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The impact of regulatory focus on adolescents' evaluation of targeted advertising on social networking sites

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ABSTRACT

This article examines whether individual differences in chronic regulatory focus (prevention vs. promotion focus) among adolescents influences the way they evaluate targeted advertising on social networking sites. Study 1 (survey) reveals that adolescents with a promotion focus (who are oriented toward achieving positive outcomes) have a more positive attitude and a higher purchase intention toward targeted advertising, as compared to prevention-focused adolescents (who are dispositioned toward avoiding negative outcomes). Study 2 (experiment) investigates how adolescents' chronic regulatory focus can alter their attitude and purchase intention on a mock social networking site that includes a targeted advertisement. Results show that a low personalized targeted ad is better evaluated (in terms of a more positive attitude and higher purchase intention) among prevention-focused adolescents, whereas a high personalized targeted ad results in better advertising outcomes among promotion-focused adolescents. Contributions to theory and implications for advertising practice are discussed.

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Introduction

Rapid developments in information and communication technology have offered advertisers unprecedented abilities to use adolescents' personal information to reach out to them in online environments. The processing of personal data allows advertisers to select and target audiences more precisely by directing a specific advertisement only to those who are most likely to be interested in a particular product or service. This technique, also known as *targeting*, is a frequently occurring practice on social network sites (SNSs), where innumerable pieces of personal data (e.g. socio-demographics, preferences, interests, life-style pattern, etc.) are available for marketing purposes (Knoll 2015; Tucker 2014). The latter has rapidly convinced advertisers to allocate greater shares of their media budgets to social media marketing (Knoll 2015). These days, targeting on SNSs represents a widely adopted advertising strategy. A recent large-scale survey among more than 5000 marketers revealed that targeted ads on SNSs have become immensely popular, with approximately 86% of marketers making use of Facebook (i.e. the largest and most famous SNS)

as a platform for advertising purposes (Stelzner 2016). As adolescents are known to be heavy users of SNSs (Lenhart 2015), they are regularly exposed to targeted advertising on these social platforms. Therefore, it is of great importance to gain a wider base of empirical knowledge on how adolescents interact with targeted advertising on SNSs.

However, targeting seems to be a medal with two sides. Past academic research on the effectiveness of targeted advertising revealed two opposite conclusions (Ham 2016; Maslowska, Smit, and van den Putte 2016; Zarouali et al. 2017). On one hand, targeting generates more favourable consumer responses as it increases the personal relevance of an advertisement by adjusting it to the interests and preferences of consumers (e.g. De Keyser, Dens, and Pelsmacker 2015; Lambrecht and Tucker 2013; Maslowska, Putte, and Smit 2011; Yan et al. 2009; Walrave et al. 2016). On the other hand, targeting could also elicit negative responses as consumers may experience greater feelings of privacy concern because of the invasive nature of targeted advertising (e.g. Baek and Morimoto 2012; Doorn and Hoekstra 2013; White et al. 2008; Zarouali et al. 2017). Although research demonstrates that consumers may react to targeted advertising in different ways, little is known about *when* they respond accordingly (Taylor 2013). Especially on a personal level, scant knowledge is available on how individual differences between people might account for the substantial variations in responses toward targeted advertising.

To fill this gap, we aim to shed light on how chronic differences in motivation between adolescents influence their responses toward targeted advertising on SNSs. We will address this issue by drawing on the regulatory focus theory (Higgins 1997). This theory delineates how individuals adopt different motivational orientations during goal pursuit. Two types of regulatory focus can be distinguished: a promotion focus, which emphasizes approach-oriented strategies (e.g. becoming healthy by engaging in physical activity), and a prevention focus, which accentuates avoidance-oriented strategies (e.g. becoming healthy by refraining from smoking) (Pham and Chang 2010; Higgins 1997; Crowe and Higgins 1997). In short, a person's regulatory focus refers to the extent to which a person is motivated to either realize achievements or avoid hazards (Zhao and Pechmann 2007). This framework might be a relevant theoretical backbone in determining why people react differently to an advertising format that elicits feelings of privacy intrusion.

Therefore, in a series of two studies, we focus on the latent motivations of adolescents to evaluate targeted advertising either positively or negatively. More precisely, in Study 1 we set up a survey to assess how chronic regulatory focus predicts adolescents' general attitude toward targeted advertising and their intention to make purchases based on targeted content. By means of this study, we want to examine the influence of regulatory focus on adolescents' responses to targeted advertising *in a general way*. In Study 2, we extend our research aim by experimentally investigating how chronic regulatory focus can alter attitude and purchase intention by making it *context-specific*. We therefore set up an experiment and manipulate a concrete online setting (i.e. a SNS) that includes targeted advertising. In this regard, we highlight how the degree of personalization of a targeted ad can act as an influential moderator in the relationship between chronic regulatory focus and adolescents' attitude and behavioural response toward targeted advertising.

Theoretical background

Informational privacy concern

An important issue that marketers have to take into consideration when using targeted advertising is the concern of consumers regarding their informational privacy (Awad and Krishnan 2006). Informational privacy refers to ‘the claim of individuals, groups or institutions to determine for themselves when, how, and to what extent information about them is communicated to others’ (Westin 1967, 7). Then, information privacy concern refers to beliefs regarding the extent to which individuals are disturbed about the information collection practices of others and how the acquired information will be used (Dinev et al. 2016). A suitable theoretical framework to address the privacy issue regarding targeted advertising is the privacy calculus model (Culnan and Armstrong 1999; Dinev and Hart 2006; Laufer and Wolfe 1977). This model suggests that, when consumers’ personal information is being used for a certain purpose (e.g. advertising), they perform a calculus between the loss of their privacy and the potential gain of disclosing their private information. Their eventual behaviour is determined by the outcome of this privacy-trade-off (Jiang, Heng, and Choi 2013). In other words, when consumers are exposed to targeted advertising, they perform a risk-benefit analysis to assess the outcomes they would experience in return for entrusting their personal information, and respond accordingly (Dinev and Hart 2006; Smith, Dinev, and Xu 2011; Xu et al. 2011). If the perceived benefits exceed the perceived losses, then consumers would be likely to accept targeting as a data-based advertising practice.

The rationale behind the privacy calculus model has been applied in past research efforts to determine how consumers would evaluate targeted advertising. In this regard, empirical findings point toward two opposite directions (Zarouali et al. 2017). On the one hand, people might consider targeted advertising as more appealing, useful, self-relevant and aligned with their personal interests and preferences (Tucker 2014; White et al. 2008). In this case, the benefits of targeting outweigh the losses of it, and are therefore considered to deliver the right message to the right person at the right time (Cho and Cheon 2004). However, on the other hand, targeted commercial messages could also be perceived as personally intrusive as consumers may experience greater feelings of privacy concern, hereby eliciting negative responses (Tucker 2014; White et al. 2008). In this case, the losses exceed the benefits, and consumers will consider it as a disturbing persuasive practice. This process is called *personalization reactance*: that is, a psychological resistance in response to highly distinctive and inappropriate personalized ads (White et al. 2008). This may lead to consumers behaving in the opposite way to the one intended by advertisers (Doorn and Hoekstra 2013; White et al. 2008). In conclusion, the literature demonstrates that consumers may react to targeted advertising in two opposite ways, but scant psychological knowledge is available regarding the individual differences between people that explain these differences.

Although it is important to explore the general tendency of how dispositional differences affect consumer responses toward targeted advertising on SNSs, gaining insights into this topic among *adolescents* may be of particular importance. It has been argued that adolescents often engage in a loose and laissez-faire behaviour when it comes to dealing with privacy invasive attempts (e.g. targeted advertising), hereby ignoring the potential privacy threats (Barnes 2006; Trepte and Reinecke 2011). Therefore, we need to arrive at a

more accurate and better substantiated observation and explanation of adolescents' responses toward targeted advertising based on a wider base of knowledge. In this study, we expect adolescents' chronic regulatory focus to be an important explanatory factor. Wirtz and Lwin (2009) have showed that regulatory focus theory can serve as a fruitful theoretical framework in consumer privacy research. As such, they argue that this theory might add a more nuanced and balanced explanation with regards to consumer related responses, a kind of explanation that is highly needed in the fragmented literature on targeted advertising responses. We will address the regulatory focus theory in the next section.

Regulatory focus among adolescents

The regulatory focus theory is a goal-pursuit theory that emphasizes the motivational orientation of consumers in daily life (Cesario, Higgins, and Scholer 2008; Higgins 1997). It posits that many consumer decisions (e.g. which brand to purchase, how to evaluate advertising, etc.) take place in the context of motivational goals and needs that consumers are constantly pursuing (Pham and Higgins 2005). The theory suggests that there are two types of consumers with different motivational dispositions: *promotion-focused* consumers and *prevention-focused* consumers. On one hand, promotion-focused consumers are oriented toward achieving positive outcomes, highly focusing on advancement, growth and accomplishments in life. On the other hand, prevention-oriented consumers are more dispositioned toward avoiding negative outcomes, and therefore focusing more on safety, protection and responsibility. Put differently, a promotion focus emphasizes the presence of positive outcomes by reducing errors of omission (e.g. missing opportunities to make progress), whereas a prevention focus stresses the absence of negative outcomes by reducing errors of commission (e.g. doing something that turns out to be a mistake) (Crowe and Higgins 1997; Haws, Dholakia, and Bearden 2010). Following this reasoning, it can be asserted that different psychological processes take place when the goal is avoiding losses rather than achieving gains (Crowe and Higgins 1997; Higgins 1997). Importantly, although an individual's regulatory focus is a stable disposition, it can also momentarily be induced or primed by situational factors (e.g. by presenting scenario's, framing messages, reflecting on past experiences, etc.; usually in experimental studies) (Haws, Dholakia, and Bearden 2010; Idson, Liberman, and Higgins 2000). In this study, we limit our focus to an individual's chronic regulatory focus as a stable motivational orientation.

Although most of the studies testing regulatory focus were conducted among adult consumers, the theory also postulates that adolescents have a predisposition to be either prevention or promotion focused. This is because their motivational orientation already develops in early childhood through interaction with social caretakers (Crowe and Higgins 1997; Higgins 1997). Zhao and Pechmann (2007) offer empirical ground to prove that, in agreement with the latter assumption, there are two distinct groups of adolescents: promotion-focused adolescents, who are motivated to accomplish achievements and ensure opportunities of advancement, and prevention-focused adolescents, who are motivated to stay away from threats and ensure security and safety in all circumstances. To date, no academic attention has been paid to the role of individual differences in regulatory focus in evaluating privacy sensitive advertising practices. Therefore, we investigate in Study 1

the relationship between adolescents' chronic regulatory focus and their general evaluation of targeted advertising.

Study 1

Regulatory focus and targeting on SNSs

The regulatory focus theory has gained significant influence in consumer behaviour because of its ability to explain various psychological processes and behaviours (Haws, Dholakia, and Bearden 2010; Pham and Higgins 2005; Pham and Avnet 2004). An important part of this theory pays attention to the evaluation of different consumer related stimuli. It posits that information related to hedonic and aspirational benefits of a product (e.g. luxury, sensory gratification and aesthetics) carries a greater weight under promotion focus, whereas information related to utilitarian and necessary features (e.g. safety and protection) carries a greater weight under prevention focus (Pham and Higgins 2005; Roy and Ng 2012; Hassenzahl, Schöbel, and Trautmann 2008). For instance, Safer (1998) found that promotion-oriented consumers prefer accomplishment dimensions and to a lesser extent a protection dimension of a car (e.g. *fancy leather seats* and regular breaks). On their turn, prevention-focused consumers favour the safety and protection dimension and less the accomplishment dimension of a car (e.g. *anti-locking brakes* and regular seats) (see Higgins 2002; Pham and Higgins 2005). Florack, Scarabis, and Gosejohann (2005) found that individuals with a prevention focus, more so than individuals with a promotion focus, preferred a sun lotion with a claim that stressed the importance of skin protection (safety dimension), whereas promotion focus respondents preferred the sun lotion that emphasized the goal of getting tanned (accomplishment dimension). Other studies found similar results as well, with conclusions that point toward the same direction: promotion-oriented consumers are inclined to evaluate commercial stimuli more favourably when they offer clear benefits and advancements, whereas prevention-focused consumers evaluate stimuli more favourably when they have a clear link with risk prevention (e.g. Aaker and Lee 2001; Wang and Lee 2006). Put differently, prevention-focused consumers prefer to preserve the status quo, hereby protecting their safety and avoiding risks, whereas promotion-focused consumers find it easier to choose a course of action that departs from the status quo, hereby seeking advancements and innovations (Chernev 2004). In sum, this reasoning delineates that when consumers evaluate stimuli, such as products or ads, they tend to focus on the most relevant dimensions that are consistent with their regulatory focus (Florack, Scarabis, and Gosejohann 2005).

In line with these findings, we expect adolescents to have different dimensions or goals in mind when being confronted with targeted advertising. The goal to protect their online privacy should carry a greater weight under prevention focus (Wirtz and Lwin 2009). The goal to get more relevant ads should take the upper hand under promotion focus (Wang, Kandampully, and Jia 2013). More precisely, we expect adolescents with a prevention focus to be more concerned with features such as safety and privacy protection. In this regard, they should perceive targeted advertising as a privacy intrusion as their personal information is being collected and used for an inappropriate persuasion attempt. However, individuals with a promotion focus, who typically focus more on aspirational benefits such as advancement and achievement, should emphasize the potential possibilities of

targeting, i.e. ads being relevant and in line with one's personal interests. Based on this reasoning, we expect promotion-oriented adolescents to have a more positive attitude toward targeted advertising (A_{ad}), and a higher purchase intention (PI). In summary,

H₁: Adolescents with a promotion focus will have a more positive attitude toward targeting than adolescents with a prevention focus.

H₂: Adolescents with a promotion focus will have a higher purchase intention toward targeting than adolescents with a prevention focus.

Method

Participants and procedure

The data of Study 1 were drawn from a broader study on adolescents and advertising. The sample consists of 164 respondents aged 14–18 year old ($M_{age} = 15.89$, $SD = 1.13$; 45% girls). Adolescents were recruited by means of a convenience sample. We asked an acquainted principle of a large secondary school situated in the Dutch-speaking part of Belgium (Flanders) whether they were willing to participate in the study. Upon agreement, the principal selected classes in the third and fourth year of the secondary school. Formal consent from the school's principal and parental consent was sought prior to the study. A self-administered questionnaire was conducted during school time in the presence of a researcher, who explained the purpose and procedure of the study. Also, as not every adolescent might understand what targeted advertising is, we provided an explanation in the survey that informs them how this persuasive strategy works. All respondents were assured that their responses would be treated anonymous and confidential, and that they could withdraw their participation at any given time without negative consequences.

Measures

Chronic regulatory focus. Chronic self-regulatory focus was assessed using the general regulatory focus measure (Lockwood, Jordan, and Kunda 2002), consisting of nine items that measure promotion focus (e.g. '*I typically focus on the success I hope to achieve in the future*') and nine items that measure prevention focus (e.g. '*In general, I am focused on preventing negative events in my life*'). The response categories ranged from one (*strongly disagree*) to five (*strongly agree*). The promotion and prevention subscale were both found to be reliable ($\alpha_{promotion} = .77$; $\alpha_{prevention} = .80$) and not significantly correlated ($r = .05$, $p = .55$). In line with previous studies (e.g. Adams, Faseur, and Geuens 2011; McKay-Nesbitt, Bhatnagar, and Smith 2013; Lockwood, Jordan, and Kunda 2002), we calculated a measure of dominant regulatory focus by subtracting the mean prevention focus score from the mean promotion focus score. Positive scores indicate a predominate promotion focus, negative scores represent a predominant prevention focus.

Attitude toward the ad. Global attitude toward advertising was measured based on three items used by Pollay and Mittal (1993) (e.g. '*Overall, I consider targeted advertising a good thing*'), as they have recently successfully been used in research on targeted advertising (Schumann, von Wangenheim, and Groene 2013), and moreover, in the context of

advertising aimed at adolescents on SNSs as well (Vanwesenbeeck, Ponnet, and Walrave 2017). The response categories ranged from one (*strongly disagree*) to five (*strongly agree*). The mean score of all items was used as a measure for attitude toward targeted advertising ($M = 2.75$, $SD = 0.81$; $\alpha = .80$).

Purchase intention. Purchase intention was measured by using three slightly adapted items of Soh, Reid, and King (2009) to assess consumer willingness to rely on advertising for purchase decision-making. A sample item is '*I am willing to rely on information of targeted ads when making purchase-related decisions*'. The response options ranged from one (*strongly disagree*) to five (*strongly agree*). All the items were aggregated to form a single measure of purchase intention ($M = 2.69$, $SD = .90$; $\alpha = .85$).

Control variables. Finally, adolescents' socio-demographic information (age and gender) was also assessed to include as covariates in the analyses.

Results

Our analyses consisted of two separate linear regressions to investigate the relationship between chronic regulatory focus as an independent variable (IV) and (1) attitude toward advertising, and (2) purchase intention as dependent variables (DVs). In addition, we also added age and gender as covariates in the equation. In the first analysis, with attitude as a DV, the model explained a significant level of variance ($F(3,144) = 4.55$, $p < .01$; $R^2 = .09$). As adolescents' promotion focus became more dominant (and hence, prevention focus less dominant), their attitude toward targeted advertising increased ($b = .24$, $t(144) = 3.00$, $p < .01$). The second model, with purchase intention as a DV, also predicted a significant level of variance ($F(3,144) = 4.14$, $p < .01$; $R^2 = .08$), indicating that the more adolescents were predominantly promotion-focused (and hence, the weaker prevention-focused), the higher their purchase intention appeared to be ($b = .29$, $t(144) = 3.11$, $p < .01$). Interestingly, in both models, we found a significant effect of gender on our DV's. Boys have a significantly more positive attitude toward targeted advertising than girls ($M_{boy} = 2.96$ vs. $M_{girl} = 2.62$, $p < .05$), as well as a higher purchase intention ($M_{boy} = 3.10$ vs. $M_{girl} = 2.80$, $p < .01$). In conclusion, these results confirm both our hypotheses (H1 and H2).

Discussion

In this first study, we aimed to investigate the association between adolescents' regulatory focus and attitude and purchase intentions toward targeting. The analyses supported our expectation that adolescents with a predominant promotion focus, as compared to a prevention-focus, have more positive attitude toward targeting. Moreover, they are more willing to rely on targeted advertising for purchase decisions. In Study 2, we aim to strengthen and extend our findings by investigating specific conditions under which regulatory focus can alter attitude and purchase intention. More precisely, we will look at targeted ads that differ in their degree of personalization.

Study 2

In Study 1, we investigated how regulatory focus influenced *general* evaluations of targeted advertising. This means that, after having assessed their chronic regulatory focus, adolescents were presented questions about advertising (attitude and purchase intention), without placing them in a concrete advertising setting. Put differently, these responses refer to a general conception of advertising (see Hudders et al. 2017). However, it has also been argued that individual differences in chronic regulatory focus might lead to variations in consumer responses across different contexts, highly depending on the setting and stimulus (Bhatnagar and McKay-Nesbitt 2016; Idson, Liberman, and Higgins 2000). Therefore, in Study 2, we aim to investigate how regulatory focus influences the evaluation of specific forms of targeted advertising. More precisely, the purpose is to extend the results of Study 1 by conducting an experiment that investigates how promotion- and prevention-focused adolescents respond in direct anticipation of a specific persuasive attempt, i.e. a targeted ad on a SNS. In this regard, the focus will lie on the degree of personalization of targeted advertising (low-high) as a moderating variable.

Degree of personalization

As mentioned earlier, targeted advertising employs personal data of online consumers to tailor commercial messages. These ads can vary in terms of the degree of personalization, that is, the degree to which personal information is used in the message that uniquely identifies or characterizes its recipient (White et al. 2008). On SNSs, advertisers can use an extensive variety of personal data considering the vast amount of information (e.g. pictures, interests, likes, etc.) continuously being updated by users that go beyond the standard socio-demographic characteristics (Knoll 2015; Walrave et al. 2016). This allows SNSs to display advertising that varies in the degree of personalization, depending on the amount of information advertisers opt to use for targeting purposes. Prior literature offers empirical evidence that a consumer's reaction to targeted advertisement depends on the degree of personalization (e.g. Kalyanaraman and Sundar 2006; White et al. 2008).

On the one hand, personalization can be *high*, which means that targeted advertisements convey highly distinctive knowledge of their personal characteristics, which can in turn activate people's awareness of vigilance and protection against this persuasion attempt (White et al. 2008; Doorn and Hoekstra 2013). But whether or not adolescents will activate this vigilant coping strategy can be explained based on differences in (information) processing patterns between prevention- and promotion-focused individuals. The first group is characterized by risk aversion and vigilance, which usually translates into less openness to risk (Higgins 1997; Pham and Higgins 2005). Kirmani and Zhu (2007) revealed that prevention-focused people are highly vigilant against commercial manipulation, and they may think in terms of how to avoid being persuaded by an inappropriate and risky persuasion attempts. Their results showed that they were more suspicious about brands, perceived ads as more deceptive, and evaluated brands less favourably when the manipulative intent was salient. On their turn, promotion-oriented individuals can be distinguished by their eagerness, which usually translates into greater openness to risk-taking and unsafe behaviour (Higgins 1997; Pham and Higgins 2005). They are not likely to activate vigilant information processing or generate concerns about marketing stimuli

(Herzenstein, Posavac, and Brakus 2007; Pham and Higgins 2005). They are inclined to focus on positive information and use an ‘approach strategy’ when evaluating advertising by thinking how an ad can help or serve them achieve their goals (Kirmani and Zhu 2007). Highly personalized ads should be an appropriate means of achieving those goals efficiently. Therefore, we expect high-personalized targeted ads (i.e. ads that show a highly salient degree of personalization) to be more effective among promotion-focused adolescents, compared to prevention-focused adolescents.

On the other hand, personalization can also be *low*, meaning that a little amount of distinctive personal information is used for targeting purposes. In this case, the targeted ad is presented as a marketing technique that uses personal information while avoiding to highlight or overemphasize the possible privacy risks as it uses low and ‘safe’ levels of personalization. Following the reasoning discussed in the previous paragraph, we expect that prevention-oriented adolescents will evaluate low personalized advertising more favourably than promotion-oriented adolescents. In summary, we hypothesize

H₃: If the degree of personalization is low, targeted advertising is evaluated more favourably (A_{ad} & PI) among prevention-focused adolescents than promotion-focused adolescents.

H₄: If the degree of personalization is high, targeted advertising is evaluated more favourably (A_{ad} & PI) among promotion-focused adolescents than prevention-focused adolescents.

Method

Design and participants

Seventy-two participants participated in a between-subjects design with two conditions (low personalization – high personalization). The adolescents were aged 14–16 years ($M_{age} = 14.05$; $SD = .56$; 65% male), recruited from a secondary school situated in Flanders. Prior to the start of the experiment, we obtained informed consent from the schools’ principal and the participants. The experiment itself was conducted in classrooms during school time, under the supervision of one of the researchers.

Materials and stimuli

We conducted two pretests to check our experimental materials and stimuli (for a discussion of the scales, see the section on measures below). Pretest 1 tested our self-created mock SNS on credibility. Pretest 2 controlled whether our two ads differed in terms of personalization (low vs. high). First, a mock SNS, called social engine, has been created for the purpose of the experiment (see Appendix Figure A1). It contained all the main functionalities of Facebook and was also given the ‘look and feel’ of this SNS by using the same theme colours, fonts and general lay-out. Pretest 1 ($n = 40$) revealed that adolescents evaluated social engine as a credible and realistic SNS ($M = 5.15$, $SD = 1.49$). Second, we created two targeted test ads, a low and a high personalized ad (see Appendix Figure A2). Both ads promoted the new *Chuck Taylor All Stars II* sneakers from Converse, a brand that is very popular among adolescents. The personalization manipulation was achieved by varying the advertising copy of the ad. Low personalization was a targeted

ad that only used adolescents' general interest for sneakers (e.g. 'These sneakers suit you very well, don't hesitate to check our new collection in your local store!'). The high personalized targeting was also based on adolescents' general interest for sneakers, but used additional information about their age, gender and location (e.g. 'You are 15 years old, you live in *place X*, you like sneakers. Don't hesitate to check out our new collection sneakers in your local store!'). The results of Pretest 2 ($n = 21$) showed that adolescents perceived the high personalized ad as much more personalized to their personal characteristics than the low personalized ad ($M_{high} = 6.43$; $M_{low} = 4.14$; $t(20) = 3.55$, $p < .01$; on a scale of 1 to 9).

Procedure

Participants started with filling out a survey with socio-demographic questions. After having completed these questions, they were directed to social engine (our mock SNS). All participants received a personal username and password to log in to the network. They were given 10 minutes to get familiar with the network. Thereafter, they were instructed to have a look at their general newsfeed. On this newsfeed, they encountered a set of posts that were integrated by the researcher prior to the experiment to simulate a realistic scenario. For every participant, the newsfeed contained the exact same posts, except for one, which was the test ad of our experiment. Participants were randomly assigned to receive one advertisement, either a low or a high personalized targeting ad. After having inspected this newsfeed ad at their own pace, they were told to log out and go back to the survey. At this point, participants completed the remaining part of the questionnaire, which included the dependent and IVs, followed by the manipulation check.

Measures

Pretest measures: To measure the credibility of our mock SNS, we used three seven-point statements provided by Williams and Drolet (2005) (believable/credible/realistic), with *strongly disagree* and *strongly agree* as endpoints. The mean score was used as an indicator of credibility ($M = 5.15$, $SD = 1.49$; $\alpha = .90$). For testing the degree of personalization, we asked participants whether the advertisement was personalized according to their personal interests (Kalyanaraman and Sundar 2006). This question was measured on a nine-point Likert scale, ranging from *strongly disagree* to *strongly agree* ($M = 4.62$, $SD = 1.52$).

Chronic regulatory focus. To assess regulatory focus, we again used the validated scale of Lockwood, Jordan, and Kunda (2002). Both the promotion and prevention subscale were found to be reliable ($\alpha_{promotion} = .88$; $\alpha_{prevention} = .85$) and not significantly correlated ($r = .00$, $p = .99$). We again computed a measure of dominant regulatory focus by subtracting the prevention focus score from the promotion focus score. Based on this difference score, previous studies mostly performed a median split on regulatory focus for moderation analysis, in which all values below the median were categorized as prevention focus, and all values above the median as promotion focus. However, given the problematic nature of a median split, we opt to analyze the continuous regulatory focus difference score at low ($-1SD$; prevention focus) and high values ($+1SD$; promotion focus), which is referred to as a spotlight analysis (Krishna 2016; Spiller et al. 2013; Fitzsimons 2008).

Attitude towards the ad. Attitude toward targeted advertising was measured by using three seven-point bipolar items based on the study of Rosbergen, Pieters, and Wedel (1997) (anchored by 'bad/good', 'unattractive/attractive' and 'not worth watching/worth watching'). The mean score of the items was used as an indicator of attitude ($M = 4.59$, $SD = 1.73$; $\alpha = .95$).

Purchase intention. Purchase intention was assessed by means of three items originating from the study of Baker and Churchill (1977) (e.g. 'Would you buy this product if you happened to see it in a store?'). The response options ranged from one (*strongly disagree*) to seven (*strongly agree*). All the items were aggregated to form a single measure of purchase intention ($M = 4.38$, $SD = 1.68$; $\alpha = .87$).

Control variables. Age and gender were assessed as covariates.

Manipulation and confound check. The manipulation check in the actual study for degree of personalization was assessed by using the same measure as in the pretest ($M = 4.42$, $SD = 2.76$). Furthermore, as we used an existing brand in our test ads (Converse), it might be that adolescents' responses are affected by their attitude toward this particular brand. Therefore, we also conducted a confound check by using three bipolar items that represent attitude toward the brand ('bad/good', 'like/dislike' and 'favourable/unfavourable') ($M = 3.92$, $SD = 1.38$; $\alpha = .84$).

Results

The manipulation check indicated that adolescents in the high personalization condition believed that the high personalized targeted ad contained more distinctive personal information than the low personalized ad ($M_{high} = 5.21$, $M_{low} = 3.71$; $t(70) = -2.37$, $p < .05$). In addition, the confound check yielded no significant difference in brand attitude between our two conditions ($M_{low} = 3.95$ vs. $M_{high} = 3.90$; $t(70) = .15$, $p = .88$). Therefore, differences across both experimental conditions regarding the DVs cannot be attributed to variations in brand attitude.

Next, a first multiple regression was conducted with A_{ad} as a DV, chronic regulatory focus and degree of personalization as IVs, gender and age as control variables and an interaction term which was entered as a product of chronic regulatory focus and degree of personalization. The overall model was significant ($F(5,66) = 5.93$, $p < .001$; $R^2 = .31$), and revealed a significant interaction effect of chronic regulatory focus and degree of personalization ($b = 1.16$, $t(66) = 4.09$, $p < .001$). To explore the nature of this interaction, a spotlight analysis was performed at one standard deviation below (prevention focus) and one standard deviation above (promotion focus) the mean of regulatory focus. Results revealed that a low personalized targeted ad generates a more positive attitude among prevention-focused adolescents ($M_{prev} = 4.02$ vs. $M_{prom} = 2.35$; $b = -.63$, $t(66) = -3.53$, $p < .001$), whereas high personalization is more effective among promotion-oriented adolescents ($M_{prev} = 3.08$ vs. $M_{prom} = 4.45$; $b = .52$, $t(66) = 2.35$, $p < .01$) (see Figure 1(A)). The exact same pattern also emerged in our second regression model with PI as a DV. The model as a whole was significant ($F(5,66) = 4.17$, $p < .01$; $R^2 = .24$), and we again found a significant interaction effect of regulatory focus and degree of

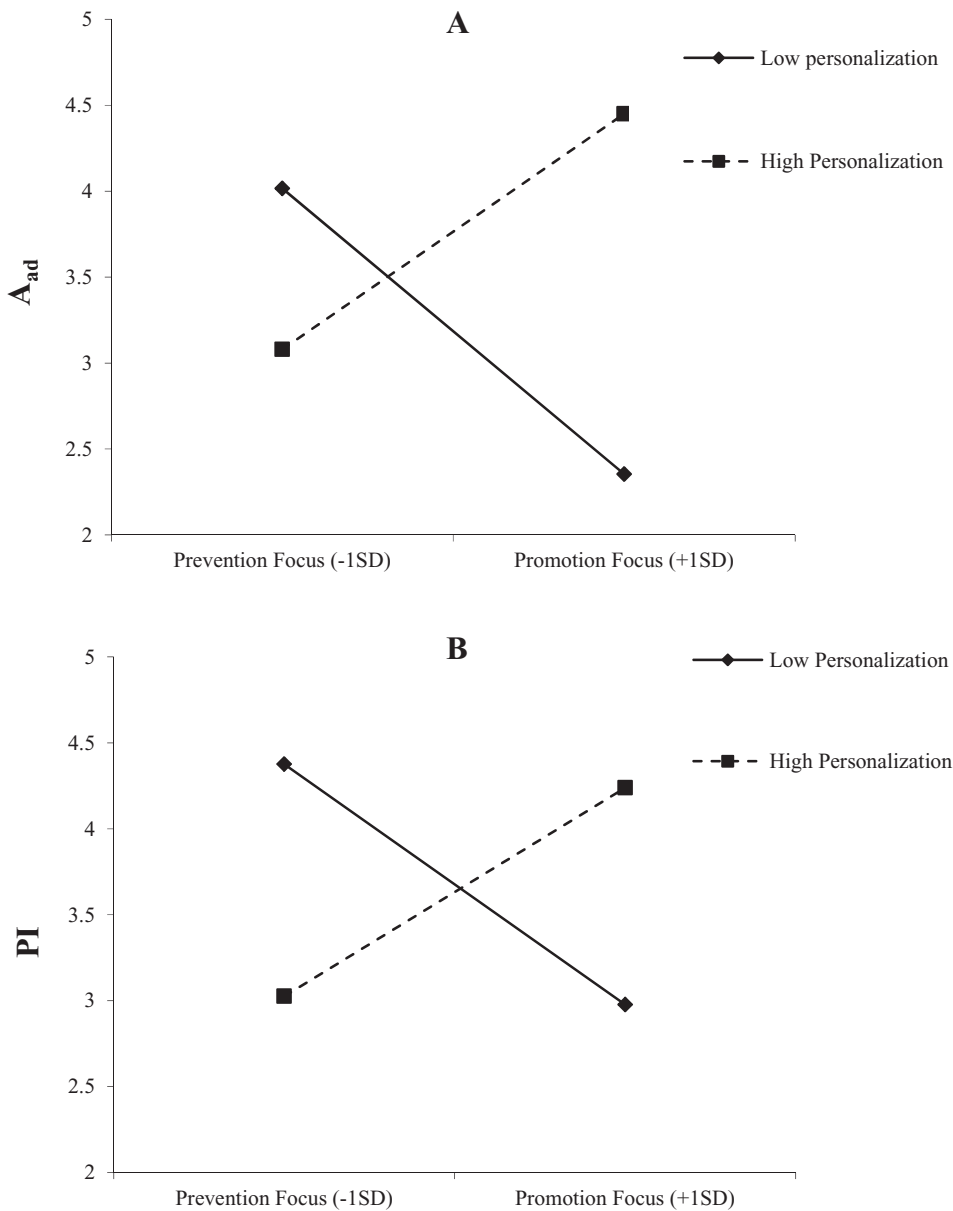


Figure 1. Cross-over interaction effects between regulatory focus and degree of personalization for: (A) A_{ad} and (B) PI.

personalization ($b = .99, t(66) = 3.46, p < .001$). Spotlight analysis indicated that prevention-focused adolescents have a greater purchase intention in case of a low personalized ad ($M_{prev} = 4.38$ vs. $M_{prom} = 2.98; b = -.53, t(66) = -2.92, p < .01$), and promotion-focused adolescents for a high personalized ad ($M_{prev} = 3.03$ vs. $M_{prom} = 4.24; b = .46, t(66) = 2.04, p < .05$) (see Figure 1(B)). In sum, these results confirm H_3 and H_4 . Interestingly, results again revealed an overall significant gender effect, proving that boys, as compared to girls, have

a more positive attitude and a higher purchase intention toward (low and high personalized) targeted advertising ($p < .05$).

Discussion

In this second study, we experimentally investigated how chronic regulatory focus influences advertising responses when the ad varied in degree of personalization. The results revealed a significant interaction effect of degree of personalization and regulatory focus on advertising outcomes (A_{ad} and PI). More precisely, the data showed that low personalized targeted ads were more effective among prevention-focused adolescents, whereas high personalization resulted in better outcomes among promotion-focused adolescents.

General discussion

The present research argued that targeted advertising on SNSs could be affected by adolescents' chronic regulatory focus. Study 1 found that promotion-focused adolescents, who are usually focused on aspirational benefits such as advancement and achievement, evaluated targeted advertising more positively compared to prevention-focused adolescents, who can be characterized by self-regulation goals such as protection and safety (e.g. privacy protection). This finding truly catches the essence of regulatory focus theory in that it shows that promotion-focused consumers are oriented toward achieving positive outcomes (the ad relevance of targeting), whereas prevention-focused adolescents emphasize the avoidance of negative outcomes (privacy intrusion of targeting). In Study 2 (experiment), we shed some light on the evaluation of targeted advertising among prevention and promotion consumers within a specific persuasive setting on a SNS. The results revealed that prevention-oriented adolescents evaluate low personalized advertising more favourably (A_{ad} and PI) than promotion-oriented adolescents, but when advertising was highly personalized, the results pointed toward the opposite direction: promotion-oriented adolescents responded more favourably than prevention-focused adolescents. In addition to these findings, we also found a consistent gender effect across both studies: boys responded more favourably to targeted advertising compared to girls. This relationship confirms the empirical evidence of previous studies that females are more uncomfortable about personalized advertising than males (e.g. Yu and Cude 2009). Overall, these results lead to relevant contributions and implications, which will be discussed in the next section.

Theoretical contributions

This research contributes to the extant literature on both targeted advertising and regulatory focus. First, prior advertising research has revealed that consumers might see targeted advertisements as more appealing and more in line with their personal interests (i.e. positive advertising outcomes), but they also might see it as creepy and inappropriate if they feel that their privacy has been breached by this practice (i.e. negative advertising outcomes) (Tucker 2014; White et al. 2008). Despite a wide body of research investigating the effectiveness of targeted content in an online environment, more research efforts were needed that explain when individuals react either positively or negatively to

targeted content. In this regard, existing studies fall short in addressing individual differences that might serve as explanatory factors. The present research reveals that differences in underlying chronic self-regulation goals among adolescents influences the effectiveness of targeted advertising in general (Study 1) and by including a targeted ad on a mock SNS (Study 2). Hence, these results might reveal an important determinant that explains the processing of and response toward personalized persuasive content in a social media environment.

Second, we have also contributed to the regulatory focus theory in several ways. Although Wirtz and Lwin (2009) paved the way for using regulatory focus as a theoretical backbone for privacy-related issues, no attention has been paid to the power of this theory in explaining people's responses toward advertising practices that induce privacy concerns (as does targeted advertising). Therefore, to the best of our knowledge, the current research is the first to offer empirical evidence for the (psychological) interplay between targeted advertising and individuals' chronic regulatory focus. Next, studies on regulatory focus have almost exclusively examined adult consumers (some exceptions are Zhao and Pechmann 2007; Kim 2006). As such, by demonstrating its applicability in the context of adolescents, we provide solid proof that it could serve as an important framework in explaining adolescents' decision-making. At last, we have also contributed to the regulatory focus theory in a final way. Prior studies that used this theoretical framework generally focused on how a specific product or certain attributes of a product can prime a specific regulatory focus. In this case, advertising response would then be influenced by regulatory focus induced by, for example, message framing (e.g. manipulating the slogan of the product). However, in the current research, it was not the product itself that influenced effectiveness measures (the product did not vary across the conditions), but rather the individual's *chronic* regulatory focus. Put differently, the outcome was not the result of the product or certain product attributes, but the result of important dispositional differences between adolescents in terms of self-regulation.

Practical implications

In addition, this research also holds some relevant implications for practitioners for the development of effective advertising campaigns on SNSs. Our results have demonstrated that the chronic self-regulatory focus as an individual trait can be useful for segmenting an audience for optimal ad effectiveness. For promotion-oriented adolescents, targeted advertising content is more appreciated, and certainly if the advertisement is highly personalized. However, for prevention-focused adolescents, we recommend to refrain from using tailored persuasive messages on SNSs. Nevertheless, if an advertiser still decides to allocate financial resources to targeted advertising aimed at prevention-oriented adolescents, then it should preferably be based on as little as possible personal information (low personalization) in order to ensure optimal ad effectiveness.

In order to apply these recommendations, it is thus important to have adequate knowledge of one's target group(s), and more precisely, knowledge on whether potential customers are mainly promotion or prevention-focused. Assessing someone's predominant regulatory focus should nowadays be possible based on the considerable amount of personal and interest based data provided by different SNSs. Although it may not possible to determine chronic regulatory focus directly, other types of information can serve as a

useful proxy or substitute for this motivational orientation. First, it has been proven that chronic regulatory focus is associated with sociodemographic characteristics, such as gender (Kumar 2016; McKay-Nesbitt, Bhatnagar, and Smith 2013), education (Kumar 2016) and cultural background (Lee, Aaker, and Gardner 2000). These characteristics are easily available among the possible targeting options of most SNSs. Second, during adolescence, adult role models are very important as teens are in the midst of their identity development (Steinberg 2010). Therefore, it is likely that they *follow* and *like* different famous celebrities and role models on SNSs. In this regard, Lockwood, Jordan, and Kunda (2002) showed that promotion-focused individuals tend to be more motivated by positive role models, and prevention-focused individuals by negative role models. This knowledge (i.e. someone's likes of role model fan pages) can therefore also be used to determine an individual's chronic regulatory focus. Finally, advertisers nowadays are also able to display ads on SNSs based on users' web browsing outside the SNS (e.g. Google search queries) (Facebook 2016). Prior research has demonstrated that prevention- and promotion-focused individuals have different information searching patterns (for an overview, see Pham and Higgins 2005), which can also be used as a proxy to assess a target group's regulatory focus. So, in conclusion, these implications offer a new way of looking at the marketplace by adapting a communication strategy on SNSs based on the chronic regulatory focus of specific target audiences.

Limitations and directions for future research

The present studies have a number of limitations that might open up interesting opportunities for future research. First, it might have been better practice if we included a third condition to the 'degree of personalization' factor in Study 2. In addition to the low and high personalization condition, it would have been interesting to incorporate 'no personalization' as a control condition as well. However, after extensive deliberation, we chose not to. The reason is straightforward: on SNSs, every advertisement is in a way personalized. An advertiser only chooses the amount of personal information s/he wants to use to target an audience. Therefore, a targeted ad on a SNS can vary in degree of personalization (e.g. low and high), but can never be 'not personalized'. Therefore, for the sake of a realistic experimental design, we opted to only include two ad formats that do exist in a real SNS environment. Second, in the present studies, we have revealed the association between chronic regulatory focus and responses toward targeted advertising. However, we have not examined *why* this relationship occurred. Therefore, future research should investigate the psychological mechanisms that drive the responses toward targeted advertising among prevention- and promotion-focused adolescents. By exploring important mediating variables behind this relationship, we can improve our understanding of the underlying processes through which chronic regulatory focus can determine responses toward targeted marketing communications. Third, Study 1 (survey) was conducted based on a convenience sample. Although research often relies on data from non-probability samples, scholars should take precautions in terms of generalizing the current findings. At last, although we argued that it is important to gain knowledge into the motivational mechanisms that explain *adolescents'* reactions towards targeted content on SNSs, it could also be relevant to explore the tendency of how *adult* consumers interact with targeted content. As adolescents' consumer related abilities are not yet entirely

matured, they may react differently to (targeted) advertising persuasion than adults (Boush, Friestad, and Rose 1994; Van Reijmersdal et al. 2016). Future research could therefore focus on whether targeted advertising persuasion on SNSs depends on adults' chronic self-regulation.

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Appendix

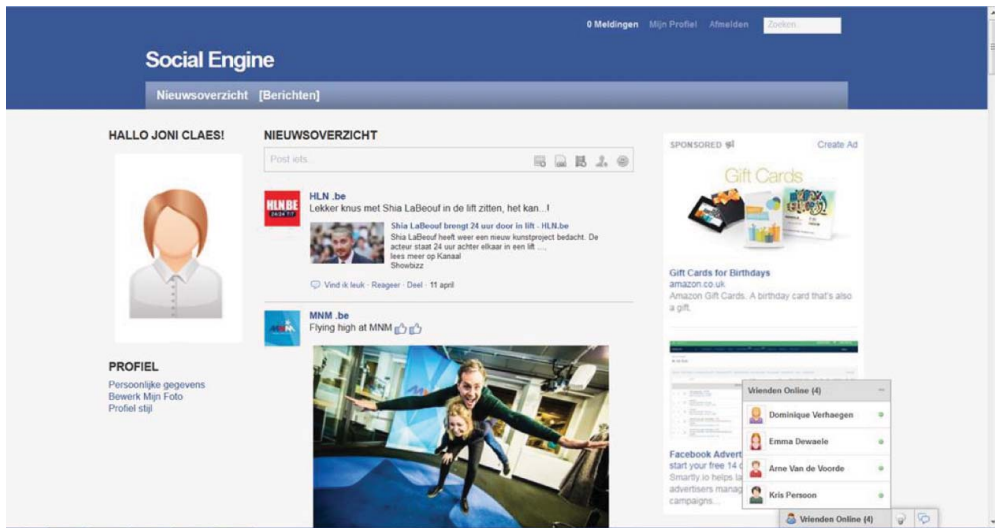


Figure A1. Screenshot of our mock social network site.
Source: Author



Figure A2. The two test ads in Study 2: a high personalized ad (left) and a low personalized ad (right).
Source: Author