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ABSTRACT

The literature has advocated the use of a clear and unambiguous label to inform adolescents of advertisements on social media. In this study, we introduce a norm-based label and determine its effects. In a series of three studies, we test a label that triggers the bandwagon heuristic (i.e., "your friends know this is sponsored") and compare its effectiveness to a traditional label (i.e., "sponsored") in a social network. The results reveal the normative label as more effective in activating adolescents' persuasion knowledge (Studies 1 and 2) and in triggering adolescents to select stricter ad settings (Study 3). In all studies, descriptive norms operate as the mediator. Based on these results, we discuss existing theories in light of social media.

Adolescents spend a great amount of time on social networking sites (SNSs), so a better understanding of how they deal with targeted ads on SNSs, also referred to as sponsored posts, would prove beneficial. In this respect, recent studies revealed that adolescents do not fully recognize the persuasive intent of advertisements that circulate in social networks (e.g., Lawlor et al., 2016; Zarouali et al., 2017). To increase transparency in this regard, the Federal Trade Commission (2015) issued guidelines calling for clear labels to signpost ads on all SNSs. Of course, these guidelines bring forth a straightforward question: Are such labels unambiguously effective in increasing young consumers' ability or motivation to engage in critical assessment of commercial messages' persuasive intent on SNSs (i.e., persuasion knowledge)? Studies have generally found that labels are unsuccessful in activating young consumers' *persuasion knowledge* as a defense mechanism (e.g., An & Stern, 2011; van Reijmersdal et al., 2017), including the label "sponsored" that most SNSs use. This label has been considered unclear to (young) consumers, indicating a definite lack of transparency (An et al., 2018).

Therefore, the present research adopts a different theoretical perspective to reconsider how labels could function to effectively increase adolescents' critical persuasion knowledge and behaviors regarding targeted advertisements on SNSs. Extant literature shows adolescents are sensitive to the normative influence of friends and peers, offline and online (e.g., Baumgartner et al., 2011; Stok et al., 2014; Zarouali et al., 2018). During adolescence, peer norms become directive in adolescents' cognitions, attitudes, and behaviors. Therefore, we propose a descriptive norm-based approach to investigate the effectiveness of advertising labels. We introduce and test a normative label (i.e., "your friends know this is sponsored") and compare its effectiveness to the traditional label (i.e., "sponsored") used on SNSs. In a series of three experiments, we found the norm-based label was more effective than the traditional one in triggering adolescents' persuasion knowledge on a mock SNS. In addition, we show that experiencing a descriptive normative influence operates as the underlying mechanism, and we address an important moderator for this label's effectiveness (i.e., adolescents' susceptibility to peer influence). Finally, we show that the normative label's effects also influence actual protective behaviors toward advertising (e.g., selecting stricter ad settings on an SNS).

Theoretical background

Activating persuasion knowledge via a label

Persuasion knowledge refers to consumers' comprehension of the persuasive strategies marketers use to convince them (e.g., in advertising) and to the persuasive intentions behind such strategies (Friestad & Wright, 1994). Persuasion knowledge develops throughout life, and young consumers gradually learn to use this knowledge to identify how, when, and why marketers try to influence them (Friestad & Wright, 1994). Importantly, persuasion knowledge does not automatically enable adolescents to deal critically with advertising. Even adolescents with the required persuasion knowledge cannot necessarily retrieve and apply this knowledge when confronted with advertising (Rozendaal et al., 2011; Zarouali et al., 2019). More precisely, adolescents who do not consider the possibility of persuasion will likely not use persuasion knowledge (Campbell & Kirmani, 2008). Therefore, labels could help to signpost commercial ads on social media and stimulate (young) consumers to activate their persuasion knowledge on social media (Evans et al., 2017).

However, research devoted to labels' effectiveness among young consumers has yielded inconclusive results, generally concluding that these labels have a limited effect on activating persuasion knowledge (e.g., An & Stern, 2011; Panic et al., 2013; van Reijmersdal et al., 2017). This might result from the fact that previous studies narrowly interpreted labels as cues that simply convey a message's commercial intent (e.g., "this is advertising," "this program contains advertising," "this game contains advertising for [BRAND] to influence you," etc.; Boerman & van Reijmersdal, 2016; Quinn & Wood, 2004). Eminent scholars have argued that persuasion knowledge research must go beyond such persuasive intent labels and test a broader range of situational labels in all types of embedded media (Friestad & Wright, 1994; Wright et al., 2005). In this study, we aim to contribute by approaching ad labels from a normative perspective, which should trigger bandwagon heuristics.

The promise of such a heuristic-driven approach relates to how adolescents process information in an online environment. Adolescents who go on social media will likely not allocate great cognitive resources to processing an ad label (Buijzen et al., 2010). Consider adolescents on Facebook. They stay busy sending private messages to friends, posting reactions, liking pictures, playing social games, watching videos, and so on. These entertaining activities will distract adolescents from processing an ad label systematically and critically (i.e., low ability; Chaiken, 1980; Hudders et al., 2017; Zuckerman & Chaiken, 1998). Moreover, adolescents will likely not be motivated to closely consider ad labels on social media. With low *ability* and *motivation*, adolescents will likely refrain from using cognitively demanding processes regarding ad labels and will instead engage in heuristic processing (Chaiken, 1980; Zuckerman & Chaiken, 1998). Therefore, an ad label containing norm-based elements that trigger cognitive heuristics could act as a more effective tool for empowerment.

MAIN model: Triggering cognitive heuristics

To elaborate theoretically on norm-based labels, we rely on Sundar's (2008) MAIN (modality, agency, interactivity, and navigability) model, which posits that an interactive interface contains various features, tools, functions, or messages that can trigger cognitive heuristics (Sundar, 2008; Sundar et al., 2015). Heuristics are quick mental shortcuts that guide our beliefs, judgments, and decisions (Cialdini, 2006; Cialdini & Goldstein, 2004). Triggering these heuristics can shape users' assessments, judgements, and evaluations of content within the given interface. This also constitutes the cue effect: The mere presence of these features or messages on an interface directly triggers cognitive heuristics, which can trigger specific responses toward content on that interface (Sundar et al., 2015; Xu & Sundar, 2014).

The MAIN model focuses on technological affordances in the context of interactive media, which can be defined as the capability possessed by a medium to facilitate a certain action (Sundar, 2008). The model categorizes these affordances in the four classes of modality, agency, interactivity, and navigability. This study's scope does not include a discussion of each class, except for some elaboration on the agency class. Sundar et al. (2015) defined agency as a "class of affordances pertaining to the source of media content" (p. 73). They argued that agency cues affect users' psychological responses toward online marketing and persuasion, especially regarding the role of other users, because such cues can make users aware of others' evaluations of online media content (Sundar, 2008; Sundar et al., 2012, 2015). For example, a product recommended on Amazon may contain many user-generated five-star ratings; likewise, a targeted advertisement on Facebook may possess a large number of likes and shares. This mere presence of others as sources (of quality, credibility, etc.) will impact how users psychologically perceive and evaluate the underlying persuasive content (Sundar et al., 2017). Basically, this heuristic rule implies that "if others are liking something, then it must be good, so I should do so too" (Cialdini, 2006).

As outlined by Sundar (2008), specific bandwagon cues may have very powerful effects among adolescents, given their constant motivation to fit in with peer groups. For most adolescents, friends and peers are one of the most – if not the most – significant sources of influence on their attitudes and behaviors (Brown & Larson, 2009). Adolescents have high sensitivity to heuristic cues related to peer beliefs and behaviors (Buijzen et al., 2010; Livingstone & Helsper, 2006; Steinberg & Monahan, 2007). Thus, friends' prominence in social media and the bandwagon heuristic they cue via their implicit endorsement

may significantly shape how adolescents respond to social media content (Sundar, 2008). This line of reasoning implies that adolescents targeted with an ad on SNSs should be particularly receptive to a label that refers to what their friends think, like, or do, thereby likely leading to compliance (Sundar, 2008). Adolescents recognizing that their friends use their persuasion knowledge via a label on the interface should trigger the bandwagon heuristic. In that case, they also should become more likely to use their persuasion knowledge. Currently, many SNSs signpost advertising using the word "sponsored."

Using the above reasoning, we add a normative element to this label to refer to peers: "your friends know this is sponsored." A study from Zarouali et al. (2018) concerning adolescents found that when an ad on social media was supplemented with *likes of friends* as a normative component (e.g., "7 friends like this brand"), it may trigger the bandwagon heuristic of "if my friends like it, I should like it too." As a result, adolescents in the study generated a more positive attitude toward the ad with such a component. The authors concluded that the bandwagon heuristic acts as a particularly effective way to offer adolescents quick decisional shortcuts to guide their attitudes. In line with this result, we also expect that integrating a normative element into the sponsored label will trigger the bandwagon heuristic, and adolescents should adhere to this norm by increasing their persuasion knowledge level (i.e., "if my friends know this is sponsored, I should know too").

Descriptive norms as the mechanism

In understanding how this norm-based label affects persuasion knowledge, we address *perceived descriptive norms* as the mechanism of change. Descriptive norms comprise a person's perceptions of what others think, feel, or do in a given situation (Cialdini & Trost, 1998; Rivis & Sheeran, 2003). Individuals, particularly younger ones, tend to follow descriptive norms in their own immediate responses (Reid & Carey, 2015; Stok et al., 2014). Thus, beliefs, attitudes, emotions, and behaviors often do not come from an individual's own mind, but at least partly, from the responses of proximal others or peers. Recently, Morris et al. (2015) articulated that perceived descriptive norms operate as a distinct navigational device that guides thoughts and behaviors. In other words, adherence to descriptive norms functions as a *social autopilot* because it automatically guides immediate responses in a socially desirable direction. Evidence for automaticity appears in that perceiving descriptive norms requires little cognitive resources because looking to others' behavior constitutes a quick mental shortcut (i.e., bandwagon heuristic) for a decision (Kredentser et al., 2012; Morris et al., 2015).

Descriptive norms mediate the change in young people's responses in the context of a normative feedback intervention (e.g., Miller & Prentice, 2016; Reid & Carey, 2015). More precisely, this implies that the normative label conveys a descriptive norm (e.g., by triggering the bandwagon heuristic) that will ensure adolescents act in ways consistent with that norm (Cialdini & Goldstein, 2004; Goldstein et al., 2008). Consider the following example: If Emily's friends recognize a particular post on an SNS as sponsored, she would feel an expectation to know that as well (experiencing a descriptive norm). Desiring to live up to that normative expectation, she would become more inclined to activate the knowledge necessary to understand the sponsored message. Thus, we expect that adolescents exposed to the label "your friends know this is sponsored" will experience a descriptive normative influence (i.e., the perception that one's friends recognize a message as sponsored thus

becomes the norm one should adhere to). Ultimately, this will result in adolescents activating more persuasion knowledge. We will test this mediated relationship in three experimental studies.

Overview of the studies

We conducted three studies to evaluate our conjectures. In Study 1, we investigated whether the normative label triggers persuasion knowledge more effectively than does the traditional label. Moreover, we also aimed to test whether descriptive norms act as the underlying process or mechanism through which the label affects persuasion knowledge (i.e., testing mediation). In Study 2, we aimed to directly replicate Study 1's findings and test a relevant boundary condition for the mediated association between the norm-based label and persuasion knowledge. More precisely, we introduced susceptibility to peer influence as a moderator to examine how Study 1's mediated relationship depends on this variable. In Study 3, we tested whether the normative label affects the behavioral level more than the traditional label does. We revealed whether the norm-based label successfully influences adolescents to select more strict advertising settings on an SNS. With this last study, we aimed to extend the results and show that a normative message influences critical persuasion knowledge, as well as critical and responsible behavior regarding ad settings.

Data collection: Practical and ethical details for all studies

Considering past work, we conducted an a priori power analysis with a significance level of $\alpha = 0.05$, a medium effect size of $\eta^2 = 0.06$, and a desired power of $(1–\beta) = 0.80$. This yielded a suggested sample size of 156. All three studies have similar designs, so we aimed for this sample size in each study. We recruited all adolescent participants via a convenience sample, contacting several secondary schools in Flanders (Dutch-speaking part of Belgium) to ask about their interest in participating. Six schools agreed, with two schools in each study (schools 1 and 2: Study 1; schools 3 and 4: Study 2; schools 5 and 6: Study 3). We selected third and fourth grade classes to participate in the studies. The data collection occurred in computer classrooms during regular school time, always under the lead researcher's supervision. We assured all respondents that their responses would remain anonymous and confidential. We gave no reward or incentive, and all subjects could withdraw at any given time without negative consequences.

Our institution's ethical advisory board approved all studies' protocols under the ethical approval number SHW_17_08_02. Prior to starting the study, we obtained informed consent from the involved principals and teachers of every school. Moreover, we sought passive parental consent using an opt-out form, which none of the parents used. Finally, we obtained informed consent from all adolescents. No one refused to participate in the experimental study.

Pretest

This pretest aimed to test our stimuli and materials. When conducting experimental research with new advertising formats and contexts, researchers must balance realism and control.

Materials and stimuli must be realistic and credible while allowing researchers full control of the experimental procedures. Therefore, we created a mock SNS called "Social Engine" for our three experiments (see Online Supplemental Figure 1). This platform operated on a private university server and offered researchers full control over the online environment, thereby decreasing the likelihood of extraneous influences (i.e., preserving internal validity). Social Engine was given the "look and feel" of Facebook by using the same theme colors, fonts, and general layout. It also contains all of Facebook's main functionalities and services, such as a home page with a newsfeed featuring mock updates and posts, a personal profile page, a friends list, a personal settings page, and more.

Next to the SNS, we also created a test ad to integrate into the Social Engine's newsfeed. The ad itself promoted a new retro camera from the brand FujiFilm, designed with fancy colors to appeal to young consumers (see Online Supplemental Figure 2). A sample of 29 adolescents ($M_{age} = 15.76$, $SD_{age} = 1.12$) rated the credibility of the test ad and the network. To assess credibility, we gave adolescents three 7-point items (believable/credible/realistic) provided by Williams and Drolet (2005). The answer option ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). The results indicated that adolescents evaluated Social Engine ($M = 4.91$, $SD = 1.32$) and our FujiFilm test ad ($M = 5.33$, $SD = 1.64$) as credible and realistic.

Study 1

In our first study, we tested our expectation that a norm-based label ("your friends know this is sponsored") more effectively triggers persuasion knowledge toward advertising on an SNS compared to a traditional sponsored label ("sponsored"). We also inspected whether descriptive norms comprise the underlying mechanism. Importantly, we also created a third label referring to others on SNSs ("other members know this is sponsored"). We included this label to determine whether the normative label specifically based on friends affects persuasion knowledge, or whether the effect on adolescents happens regardless of whether these users are friends. Conformity to a descriptive norm should depend on the reference group tied to that norm. Scholars have argued that adherence to a group's descriptive norms is primarily influenced by the importance it has to one's self-concept and social identity (Bearden et al., 1989; Cialdini & Goldstein, 2004; Goldstein et al., 2008). When adolescents experience a norm they perceive as connected with members of the reference group, they become more likely to conform (Lapinski & Rimal, 2005). Thus, adolescents will more likely comply to a certain norm if the reference group attached to that norm has direct social meaning for them (Brown & Larson, 2009). Based on this theoretical rationale, we hypothesize that only the descriptive norm label explicitly referring to "friends" will activate more persuasion knowledge than the "sponsored" label because adolescents perceive friends as an important and meaningful reference group (H_1). We expect perceived descriptive norms to mediate this relation between the normative label and persuasion knowledge (H_2).

Design and participants

Study 1 employed a single-factor between-subjects design with three conditions (sponsored label; normative label referring to friends; normative label referring to others).

The data consisted of 161 adolescents between 14 and 16 years old (M_{age} = 15.13, SD_{age} = 0.79; 63% female).

Materials and stimuli

We reported the following materials and stimuli in the pretest: Social Engine as a mock SNS and the test ads promoting the FujiFilm retro camera. The test ads contained three labels: (a) "sponsored," (b) "other members know this is sponsored," and (c) "your friends know this is sponsored." The last two conditions might not be mutually exclusive (i.e., other members could constitute friends), so we decided to set-up a pretest among 26 adolescents in which we conducted a manipulation check to explore whether conditions (b) and (c) differ from each other. The respondents strongly agreed that label (c) focuses on their close friends and peers on an SNS, whereas label (b) did not (M_b = 2.28 vs. M_c = 6.24, on a scale from 1 to 7; $t(24)$ = 12.42, $p < .001$). This reveals labels (b) and (c) as significantly distinct.

Procedure

Participants started by filling out a survey with questions concerning their socio-demographic characteristics. After completing these questions, we directed them to Social Engine. As a cover story, we told the subjects that they would participate in a user experience test for a new SNS that was developed by our university. By providing this information, we made sure that the true hypotheses were disguised. In addition, this cover story also served to inform the participants that our SNS had nothing to do with Facebook, despite having a similar look and feel. This information is important to ensure that none of the negative associations or concerns related to Facebook were carried over to our social network. All participants received personal login credentials and five minutes to get familiar with the network. Thereafter, we instructed them to look at their home page, where they discovered the general newsfeed with a set of mock posts and updates integrated by the researcher prior to the experiment to simulate a realistic scenario. Every participant's newsfeed contained the same posts except for one – our experiment's test ad. Depending on the condition, participants randomly received an ad with one of the three labels ("sponsored"; "other members know this is sponsored"; "your friends know this is sponsored"). After inspecting their newsfeed for 5 min (and thus viewing the ad with the label), they were told to log out and go back to the survey to complete the remaining part of the questionnaire. This first included the dependent variable (persuasion knowledge) and then the mediator (descriptive norms). Finally, we included a suspicion probe that involved asking participants what they saw as the study's purpose. After finishing the experiment, we debriefed all participants.

Measures

To measure persuasion knowledge, we used an adapted instrument derived from Boush et al. (1994) to capture the beliefs of persuasion intentions. We assessed this by asking respondents to rate six intents regarding how hard advertisers tried to accomplish them. For each intent, we asked the following question: "How hard is the [brand name – FujiFilm] newsfeed post on [social networking site – Social Engine] trying to … ?"

Response options ranged from 1 (*not trying at all*) to 7 (*trying very hard*). Some examples of persuasion intents included "Grab your attention," "Make you want to buy the product," and "Make you like the product." We used the mean score of all items as a measure of persuasion knowledge ($M = 4.69$, SD = 1.31; $\alpha = .88$). To assess the perceived descriptive norm, we used a direct measure on a 7-point Likert scale (Montaño & Kasprzyk, 2015). The measure comprised three items adapted from Ajzen (2002) that other studies have successfully implemented (e.g., Manning, 2011; Smith et al., 2012). The three items were "Most peers who are important to me know what a sponsored post is," "Most peers who are important to me know what it means when a post is sponsored," and "In general, peers that are important to me understand what a sponsored post is." Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). All items were averaged ($M = 3.65$, SD = 1.37; $\alpha = .82$). We refer to the online supplemental material for a listing of all scale items used in this research (see Online Supplemental Table 1), for descriptive statistics, and for a correlation table (see Online Supplemental Table 2).

Results and discussion

Importantly, no participant discerned our experimental study's real purpose based on the suspicion probe. Therefore, we could include all participants in the analyses. An ANOVA-analysis revealed that the label conditions significantly differed in eliciting persuasion knowledge, $F(2, 158) = 5.94$, $p < .01$; $\eta^2 = .07$. Bonferroni post-hoc tests indicated that adolescents exposed to the normative label activated more persuasion knowledge toward the ad compared to those exposed to the sponsored label ($M_{friends} = 5.12$, $SD = 1.30$ vs. $M_{sponsored} = 4.26$, $SD = 1.47$; $p < .01$). The label referring to other members did not differ significantly from the sponsored label ($M_{other\ members} = 4.66$, $SD = 1.03$; $p = .35$; $M_{sponsored} = 4.26$, $SD = 1.47$). Although the "friends" label generated more persuasion knowledge than the "other member" label, we did not find this difference significant ($M_{friends} = 5.12$, $SD = 1.30$ vs. $M_{other\ members} = 4.66$, $SD = 1.03$; $p = .18$). Altogether, these results confirm H_1.

To test the descriptive norms' proposed mediating role, we used an OLS regression-based path analysis with the computation tool PROCESS to estimate mediation (Hayes, 2013). We used 10,000 bootstrap samples and bias-corrected 95% confidence intervals. The analysis revealed a positive indirect effect ($b = .19$, $SE = .10$) of the normative label on persuasion knowledge (compared to the traditional label) that statistically differed from zero (95% CI: .035, .436; see Figure 1). This significant mediation effect did not occur when we compared the label referring to other members with the traditional one ($b = .02$, $SE = .07$; 95% CI: −.121, .151). This pattern supports H_2.

In conclusion, Study 1 showed that the norm-based label outperformed the traditional sponsored label in triggering persuasion knowledge and that descriptive norms operated as the mediator in this causal relationship. In Study 2, we tried to directly replicate these findings for robustness and further strengthen these results by identifying a boundary condition for the mediated relationship (i.e., a moderated mediation).

Study 2

In this study, we introduced susceptibility to peer influence as a moderator, defined as an individual's tendency to be influenced by and to conform to the opinions, beliefs, and
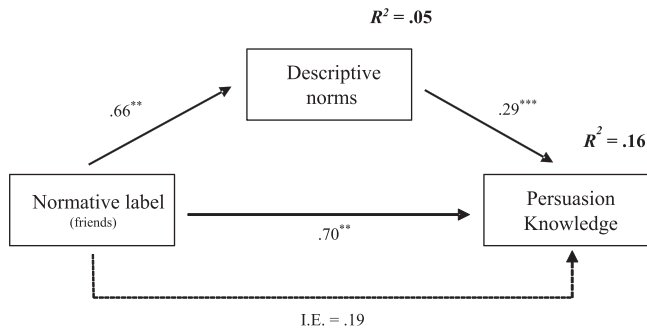
Figure 1. Mediation analysis of the normative label (friends) on persuasion knowledge via descriptive norms.

behaviors of peers (Steinberg & Monahan, 2007; Villarosa et al., 2016). Previous research revealed that this construct can serve as a meaningful moderator because adolescents highly susceptible to peer influence will more likely think and act according to peer norms (e.g., Monahan et al., 2009; Villarosa et al., 2016). Adolescents less susceptible to peer influence usually appear better equipped to resist complying with these social norms. As Mangleburg and Bristol (1998) showed in an advertising context, adolescents highly susceptible to the influence of "knowledgeable peers" have an increased tendency to activate their advertising knowledge and become knowledgeable as well. Thus, we expect the norm-based label (only the one referring to friends) to positively and indirectly affect persuasion knowledge (via perceived descriptive norms) only among adolescents who score high on susceptibility to peer influence (H_3).

Design and participants

We used a single-factor between-subjects design with three conditions (sponsored label; normative label referring to friends; normative label referring to others). In total, 142 adolescents aged 14–16 years took part in the experiment ($M_{age} = 15.37$; $SD_{age} = 0.93$; 48% female).

Material, stimuli, and procedure

This study followed the same procedure as the previous experiment. We used Social Engine as a mock SNS and the same test ads promoting the FujiFilm retro camera with the three labels used in Study 1. The only difference involved adolescents answering questions concerning their susceptibility to peer influence. We presented these questions before exposure to the experimental manipulation. At the end, we used the same suspicion probe (see procedure for Study 1) followed by an experimental debriefing.

Measures

We measured both persuasion knowledge ($M = 4.95$, $SD = 1.32$; $\alpha = .88$) and descriptive norms ($M = 3.82$, $SD = 1.41$; $\alpha = .86$) via the same instruments as the previous study. To

assess susceptibility to peer influence, we used Steinberg and Monahan's (2007) Resistance to Peer Influence Scale, a rigorous instrument validated among adolescents. This scale comprises 10 peer influence situations (10 items) generated by a group of developmental psychologists. Each situation contains two opposing versions presented in this format: "Some people … BUT other people … " One example reads as this: "Some people think it's more important to be an individual than to fit in with the crowd BUT other people think it is more important to fit in with the crowd than to stand out as an individual." After reading each situation, participants indicated the first version of the situation as 1 (*really true*) or 2 (*sort of true*) or indicated the opposing version as 3 (*sort of true*) or 4 (*really true*). Thus, responses were coded on a 4-point scale, and we calculated the average score of all items as a measure of this construct. In our study, higher scores indicate a higher susceptibility to peer influence (i.e., lower resistance; $M = 2.40$, $SD = 0.66$; $\alpha = .88$).

Results and discussion

Based on the suspicion probe, we included all subjects in the analyses because no participant discerned our experiment's real purpose. An ANOVA revealed that label type did significantly influence the activation of persuasion knowledge, $F(2, 139) = 4.42$, $p < .05$; $\eta^2 = .06$. Post-hoc analyses revealed that the norm-based label led to more persuasion knowledge activation toward the ad compared to the sponsored label ($M_{\text{friends}} = 5.35$, $SD = 1.31$ vs. $M_{\text{sponsored}} = 4.55$, $SD = 1.38$; $p < .05$). The label referring to other members showed no significant difference from the sponsored label in triggering persuasion knowledge ($M_{\text{other members}} = 4.87$, $SD = 1.15$ vs. $M_{\text{sponsored}} = 4.55$, $SD = 1.38$; $p = .87$). Similar to the previous study, we found no statistical difference between the "friends" label and the "other members" label ($M_{\text{friends}} = 5.35$, $SD = 1.31$ vs. $M_{\text{other members}} = 4.87$, $SD = 1.15$; $p = .21$). Based on these findings, we conclude that Study 1's direct replication was successful.

To test the moderated mediation relationship, we estimated a path-based conditional process model in PROCESS (Model 14 with 10,000 bootstrap intervals; Hayes, 2013). In doing so, we probed moderation at low ($M = 1.74$), moderate ($M = 2.40$), and high ($M = 3.05$) values of susceptibility to peer influence. The results yielded a significantly moderated mediation model ($b = .20$, $SE = .11$; 95% CI: .022, .471; see Figure 2). More precisely, conditional indirect effects revealed that the norm-based label increased persuasion knowledge via descriptive norms only when adolescents are highly susceptible to peer influence ($b = .17$, $SE = .10$; 95% CI: .020, .447). At moderate ($b = .04$, SE = .06; 95% CI: −.051, .226) and low values ($b = −.09$, $SE = .09$; 95% CI: −.374, .021) of susceptibility to peer influence, the moderated mediation did not statistically differ from zero. We did not find this significantly moderated mediation (nor the mediation) for the label referring to other members ($b = −.01$, $SE = .08$; 95% CI: −.183 to .158). Thus, these findings support H_3.

After directly replicating Study 1's findings, we found that susceptibility to peer influence moderated the mediation effect of a descriptive norm label on persuasion knowledge. This means that a normative label's effect on activating persuasion knowledge only occurred among adolescents highly susceptible to peer influence. In the final study, we extended our approach from self-reported persuasion knowledge to actual behavior as an outcome variable. More precisely, we considered the effects of the norm-based label on adolescents' selection of ad settings on an SNS.
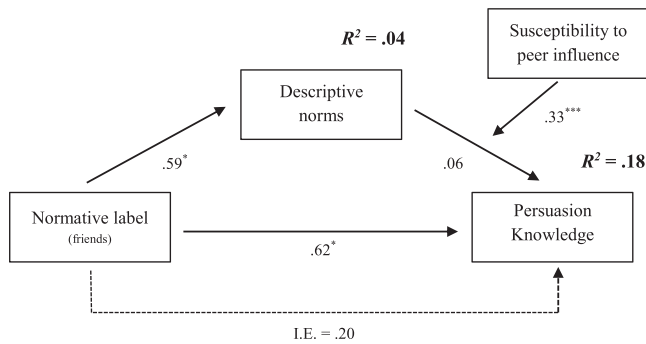
Figure 2. Moderated mediation analysis of the normative label (friends) on persuasion knowledge via descriptive norms by susceptibility of peer influence.

Study 3

In the previous studies, we tested the normative label's impact on self-reported persuasion knowledge. However, investigating whether this label results in more privacy-protective behavior could prove even more important. Privacy protective behavior refers to actions that people take to protect themselves from risky, harmful, or undesirable experiences (Staksrud & Livingstone, 2009), most often comprising safeguarding measures (e.g., installing safeguarding IT, disabling cookies, and updating passwords regularly; Liang & Xue, 2009). In this specific study, protective behavior refers to how much adolescents select restrictive advertising settings on SNSs as a protective measure to control what personal information companies and third parties use for advertising (Raynes-Goldie, 2010; Young & Quan-Haase, 2013).

Prior research concerning online privacy has shown that young people tend to follow their peers' privacy settings on SNSs (Lewis, 2011). In other words, privacy-setting behavior results from perceived privacy-setting norms on SNSs (Lewis, 2011; Lewis et al., 2008; Utz & Krämer, 2009). Recently, Spottswood and Hancock (2017) found that a cue on an SNS that triggers the bandwagon heuristic can change privacy setting decisions among adult users because they tend follow the privacy norms conveyed by the cue. Descriptive norms may crucially affect adolescents' actual behaviors (e.g., Sasson & Mesch, 2014; Stok et al., 2014), so our expectations align with these findings. We hypothesize that the normative label (only the label referring to friends) will lead to more restrictive ad settings on SNSs compared to the traditional label (H_4). In addition, we predict a serial mediation model whereby the normative label will trigger perceived descriptive norms, which will increase persuasion knowledge. Ultimately, this will lead to more restrictive adjustments of ad settings on a SNS (H_5).

Design and participants

We used a single-factor between-subjects design with three conditions (sponsored label; normative label referring to friends; normative label referring to others). In total, 153 adolescents aged 14–16 years participated in the experiment (M_{age} = 15.35; SD_{age} = 0.86; 55% female).

Material, stimuli, and procedure

We again used Social Engine as a mock SNS along with the same test ads and the same three labels from Studies 1 and 2. With respect to the procedure, this study slightly differed from the previous ones. Until the point when participants were exposed to the test ad (with the label) on their newsfeed, the procedure was kept the same. But after this, the participants were now told that they had to fill in some additional questions regarding the usability of the network (e.g., What did you think of the network? What would you change to make it better?). These filler questions were included as distraction and delay measures, because we wanted to decrease the likelihood that adolescents could guess the true purpose of this experiment, which is the influence of the label on selecting ad settings. After the filler questions, the participants were instructed to go back to their personal profile page, and make selections for five advertising settings as they would do on their own SNSs. These settings were: (a) "Allow ads based on my personal information"; (b) "Allow ads based on my use of websites and apps outside of the network"; (c) "Allow ads based on my behavior on this network"; (d) "Allow ads based on my preferences and interests"; and (e) "Allow ads based on my social contacts." The participants had yes/no response buttons for every setting. Importantly, these selections were chosen because they represent strategies that are available on SNSs and widely used by advertisers. Finally, after having saved their selections, they completed the remaining part of the questionnaire. At the end of the survey, the suspicion probe was completed, followed by a thorough debriefing (same procedure from Study 1).

Measures

The measures for persuasion knowledge ($M = 4.16$, $SD = 1.51$; $\alpha = .89$) and descriptive norms ($M = 3.78$, $SD = 1.39$; $\alpha = .84$) were identical to the previous studies, with the same response options. Strict or open advertising settings were calculated by tallying how many advertising tactics adolescents allowed to be shown on their SNS, out of all five options. For every advertising setting, adolescents were given the answer options yes and no (yes = 1; no = 0). These selected options were extracted from Social Engine's data storage. These responses were then aggregated to form a single measure of ad settings, ranging from strict = 0 (allowing no ad tactics) to open = 5 (allowing all ad tactics) ($M = 2.20$, $SD = 1.71$).

Results and discussion

The suspicion probe indicated that nobody identified the real purpose of the experiment, so all participants were included in the analyses. Label type significantly affected how strict or open adolescents set their ad settings on the SNS, $F(2, 143) = 14.95$, $p < .001$, $\eta^2 = .17$. Adolescents selected more restrictive ad settings after being exposed to the norm-based label compared to the sponsored label ($M_{friends} = 1.28$, $SD = 1.44$ vs. $M_{sponsored} = 2.96$, $SD = 1.62$; $p < .001$). This significant difference did not hold when comparing the label referring to other members to the sponsored label ($M_{other\ members} = 2.35$, $SD = 1.62$ vs. $M_{sponsored} = 2.96$, $SD = 1.62$; $p = .18$). Interestingly, the normative label referring to

friends led to more restrictive ad settings than the one referring to other members (M_{friends} = 1.28, SD = 1.44 vs. $M_{\text{other members}}$ = 2.35, SD = 1.62; $p < .01$). These results support H_4.

The serial mediation model was tested using Model 6 in PROCESS with 10,000 bootstrap intervals (see Figure 3). We found a significant total indirect effect ($b = -.26$, $S.E.$ = .14; 95% CI: −.613, −.030). Regarding the specific predicted pathway (normative label → descriptive norms → persuasion knowledge → adjusting ad settings), results revealed a significant indirect effect ($b = -.08$, $S.E.$ = .06; 95% CI: −.292, −.006). This indicates that the normative label triggers adolescents to be stricter with respect to ad settings on SNSs via descriptive norms and persuasion knowledge. PROCESS did not yield this significant mediated relationship for the label referring to other members ($b = -.05$, $S.E.$ = .09; 95% CI: −.292, .060). These results are in line with our predictions, supporting H_5.

In conclusion, alongside the finding that a relevant norm-based label is a powerful tool in increasing adolescents' persuasion knowledge (see previous two studies), the present study also demonstrated that this type of label is effective in encouraging adolescents to be more restrictive with respect to the selection of ad settings on SNSs. This shows that such a label can exert effects that go beyond influencing persuasion knowledge and, moreover, trigger desirable behavioral change. We will elaborate on this in the general discussion.

General discussion

As recently argued by scholars, the label "sponsored" that most SNSs use is unclear and not transparent enough as a tool to signpost targeted ads on these platforms (An et al., 2018). Without a clear label, it might be very challenging – if not impossible – for young consumers to activate their critical persuasion knowledge as a defense mechanism when being exposed to an ad on SNSs. In the present research, we adopted a social norm approach (i.e., from the persuasion knowledge model and MAIN model) to investigate how labels can serve to increase persuasion knowledge among adolescents on social media. In a series of three experimental studies on a mock SNS, we tested a descriptive normative label that triggers the bandwagon heuristic (i.e., "your friends know this is sponsored") and compared its effectiveness to a traditional label (i.e., "sponsored"). The results revealed that the norm-based label is not only more effective in increasing adolescents' persuasion knowledge (Study 1 and 2), but also in increasing adolescents' privacy-protective behavior (Study 3). Theoretical and practical contributions are discussed in the next sections.
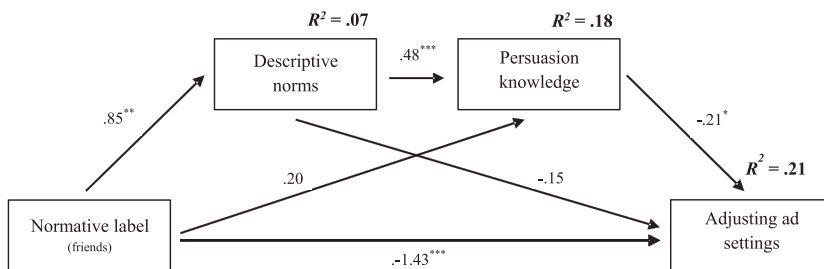

Figure 3. Serial mediation analysis of the normative disclosure (friends) on ad settings via descriptive norms and persuasion knowledge.

Theoretical contributions

Based on these results, existing theories could be refined in light of the nature of SNSs. The first contribution relates to the persuasion knowledge model (applied to young consumers). In general, it has been argued that persuasion knowledge can be activated by means of a label that conveys the persuasive intent of an upcoming message (e.g., "sponsored"). However, the original authors of the persuasion knowledge model have argued that persuasion knowledge research should go beyond cues or warnings that simply disclose the persuasive intent (Friestad & Wright, 1994; Wright et al., 2005). In this respect, we revealed that persuasion knowledge can be successfully activated on an SNS as a result of a normative label that triggers the social proof or bandwagon heuristic. More precisely, if a label informs adolescents that their friends or peers on social media use their persuasion knowledge, it might encourage them to use their knowledge as well. As adolescents usually tend to focus on peer norms to guide their own judgments and decisions, such a norm-based label turned out to be effective in encouraging persuasion knowledge use. In sum, the idea of highlighting what friends or peers do on social media in a label might be an interesting future research approach on how one can effectively increase young consumers' persuasion defenses.

In addition, the results of this research also contribute to the MAIN model (Sundar, 2008) in three ways. First, the MAIN model posits that agency features such as likes and five-star-ratings can trigger the bandwagon heuristic, which subsequently affect recipients' evaluations of the underlying media content. Although most empirical support for this relationship can be found in the area of e-commerce, this research makes a contribution by showing that agency features can also influence recipients' persuasion knowledge and assessment of commercial content on social media. If adolescents are exposed to an interface element on social media stating that their friends know what sponsored posts are, the element could serve as a cue to trigger the bandwagon heuristic, which subsequently increases their activation of persuasion knowledge of sponsored stories on social media. Second, most research guided by this model has focused on how visual interface design can trigger specific heuristics, with their consequent effects on various psychological outcomes. This study is one of the few showing that message-based cues (i.e., the descriptive norm text label) can also trigger cognitive heuristics that shape responses and behaviors on interactive platforms such as social media. This finding is in line with previous literature asserting that messages containing descriptive norms might operate as heuristic rules or mental shortcuts (Jacobson et al., 2011; Melnyk et al., 2011; Stok et al., 2014). Third, most studies have focused on how agency cues (e.g., "likes" or "five-star ratings") affect subsequent self-reported evaluations (e.g., quality evaluation, credibility, attitudes, etc.). We offer additional evidence that the agency affordance in this research, i.e., the descriptive norm label, also affects recipients' privacy behavior on social media. After experiencing normative influence as a result of the label, adolescents activated more persuasion knowledge, which ultimately prompted them to be more restrictive with respect to their advertising settings. This shows a very interesting and promising flow from agency affordance to persuasion knowledge to responsible privacy behavior.

Finally, this study's contribution to the body of knowledge on descriptive norms is twofold (Cialdini, 2007; Cialdini & Trost, 1998). First, it has been amply shown that

people tend to be influenced by observing what others actually do (i.e., their behavior) in a particular setting (Cialdini, 2007; Rivis & Sheeran, 2003; Stok et al., 2014). However, less is known about consumers' adaptiveness to other's knowledge: Are people drawing on what others know to determine what they should know themselves? The current findings (over a series of three studies) suggest adolescents do this in a social media context. It is important to note that adhering to knowledge-related descriptive norms depended on the type of reference group attached to that norm. Thus, complying with what others know only occurred when there was a strong social connection or relatedness to "the other." Second, this study also contributes to the literature of norm-based interventions among young people. Although a norm-based intervention is definitely not a new phenomenon, it has almost exclusively been discussed and tested in addressing health behaviors, such as reducing alcohol consumption (e.g., Moreira et al., 2009) and stimulating healthy eating patterns (e.g., Higgs, 2015). However, we argue that adopting a social norm approach in interventions can be a powerful tool in a wider array of domains as well, especially in a social-networked environment. Based on the present studies, descriptive norms might offer an important theoretical framework in investigating how young people can become more critical and conscious consumers when it comes to persuasive communication.

Practical implications

The present research has specific practical implications for SNS providers, which could be of interest for advertisers as well. These actors might consider integrating the band-wagon heuristic in their current "sponsored" label in order to increase persuasion knowledge among adolescents to encourage their critical thinking, as well as stimulate more protective behavior among these users. Obviously, an important feasibility issue arises here: How can a SNS platform track a social norm and convert this into a label? One way to do this is, for instance, by looking at which friends clicked on the "why am I seeing this ad" button (this is a new button on Facebook that appears next to a sponsored post). Clicking on this button might be considered a proxy for persuasion knowledge: If users click on this button, they are being informed that a specific post is sponsored, and told why they are being targeted with that sponsored post. Thus, clicking on this button is most likely going to increase their persuasion knowledge. Therefore, friends that have clicked on this button could be suitable to include as a descriptive norm in a label.

Second, managerial implications can be addressed as well. We argue that adolescents would benefit from a label that facilitates understanding of the persuasive intent of a sponsored post on SNSs. Moreover, these labels can be made more effective among adolescents simply by including a normative component. Therefore, marketers should consider the integration of social norms as a tool to empower (young) consumers on SNSs. In fact, marketers might be rather reluctant to integrate such labels that increase consumers' persuasion knowledge. This follows from the widely held belief that triggering persuasion knowledge generally leads to unfavorable brand outcomes (Campbell & Kirmani, 2008). However, this assumption has been considered to be somewhat preemptive (Evans & Park, 2015). Although we do not dismiss the occurrence of negative effects, there are studies that indicate that persuasion knowledge activation does not

lead, per se, to negative responses to the brand (Campbell et al., 2013; Evans & Park, 2015). Put differently, regardless of one's persuasion knowledge, one might still respond favorably to an ad (Evans & Park, 2015). van Reijmersdal et al.'s (2017) study among adolescents confirmed this reasoning: They found that a label does not result in negative attitudes, but rather increases brand memory among 13–17-year-olds. Therefore, for the sake of fair advertising practice, it might be worthwhile for marketers to consider the integration of normative messages in their campaigns that rely on a description of the responsible behavior of others. This commitment might foster adolescents' critical persuasion beliefs and encourage them to engage in more protective behavior online.

Limitations and suggestions for future research

The present studies have a number of limitations that open up interesting opportunities for future research. First, including the bandwagon heuristic as a variable would have allowed us to measure and model it in our current studies. Some examples are Bellur and Sundar (2014), who have suggested measuring self-reported heuristic use among participants, or Kim et al. (2018), who included *belief in the heuristic* in their analyses. The inclusion of such variables could have provided more solid and compelling evidence of the operation of cognitive heuristics after the exposure of the norm-based label. Therefore, this might be an interesting avenue for future research.

A second limitation concerns our experimental designs. These designs have to strike a balance between control and precision on the one hand, and realism on the other. For instance, we did not install variation in our stimuli materials (each study used the same ad and product) in order to obtain consistency and similarity across the studies. However, one might wonder whether the effects would hold under different manipulation conditions with different stimuli materials. Or could it be that adolescents did not behave in the same way on our mock SNS as they would have done on an existing SNS? Even though we created a mock SNS that was perceived as credible and realistic by our participants, we still cannot guarantee that participant behavior in the study generalizes to real SNSs. Therefore, future research should consider testing a varying set of stimuli, manipulations, and contexts to control for possible differences related to these factors. In addition, this study would benefit greatly from a complementary field approach, such as a field experiment in which the heuristic-based disclosure is enrolled on an existing SNS (e.g., Facebook) for a specific period of time.

Third, we only tested the "single exposure" and "short-term" effects of a normative label. Based on the current evidence, it is not possible to determine whether such a label elicits longer lasting effects, nor claim that the effects would be similar in the case of repeated exposure. It might be that such labels are subject to a habituation effect. Therefore, future research might investigate whether the effectiveness of such normative labels also holds in the long run (e.g., measure-delayed effects) and/or after repeated exposure.

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Disclosure statement

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