule out the 'visual difference' as an extraneous or confounding factor in our experimental design. The results showed that the retargeting ad was not significantly different from the non-retargeting ad - purely based on the visual - in terms of attitude toward the ad ($M_{ret} = 3.10$ vs $M_{non-ret} = 3.22$; $t(38) = 0.28$, $p = 0.78$), attitude towards the brand ($M_{ret} = 3.47$ vs $M_{non-ret} = 3.3$; $t(35) = -0.29$, $p = 0.78$), and purchase intention ($M_{ret} = 2.57$ vs $M_{non-ret} = 2.25$; $t(38) = -0.74$, $p = 0.47$). Next, we created a Facebook fan page of a fictitious music festival, called T-world (the T stands for Teenager) on which the Vans advertisement was shown (see next section for the cover story). Since adolescents are avid festival attenders, it can be assumed that a Facebook fan page concerning a teenage festival will draw their

attention. Finally, we also created the textual debriefing, which consisted of a text informing the adolescents they were exposed to either retargeting or non-retargeting (depending on the experimental condition the participant is situated in), and moreover, explains how this technique exactly works (see Appendix). Prior to the study, we checked if the textual debriefing was clear and comprehensible for adolescents by presenting the text to a class of 12 pupils. After having read the debriefing text, all pupils mentioned to have understood it without difficulties.

3.3. Procedure

Prior to the implementation of the online experiment, we obtained institutional approval from our university [ethical approval number removed for the purpose of blind peer review] and informed consent from the schools' principal and the participants. All experimental questions were presented online in computer classrooms during school time. After filling in some socio-demographic and dispositional questions, the adolescents were subjected to our cover story. They were introduced to the festival named T-world. After being informed about this event, they were given an online search task, which differed for the retargeting and the non-retargeting condition (randomly assigned). In the *retargeting condition*, participants were asked to open their browser and surf to the –real- Vans website to check out some cool sunglasses for the festival. Participants in the *non-retargeted condition* were asked to evaluate the location of the festival on Google Maps (a control task). After having performed this search task, they were told that T-World just launched a new Facebook page. Their task then consisted of checking out the organization's Facebook page and evaluate it. By introducing this assignment, we wanted to direct the participants to Facebook. They had to log on by using their own account and visit the T-world fan page (the direct link was communicated). On this Facebook page, wall-posts were already included by the researcher to simulate a realistic page. Importantly, one of the posts on the Facebook page was an advertisement for Vans sunglasses (a retargeted ad for those who had already visited the Vans webpage or non-retargeted ad for those who had the control task of finding the festival's location on Google Maps, depending on the condition). In other words, while exploring the T-World fan page, they were clearly exposed to this ad. After this, the participants had to return to the questionnaire. At this point, the second manipulation took place. Before continuing the remaining part of the questionnaire, adolescents were either given the textual debriefing for their corresponding advertising technique that revealed the underlying persuasive tactic (retargeting or non-retargeting), or they were left unbrieffed about the ad (again, randomly assigned). Thereafter, the participants completed the remaining part of the questionnaire, which included questions about the advertisement they had seen (ad skepticism and purchase intention). This whole set-up with cover story was chosen because the researchers wanted to simulate a realistic procedure comparable to how young consumers would encounter retargeting in their everyday lives. By letting the participants perform an online search task for themselves, and thereafter engage with the original Facebook-platform (instead of just presenting them with a screenshot or scenario), we wanted to create a genuine experience in which the participants would less likely be able to guess the aim of the study, which in turn prevents demand characteristics.

3.4. Measures

3.4.1. Advertising skepticism

To assess ad skepticism, five items were used measuring the sentiment toward advertising (Gaski & Etzel, 1986), similar to the

study of Mangleburg and Bristol (1998) (e.g. ‘This ad is intended to deceive rather than to inform consumers’). Two items from the original scale were dropped because they applied to advertising formats making a claim or providing information. Although the latter is evident for television advertising, it is less so for online advertising such as retargeting. The response options ranged from one (*strongly disagree*) to seven (*strongly agree*). All the items were aggregated to form a single measure of ad skepticism ($M = 4.25$, $SD = 1.04$; $\alpha = 0.78$).

3.4.2. Privacy concern

We measured privacy concern by using the six-point Global Information Privacy Concern scale (Malhotra, Kim, & Agarwal, 2004), with response categories ranging from one (*strongly disagree*) to seven (*strongly agree*). A sample item is ‘To me, it is the most important thing to keep my privacy intact from online companies’. The mean score of all items was used as a measurement of privacy concern ($M = 4.39$, $SD = 0.76$; $\alpha = 0.72$).

3.4.3. Purchase intention

Respondents gave a score on their purchase intention based on three items used by Baker and Churchill (1977) (e.g. ‘Would you buy this product if you happened to see it in a store?’). Respondents were

served a range of response options going from one (*strongly disagree*) to seven (*strongly agree*). The three items were then aggregated to form a single measure of purchase intention ($M = 3.33$, $SD = 1.50$; $\alpha = 0.85$).

3.4.4. Control variables

Finally, participants were asked about their socio-demographic characteristics (age and gender) and their Facebook activity by using the Facebook Intensity Scale (Ellison, Steinfield, & Lampe, 2007).

4. Results

To test our proposed theoretical model, we used an OLS regression-based path analysis, with the aid of the computation tool PROCESS as a means of estimating direct and indirect (conditional) effects (Hayes, 2013). Our separated hypotheses were tested in two models, namely the mediator variable model (advertising skepticism) and the dependent variable model (purchase intention), which is the standard output when generating a moderated mediation in PROCESS. We used 10 000 bootstrap samples and bias-corrected 95% confidence intervals. As shown in Table 1, the direct effect of ad format on purchase intention is highly significant ($\beta = 0.59$, $p < 0.001$; H_1 accepted), meaning that in general (i.e. after controlling for other variables in the model), adolescents have higher purchase intentions of the product when they are presented the retargeted ad ($M = 3.65$, $SD = 0.11$) compared to the non-retargeted ad ($M = 3.07$, $SD = 0.11$). To test hypothesis 2, we ran an additional, separate mediation analysis to test the indirect effect of retargeting on purchase intention. This reveals an indirect effect (-0.266) statistically different from zero, as the 95% bootstrap confidence interval contains values below zero [-0.425 to -0.150]. Therefore, H_2 can be accepted.

We further assessed the interference of two moderators in the relationship of ad format on advertising skepticism, namely privacy concern and a textual debriefing. As regards privacy concern, Table 1 shows that this characteristic has a significant interaction effect with ad format ($\beta = 0.294$, $p < 0.05$), meaning that it moderates the relationship between retargeting and ad skepticism. In Fig. 2, this interaction is presented graphically by plotting the simple slope of ad format at various values of privacy concern, i.e. ‘low’ ‘moderate’ and ‘high’ values (i.e. pick-a-point approach) (Hayes, 2013). As can be seen, in case of a non-retargeted ad, privacy concern is less important since adolescents in the categories

Table 1
OLS-regression model coefficients for the moderated mediation model in Fig. 1.

Antecedents	Model 1		Model 2	
	Advertising skepticism		Purchase intention	
	Coefficient	SE	Coefficient	SE
Constant	4.601***	0.368	6.173***	0.620
Age	0.025	0.065	-0.192*	0.093
Sex	-0.182	0.107	-0.226	0.155
Facebook intensity	-0.035	0.052	0.053	0.076
Ad format	0.543***	0.102	0.586***	0.155
Ad skep	—	—	-0.486***	0.076
Privacy concern	0.152*	0.071	—	—
Cue	-0.007	0.104	—	—
Ad format * PC	0.294*	0.140	—	—
Ad format * Cue	0.754***	0.206	—	—
	$R^2 = 0.144$		$R^2 = 0.131$	
	$F(8,347) = 7.301***$		$F(5,350) = 10.579***$	

Note: Age, Sex and Facebook Intensity are included as control variables in these models.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

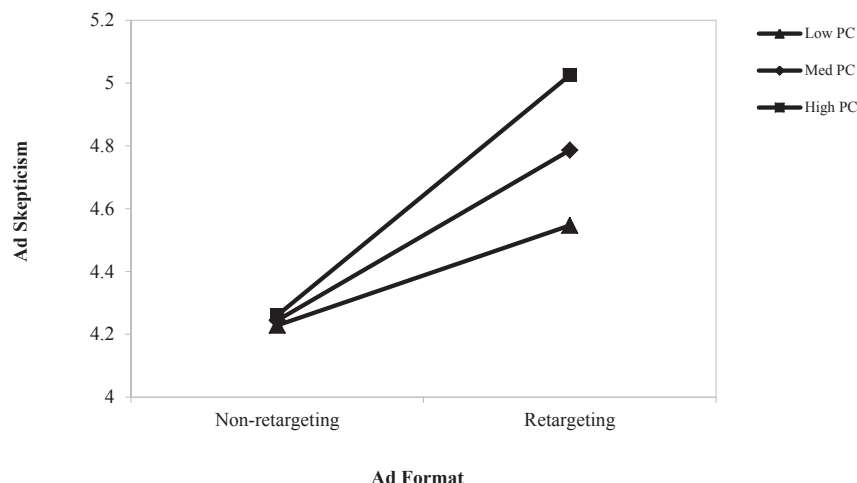


Fig. 2. Graphical depiction of privacy concern as moderator on ad skepticism.

low, moderate and high generate a similar level of advertising skepticism ($M_{low} = 4.23$, $M_{mod} = 4.24$, $M_{high} = 4.26$; $p = 0.686$). For the retargeted ad, we notice that as adolescents' privacy concern rises, much higher levels of ad skepticism are generated ($M_{low} = 4.55$, $M_{mod} = 4.79$, $M_{high} = 5.03$; $p < 0.001$). As such, H_3 can be accepted.

The next proposed moderator, the textual debriefing, is also found to be significant ($\beta = 0.754$, $p < 0.001$). Fig. 3 shows that, when no debriefing is provided, retargeting ($M = 4.31$) and non-retargeting ($M = 4.19$) do not show differences in terms of ad skepticism ($p = 0.437$). However, in the presence of a textual debriefing, the retargeted ad ($M = 4.74$) elicits a significant higher level of ad skepticism compared to the non-retargeted ad ($M = 3.80$; $p < 0.001$). Therefore, H_4 can also be accepted.

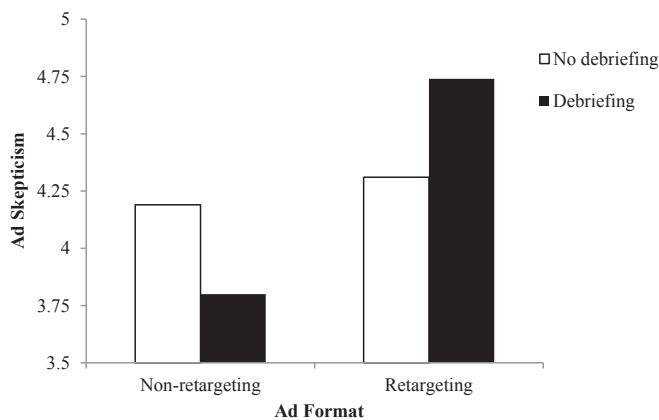


Fig. 3. Graphical depiction of a textual debriefing as moderator on ad skepticism.

Finally, we estimated the conditional indirect effects for various values of both moderators, along with an inferential test at those values. Table 2 reveals the conditional indirect effects of retargeting on purchase intention through skepticism at values of privacy concern and textual debriefing as a test of the final hypothesis (full model). To achieve this, we again chose the 'pick-a-point' approach to probe interactions at low, moderate and high values of the moderators (Hayes, 2013). Notice that the indirect effect of retargeting on purchase intention by ad skepticism is very low without the presence of a textual debriefing (as can be seen by the CI containing zero), although a stronger relationship can be noticed when privacy concern is high (effect changing from 0.039 to -0.172 , with the latter effect being significant). However, when a textual debriefing is provided, compared to no debriefing, we observe that the negative effect of the retargeted ad on purchase intention through ad skepticism increases significantly, and continues to do

so as levels of privacy concern among adolescents increase (from -0.328 to -0.539). This proves that both are significant moderators in the indirect relationship of retargeting on purchase intention by advertising skepticism (H_5 accepted).

5. General discussion

The present study investigated the relationship between retargeting on Facebook as an advertising technique on the one hand and purchase intention and ad skepticism as outcomes on the other hand. Furthermore, we explored the moderating role of privacy concern and a textual debriefing in determining adolescents' responses to retargeted (versus non-retargeted) ads. First, our model revealed that the direct effect of retargeted advertising on purchase intention is higher than is the case for non-retargeted advertising. This demonstrates that, in general, adolescents respond quite favorably toward retargeting and prefer to purchase the product depicted in a retargeted ad compared to the same product in a non-retargeted ad. However, this is a *general effect*, as the direct effect looks at the influence of retargeting on purchase intention while controlling for or holding constant all the other variables in the theoretical model. As the medal has two sides, retargeting could also intrude into adolescents' private sphere as it uses information about the website they visited to customize ads. This could lead to beliefs about their personal information being used for an 'improper' persuasion attempt, which will encourage the adoption of a skeptical evaluation of this practice. This reasoning is exactly the conclusion that emerged from our results. When we took advertising skepticism into account as a mediator, we discovered a negative indirect relationship between retargeting and purchase intention, via advertising skepticism. This means that the retargeted ad leads to a higher ad skepticism compared to the non-retargeted ad, which in turn leads to a lower purchase intention of the product. On this occasion, an important and interesting contradiction between direct and indirect effect emerges. As Zhao, Lynch, and Chen (2010) argue, when a mediated and direct effect point in opposite directions, this possibly indicates the existence of some 'other' omitted mediator(s) in the direct path that can be investigated in future research (e.g. risk perception, trust, involvement, etc.). Altogether, the bottom line is that retargeting leads to higher purchase intention when controlling for all the variables in the model, but when looking at it into more depth, it actually evokes skeptical appraisal, which in turn negatively influences purchase intention of young consumers.

Consistent with the line of reasoning covered in our theoretical framework, adolescents' privacy concern seemed to be an important moderator for the relationship between retargeting and advertising skepticism. It was found that as adolescents' privacy concern increased, they were significantly more skeptical toward the retargeted ad, but not toward the non-retargeted ad. This demonstrates that adolescents adopt an advertising coping response as privacy-protecting strategy when they are more worried about the way advertisers handle their online personal information for commercial purposes. Interestingly, this finding is somewhat opposite to the *privacy paradox* (Barnes, 2006). Put simply, this theory indicates that teenagers consider their online privacy as important, but do not act accordingly to protect it. However, we showed that adolescents with higher levels of privacy concern clearly try to protect their privacy by evaluating retargeting with more skepticism, which then lowers their purchase intentions.

Next, the current study also pointed out that a textual debriefing as a significant moderator of advertising skepticism. This debriefing cue took the form of a little text and informed the adolescents that they are exposed to either a retargeted or a non-retargeted ad. It

Table 2

Conditional indirect Effect(s) of retargeting on purchase intention through skepticism at values of the moderators.

Moderated mediation model				
Textual debriefing	PC	Effect	Boot SE	95% BC bootstrap CI
No	Low	0.039	0.098	−0.152 to 0.236
No	Moderate	−0.066	0.077	−0.236 to 0.073
No	High	−0.172	0.095	−0.388 to −0.011
Yes	Low	−0.328	0.099	−0.556 to −0.166
Yes	Moderate	−0.433	0.099	−0.660 to −0.269
Yes	High	−0.539	0.128	−0.825 to −0.323

Note: for Privacy Concern, low value is 3.66; moderate value is 4.40; high value is 5.14 (on a scale of 7).

was found that when this debriefing was not provided, adolescents were as skeptical toward a retargeted ad than a non-retargeted ad. However, when the debriefing was provided for both ads, they evaluated the retargeted ad with far more skepticism than the non-retargeted ad. This confirms the logic behind the implementation of a textual debriefing, as explained earlier. In short, what the debriefing does is disclosing the nature of the persuasive message after exposure, and therefore making its motives more accessible in the minds of young consumers (Campbell & Kirmani, 2000). In this way, debriefing adolescents can be a helpful learning process and remind them to reflect critically on consumer related affairs when they are exposed to it. Finally, our theoretical model was also accepted as a whole, summarizing all the above-mentioned findings into one analysis, more specifically, a moderated mediation analysis. We found that privacy concern and a textual debriefing moderate the indirect effect of retargeted ads on purchase intention through advertising skepticism. This means that if adolescents have high levels of privacy concern (vs. low levels), or when a textual debriefing is presented (vs. no debriefing), there is a stronger negative indirect effect of retargeted ads on purchase intention, through advertising skepticism.

The present study contributes to the knowledge of actors from different fields of expertise. First, the present study improves the understanding of adolescents' response to retargeted advertising messages on Facebook, offering scholars insights to develop new and comprehensive theoretical frameworks. As Knoll (2015) argued, the field of marketing on SNS is relatively new and currently underdeveloped. Research initiatives regarding persuasive communication on SNS (e.g. targeting) could therefore advance our knowledge in the underlying mental processes operating among consumers. Second, as the online collection and use of personal information from consumers through behavioral targeting have recently highlighted public and regulatory concern (Milne, Rohm, & Bahl, 2009), our results could assist policy makers in evaluating the ethical nature of retargeting. From a legal perspective, marketing communication practices online must be recognizable as such, certainly when targeting young consumers. From the current study, we deduct that adolescents may not always be aware of data gathering practices behind targeted advertising content, and therefore, do not recognize it 'as such'. This premise is based on the fact that the textual debriefing in our study was necessary for adolescents to consciously notify that they are exposed to retargeting, which consequently lead to a more skeptical and critical evaluation of retargeting as an advertising practice. Without this information, the skeptical reflection fails to appear as they do not engage in critical and effortful elaboration. Additionally, from a data-protection perspective, the Children's Online Privacy Protection Act (i.e. an act with respect to the online collection of personal information from children) only applies to children under 13 years and not to teenagers. However, this study showed that some teenagers have a low concern regarding the safety and privacy risks related to the online collection of personal information, which resulted in a lower skeptical and critical evaluation of retargeting. Therefore, in line with the concerns of the Federal Trade Commission (2012), we suggest that strong and more flexible privacy protections may be appropriate for this consumer group. Third, we can also draw some implications for the educational sector. It would be advisable to teach adolescents in class about online privacy and all the possible risks that go with it in order to protect their personal information and interact more critically with online marketing strategies that use private data. Furthermore, as we found the debriefing to be an important factor to elicit skeptical reasoning, we suggest that it can be interesting to have a debriefing session in class at school. Debriefing can result in learning originating from an individual reflection (as shown in our

study), but it can also stem from sharing these reflections with others who had the same experience (Raemer et al., 2011). Therefore, a debriefing at school in which adolescents are gathered together to describe their past advertising experiences, to account for their actions and to reflect upon it can be helpful to develop critical consumer knowledge. Lastly, practitioners can also benefit from these findings by responsibly optimizing their marketing communication strategy when aiming at young consumers. We suggest that marketers should embrace a careful approach when it comes to the usage of young consumers' personal information for commercial purposes, for example by attempting to make the underlying tactic of targeted content (data use through cookies) transparent and recognizable at all time. Furthermore, as a more general implication, we found that retargeted ads backfired in the current study, resulting in lower purchase intentions due to the increase in advertising skepticism. These insights may help marketers and advertisers to develop more responsible and effective communication campaigns.

The present study has also some limitations that could be considered in future research. First, it compared retargeted ads to non-retargeted ads, which is a fairly straightforward comparison. Future empirical efforts could include different types of retargeting as this technique exists in various forms (for example: dynamic vs generic retargeting, these two types of retargeting are found to differ in terms of effectiveness; see Lambrecht & Tucker, 2013). Second, we only tested the short-term effects of a debriefing. Future studies could also look at the long-term effects (i.e. a debriefing session during an extended period of time after advertising exposure). Third, our choice for older adolescents (16–18 year) was based on the fact that these consumers are the heaviest SNS users, and therefore the most prominent target of retargeting. Future research could select other age categories within adolescence based on their vulnerability to persuasive effects and privacy risks originating from marketing practices. Finally, we strongly suggest that future studies should focus more on targeted advertising (e.g. retargeting, online behavioral advertising) as the importance of message customization in advertising rises, certainly on platforms where these techniques are omnipresent, such as SNS. More precisely, a specific focus on adolescents' coping behavior (cognitive, affective and conative) toward targeted advertising on SNS is recommended.

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Appendix

Textual debriefing

Retargeting condition

The advertisement you just saw was targeted to you based on your previous browsing behavior to the Vans website. Your computer registered that you have visited the Vans website, and has saved it. This information was then used to display advertising about Vans on the Facebook page of T-World.

Non-retargeting condition

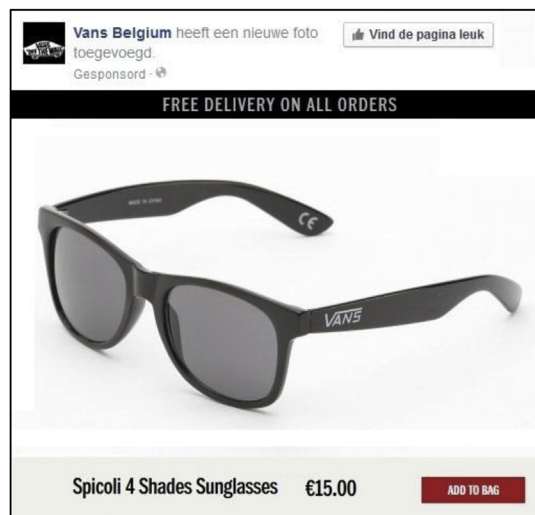
The advertisement you just saw is a normal Facebook ad. You have been displayed this Vans advertising on Facebook randomly. So in other words, it could have been any other brand on the Facebook page of T-World.

Advertisements

Non-retargeting condition



Retargeting condition



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