How Perceived Persuasive Intent and Reactance Contribute to Third-Person Perceptions: Evidence from Two Experiments

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In two experiments, this study presents a process model that explains third-person perceptions (TPP) as a function of perceived persuasive intent and reactance. Using two nonstudent samples, findings were internally replicated for two topics. The study shows that media messages evoking perceptions of persuasive intent also activate reactance, which in turn predicts TPP topic-independently. Remarkably, half of the total stimulus effect on TPP could be explained through reactance, which offers new implications for existing theoretical explanations of strong TPP after undesirable messages but weak effects after, for example, prosocial messages.

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People tend to downplay their susceptibility to undesirable media influences (e.g., cigarette advertising) while accepting positive influences of desirable media messages on themselves (e.g., public service announcements; Meirick, 2005), which has been referred to as third-person perceptions (TPP) or first-person perceptions (FPP; Davison, 1983; Gunther, Perloff, & Tsfati, 2008). Today, research is still striving to complete the picture of vital explanations for TPP. So far, TPP are regarded as a pretty stable phenomenon (see $r = .31$ for an overall effect size based on 372 separate effects; Sun, Pan, & Shen, 2008) that does not always occur (Davison, 1996; Perloff, 1993).

Although Dillard and Shen (2005) described a clear link between persuasive intent and reactance as a reaction to reduced degrees of freedom within persuasive health communication, there is almost no research on the role of perceived persuasive intent *and* reactance within the body of TPP research. According to Brehm and Brehm (1981), perceived persuasive intent acts as an individual threat to freedom of decision making. Although social desirability had long been linked to perceived persuasion, Eveland and McLeod (1999, p. 329) were the first to measure perceived social desirability of pro- and antisocial media messages and perceptions of being persuaded within TPP. They reported that only extremely desirable messages reduce TPP, as being influenced by the media is often regarded as a negative experience "regardless of the underlying message" (Eveland & McLeod, 1999, p. 329).

Hence, the aim of the present article is to clarify the role of the social desirability of media influences, as well as perceived persuasive intent, and reactance activated by a media message within the TPP research framework. We try to shed light on the ratio of influences between social desirability, perceived persuasive intent, and reactance on TPP, and thus we want to refine our understanding of how TPP occur. We begin with developing a framework of how perceived persuasive intent and reactance could contribute to the emergence of TPP. Afterward, we present the findings of two experiments on two topics with two nonstudent samples, in which we tested our hypotheses.

SOCIAL DESIRABILITY WITHIN THE FRAMEWORK OF TPP

The status of social desirability (i.e., in the course of messages that are perceived by the participant or assumed by the researcher to have positive effects on audiences) within third-person research is well-established. For instance, Sun, Pan, and Shen (2008, p. 290) presented an extended meta-analysis of TPP and came to the conclusion that social undesirability is a strong predictor of TPP ($r = .40$), 95% confidence interval (CI) [.76, .96], whereas social desirability is a weaker predictor of FPP ($r = –.08$), 95% CI [–.34, –.01]. This finding is in line with what Gunther and Storey (2003) called the "negative-influence corollary" (p. 200). For instance, Eveland and McLeod (1999) reported that "only the most socially desirable message … did not produce a traditional third-person perception, while all others … did" (p. 328).

Therefore, the authors concluded that messages not considered desirable enough by participants may fail to evoke FPP. Indeed, although TPP are incredibly robust, FPP are relatively rare and occur most likely in the course of message content that is unambiguously desirable. This is in line with a large body of research demonstrating that higher perceived social desirability of a media stimulus leads to FPP and reduces TPP (David & Johnson, 1998; David, Morrison, Johnson, & Ross, 2002; Gunther & Mundy, 1993; Gunther & Thorson, 1992; Hoorens & Ruiter, 1996; Innes & Zeitz, 1988; Jensen & Hurley, 2005; Paul, Salwen, & Dupagne, 2000, p. 77; Sun et al., 2008). As suggested by existing TPP research, we therefore hypothesize that there is a negative relationship between the perceived social desirability of a stimulus and TPP (H1).

PERSUASIVE INTENT AND REACTANCE WITHIN THE FRAMEWORK OF TPP

Perloff (1993, p. 173) concluded that TPP are more likely to occur after socially undesirable messages "that give rise to the perception that 'it's not smart to be influenced by that message'"—which is most likely for advertisement (Gunther & Thorson, 1992) as compared to a public service announcement or TV news (see Brosius & Engel, 1996, p. 153; White & Dillon, 2000). This can be read as an implicit connection of social desirability of a message with perceived persuasive intent in the context of TPP (Andsager & White, 2007). The rationale behind this connection might be that it is more acceptable for people to be drawn in a direction that the majority of people are likely to agree with, instead of being persuaded *and* consequently representing a socially isolated opinion. One explanation for this could be biased processing of information (see Dillard, Shen, & Vail, 2007), which assumes that evidence supporting people's existing beliefs is usually less critically analyzed, and considered more desirable to follow. Moreover, a message that is deemed to convey a desirable majority position could be regarded less intentionally persuasive, as persuasion does not appear necessary to establish the respective position in public opinion.

Another explanation is also applicable to desirable messages that are not deemed to be majority positions. Gunther and Mundy (1993) argued that social desirability can be translated into "messages considered as smart to be influenced by," which in turn is in tension with the self's general unwillingness to admit influence because of a desire for self-determination. For political communication, research has shown that outside the lab people mostly experience mass media messages that are in line with their own convictions (Goldman & Mutz, 2011). However, if media messages are perceived as contradictory or "hostile" to the own standpoint (see Vallone, Ross, & Lepper, 1985), they can have considerable consequences, for example, for opinion formation and judgments about public opinion (Gunther, 1998; Gunther & Chia, 2001). Media messages perceived to

be hostile seem more intriguing as compared to uncontroversial statements, are processed with greater attention, and are likely to evoke stronger affective reactions (see Matthes, 2011). In a similar vein, after being exposed to socially desirable messages, perceptions of an unwanted persuasive intent should be smaller. Such persuasive messages are probably not as strong a challenge to perceived self-determination as undesirable ones, as they suggest a cognition or behavior that is being judged positively by the self anyway. The chance that such a message evokes an affective state of reaction should be scant. Therefore, we hypothesize a negative relationship between the perceived social desirability of a stimulus and perceived persuasive intent (H2).

Marketing literature suggests that consumers develop knowledge about how to cope with persuasion attempts (Friestad & Wright, 1994). Building on that, Andsager and White (2007) contended that TPP is among the coping tactics "to recognize, analyze, interpret, evaluate, and remember persuasion attempts" (p. 109). Specifically, Andsager and White differentiated between "persuading oneself" (considered desirable as a thoughtful act) and "being influenced by media messages" (considered undesirable as suggesting gullibility; p. 134). The authors link this distinction to the findings of Eveland et al. (1999), who have demonstrated that schemas of media influences for others are more simplified than for oneself (i.e., individuals tend to apply a "magic bullet" theory explanation for the others in contrast to themselves). This provides a link between the perceived persuasive intent with the notion of TPP. A message that is perceived to have a strong persuasive intent should increase perceptual differences between self and others. Although the self should be judged relatively autonomous of an increased persuasive intent (according to the "persuading oneself" logic; Andsager & White, 2007, p. 134), others should be judged as increasingly likely to be influenced with an increased persuasive strength of the message (according to the magic bullet logic; Eveland et al., 1999). Seen against this light, TPP could be interpreted as a strategy to cope with unwanted persuasive intents. Therefore, we hypothesize a positive relationship between perceived persuasive intent and TPP (H3).

Although perceived persuasive intent can be clearly linked to reactance (Brehm, 1966; Brehm & Brehm, 1981; Wicklund, 1974), surprisingly, reactance itself has not been systematically tested within the TPP framework. Nevertheless, a link between perceptions of being persuaded and reactance can most notably be traced back to the suggestion that persuasion attempts are often interpreted as restrictions of making decisions within mediated contexts, which evokes resistance to persuasion (Quick & Stephenson, 2007; Silvia, 2006). This notion has already been underlined in the pivotal article by Friestad and Wright (1994, p. 3), in which the authors clearly linked perceptions of being persuaded with participants' awareness of reduced response options. Within mediated contexts, reactance occurs whenever recipients no longer feel free "to hold their particular attitudes, to change their attitudes, or

to avoid committing to any position" (Silvia, 2006, p. 673). With that said, reactance is best understood as a combination of anger and negative cognition (Dillard & Shen, 2005; Quick, Kam, Morgan, Montero Liberona, & Smith, 2015; Quick & Stephenson, 2007; Shen, 2010). Behavioral manifestations of reactance are either attitude changes or defensive reactions, such as counter-arguing, rejections of arguments, or attacks against the qualities of opposing viewpoints (e.g., denying the source's credibility; Tal-Or & Drukman, 2010). The more blatant the persuasion attempts, the more reactance will be evoked. Therefore, we hypothesize that perceived persuasive intent is positively correlated with reactance (H4).

Moreover, Zillmann and Brosius (2000) connected the notion of reactance (as a reaction to threatened freedom) with TPP when describing some limitations of third-person research. They suggested considering TPP a risk perception and not of media-influence perceptions expressing "a specific difference in perceived risk to self and to others that may or may not be modified by media influence. In these risk assessments, the query is not 'How much influence…?' but rather 'How great a risk…?'" (p. 61), with such risks usually stemming from particular threats. Given that TPP to some degree reflect individual risk assessments stemming from a variety of threats, the concept should be linked with reactance as a reaction to a perceived threat. Therefore, we hypothesize that reactance will be positively correlated with TPP (H5).

Finally, although Brehm and Bryant (1976) explored different forms of threats as self-presentation within the context of individual impression management, some of the propositions made in their study can be transferred to the context of the present research. For instance Brehm and Bryant differentiated between responses that were directly contradictory to an actor's desired expectations and responses that are totally uncorrelated with them. In the study, participants took a personality test and received congruent, oppositional, or uncorrelated feedback to their responses by the experimenter. Oppositional personality feedback was regarded as a threat to self-presentation, and as hypothesized, those who received oppositional feedback on their first answers tended to answer more extremely in the second half of the test. Therefore, Brehm and Bryant concluded that oppositional feedback evoked reactance, in contrast to uncorrelated feedback, which evoked no such reactions. Although these findings stem from interpersonal communication feedback, the basic idea of the study is helpful for the present research. We learn that information opposed to one's own viewpoint will evoke reactance as a reaction to this perceived self-threat. A persuasive message containing negative consequences could be an attempt to cause an undesirable effect on the viewer's own judgment. Taking into account that undesirability of being influenced is most notably responsible for TPP (see Gunther & Storey, 2003), we expect socially undesirable messages to evoke more reactance. Hence, our last hypothesis is that

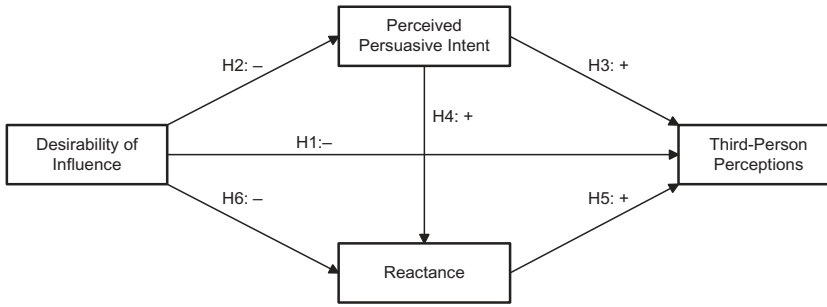

FIGURE 1 Hypothesized relationships between the desirability of influence of a media stimulus, recipients' perceived persuasive intent, and reactance evoked by the stimulus and third-person perceptions.
Note. + indicates a hypothesized positive relationship; — indicates a hypothesized negative relationship.

there is a negative relationship between the perceived social desirability of a stimulus and the observed level of reactance (H6).

To the best of our knowledge, the interplay of social desirability of a mediated message, perceived persuasive intent, and reactance has never before been tested together with TPP. All of the hypothesized relationships are summarized in Figure 1.

As can be seen in Figure 1, several indirect effects are to be expected. To clarify the value of perceived persuasive intent and reactance for the explication of TPP, we want to compare the different indirect influences proposed in the theoretical model to the direct effect of a stimulus on TPP. The aim is to shed light on the percentage of additionally explained variance of TPP when modeling indirect effects through perceived persuasive intent or reactance. As there is no evidence in the existing literature on this topic, we additionally ask the following research questions: What is the ratio between the direct effect of social desirability on TPP, as compared to (a) the indirect effect through perceived persuasive intent, (b) the indirect effect through reactance, and (c) the indirect effect through both perceived persuasive intent and reactance together (RQ1)?

GENERAL METHOD

Overview

Two experiments conducted in Germany built the basis for this study. In both experiments, participants were randomly assigned to one of two versions of a pretested news magazine article including an expert interview. One article version was designed to exert socially desirable influences on audiences, and the

other article version was designed to be perceived as socially undesirable with regard to its influence (see Tal-Or, Cohen, Tsfati, & Gunther, 2010). Both experiments were conducted online using two independent samples (see Paul et al., 2000, p. 69). The topics were chosen based on other studies that already explored and found TPP ("tanning" in accordance with Gunther & Mundy, 1993; "asylum policy" inspired by Matera & Salwen, 1997).

In Experiment 1, the influence of the social desirability of a news magazine article showing an expert interview (topic: Dismissive asylum policy) on TPP (H1) is investigated, as well as the mediating role of perceived persuasive intent (H2, H3) and reactance (H4, H5, H6). Moreover, when having assessed the patterns between the hypothesized direct and indirect influences, we are able to compare observed effect sizes and to find answers to our first research question (RQ1). In Experiment 2, we used an identically structured expert interview (question and answer) from a news magazine but based on a completely different topic (topic: Health promoting aspects of pretanning before sunbathing).

Stimuli

Participants were instructed that the interview stems from a real news magazine. The stimulus visually resembled the typical layout of news magazines, although it was not an exact facsimile of any existing magazine. No other identifying information about the magazine was given in order to prevent spurious influences of prior attitudes toward the media outlet. The two text versions were completely fabricated, although the arguments represent positions well known from public discourse.

Measures

Social Desirability. To measure social desirability, we use a mean index variable that consists of three items such as "Everyone should be guided by the arguments in the interview on the effects of pretanning/asylum policy" (M_{Asylum} = 3.04, SD = 1.74, Cronbach's α = .83; $M_{\text{Pretanning}}$ = 3.58, SD = 2.18; Cronbach's α = .91).

Third-Person Perceptions. Participants indicated their perceptions of media influences on 7-point scales. In line with existing research (see Chap. 5 and 6 in Andsager & White, 2007), perceived media influences on self and others were measured using two single items that participants were required to rate between 1 (*The arguments of the interviewee have no influence on my /the general population's judgments about pretanning/asylum policy*) and 7 (*The arguments of the interviewee have very strong influence on my /the general population's judgments about pretanning/asylum policy*). TPP were calculated as the difference between perceived

media influences on the general population and influences on self ($M_{\Delta\ Asylum}$ = 1.10, SD = 2.38; $M_{\Delta\ Pretanning}$ = .73, SD = 2.42).

Perceived Persuasive Intent. Participants indicated on a 7-point scale whether they had the impression *while reading the news article* that "the interviewee wants to convince me of his point of view" and "the interviewee tries to influence readers' behaviors." The wording was chosen in line with existing studies (Campbell & Kirmani, 2000, p. 75). The items showed a good internal consistency in both experiments (M_{Asylum} = 5.00, SD = 1.62, Cronbach's α = .85; $M_{Pretanning}$ = 5.85, SD = 1.44, Cronbach's α = .85) and were thus pooled to form a mean index.

Reactance. Reactance was measured as a combination of situationally evoked anger (see Dillard & Shen, 2005; Quick & Stephenson, 2007) and a desire to contradict an interviewee as an expression to restore lost freedom, captured with two items inspired by the items developed by Herzberg (2002). Participants were required to rate their agreement with statements between 1 (*I completely disagree*) and 7 (*I totally agree*). The items were worded as a response to the manipulated news article: "I am angry about the fact that the interviewee gets a chance to speak" and "I would like to contradict the interviewee." The items showed a good internal consistency in both experiments (M_{Asylum} = 3.53, SD = 2.01, Cronbach's α = .80; $M_{Pretanning}$ = 3.32, SD = 2.17, Cronbach's α = .88) and were thus pooled to form a mean index.

Data Analysis

To investigate direct and specific indirect influence patterns of social desirability, perceived persuasive intent, and reactance on TPP as well as to explore the ratio of these direct and mediated effects, regression-based serial mediation analyses were conducted with robust maximum likelihood estimation (MLR) techniques using Mplus. The experimental condition was used as a binary independent variable in our models, whereas all other variables were continuous. Therefore, standard techniques are perfectly suitable, and mediation analyses remain the same as with continuous variables (see Iacobucci, 2012).[1] To test for the significance of indirect effects, we computed 95% CIs using a bootstrapping procedure (bootstrapping sample n = 5,000).

A stimulus check was performed showing that the "desirable" article versions were indeed perceived as more desirable (M_{Asylum} = 4.23, SD = 1.37;

[1] Other techniques, such as substituting a continuous manipulation check measure for the binary experimental condition as an independent variable, have been recently described as "outdated" or of "finesse" (see Hayes & Preacher, 2014, p. 452).

$M_{\text{Pretanning}}$ = 5.47, SD = 1.19) than the undesirable stimuli (M_{Asylum} = 1.84, SD = 1.15; $M_{\text{Pretanning}}$ = 1.69, SD = .96). The mean differences were large and statistically significant, $t(814)_{\text{Asylum}}$ = 27.06, $p < .001$, d = 1.89; $t(247)_{\text{Pretanning}}$ = 27.49, $p < .001$, d = 3.50, and related effect sizes were very large, indicated by Cohen´s d being larger than 1 or 3. This is an important prerequisite for exploring TPP in more detail. Moreover, in both experiments the stimulus version had a large direct impact on TPP, with the undesirable version activating stronger TPP ($M_{\text{desirable, Asylum}}$ = –.40, SD = 2.01; $M_{\text{undesirable, Asylum}}$ = 2.61, SD = 1.66), $t(816)_{\text{Asylum}}$ = 23.28, $p < .001$, d = –1.80; ($M_{\text{desirable, Pretanning}}$ = –.75, SD = 1.93, $M_{\text{undesirable, Pretanning}}$ = 2.21, SD = 1.91), $t(249)_{\text{Pretanning}}$ = 12.17, $p < .001$, d = –1.54. Similarly, stimulus version had an effect on perceived persuasive intent ($M_{\text{desirable, Asylum}}$ = 4.47, SD = 1.59; $M_{\text{undesirable, Asylum}}$ = 5.53, SD = 1.47), $t(816)_{\text{Asylum}}$ = 9.94, $p < .001$, d = –0.72; ($M_{\text{desirable, Pretanning}}$ = 5.40, SD = 1.63; $M_{\text{undesirable, Pretanning}}$ = 6.31, SD = 1.04), $t(249)_{\text{Pretanning}}$ = 5.24, $p < .001$, d = –0.87; and reactance ($M_{\text{desirable, Asylum}}$ = 2.24, SD = 1.37; $M_{\text{undesirable, Asylum}}$ = 4.83, SD = 1.68), $t(816)_{\text{Asylum}}$ = 24.20, $p < .001$, d = –1.54; ($M_{\text{desirable, Pretanning}}$ = 1.72, SD = 1.12; $M_{\text{undesirable, Pretanning}}$ = 4.94, SD = 1.73), $t(249)_{\text{Pretanning}}$ = 17.60, $p < .001$, d = –1.87), which were both stronger in the undesirable condition.

EXPERIMENT 1

In Experiment 1, the manipulation consisted in the framing of similar arguments pro or contra accepting refugees. It was examined how the social desirability of the stimulus influences TPP and how this direct influence is mediated through perceived persuasive intent or reactance of the participants.

Method

Participants. The first experiment was conducted with 818 participants (445 female, 373 male; age: M = 36.46, SD = 14.69; 49.5% university degree) who were recruited from an online panel. The sample is not representative as compared to the general population; nevertheless, the sample was diverse with regard to sex and age.

Stimuli. In Experiment 1, participants read one of two versions of a news magazine interview article that discusses pro- and counterarguments of accepting refugees. In the German Basic Law (“Grundgesetz”), Article 16a grants victims of political persecution an individual right of asylum, which expresses Germany’s willingness to fulfill its historical and humanitarian obligation. Hence, in the socially desirable condition it is argued in favor of granting

asylum to an increasing number of refugees, whereas in the socially undesirable condition it is argued that asylum laws should be sharpened. Both versions show five questions and answers of about the same length (desirable stimulus article = 380 words; undesirable stimulus article = 376 words). Moreover, both interviews were accompanied by a fact box (37 words in both conditions) containing objective background information from the latest refugee report of the United Nations.

Procedure. A one-factorial, between-subjects experimental design was applied, and thus participants were randomly assigned to one of two experimental conditions (socially desirable vs. socially undesirable) within an online experiment. The study topic was asylum policy. Before and after the stimulus was presented, participants answered a questionnaire. After five questions capturing preexisting attitudes and existing knowledge about the national identity and asylum policy, the aforementioned stimulus news magazine article was presented. Participants were instructed to read the article carefully, but there were no limitations of reading time. Cases were included in data analysis only when the poststimulus survey was finished. After reading the stimulus, participants answered all questions relevant for hypotheses testing in the poststimulus survey; the answers were measured as described in the General Method section.

Results and Discussion

To test H1–H6, a mediation path model was calculated using Mplus with a robust MLR (see Figure 3). In line with expectations, results revealed a strong direct negative relationship between the social desirability of a media stimulus and TPP ($\beta = -.40$, $p < .001$), bootstrapped 95% CI [–.46, –.33]; thus we accept H1. Moreover, we observed strong negative effects of social desirability on perceived persuasive intent ($\beta = -.33$, $p < .001$), bootstrapped 95% CI [–.39, –.27], which allows us to accept H2. There was a small but positive influence of perceived persuasive intent on TPP ($\beta = +.07$, $p = .023$), bootstrapped 95% CI [.01, .12], which is why we also accept H3. Moreover, there was a positive influence of perceived persuasive intent on reactance ($\beta = .27$, $p < .001$), bootstrapped 95% CI [.22, .32], and consequently we accept H4. Reactance is, in turn, positively associated with TPP ($\beta = .33$, $p < .001$), bootstrapped 95% CI [.26, .40], which prompts us to accept H5. Finally, there was a negative association between the social desirability of the manipulated news media stimulus and reactance evoked by the stimulus ($\beta = -.56$, $p < .001$), bootstrapped 95% CI [–.61, –.51], which leads us to accept H6. The model explains a substantially good percentage of the variance of TPP ($R^2 = .48$), perceived persuasive intent ($R^2 = .11$), and reactance ($R^2 = .48$). As depicted in Figure 2,

all of our hypotheses on the relationships between social desirability, perceived persuasive intent, reactance, and TPP were accepted.

Moreover, Experiment 1 shows significant, completely standardized indirect effects of social desirability on TPP that were mediated by perceived persuasive intent ($\beta = -.02$, $p = .029$), bootstrapped 95% CI [–.041, –.002], and reactance ($\beta = -.19$, $p < .001$), bootstrapped 95% CI [–.23, –.14]. In addition, Experiment 1 shows an indirect effect of social desirability on TPP through perceived

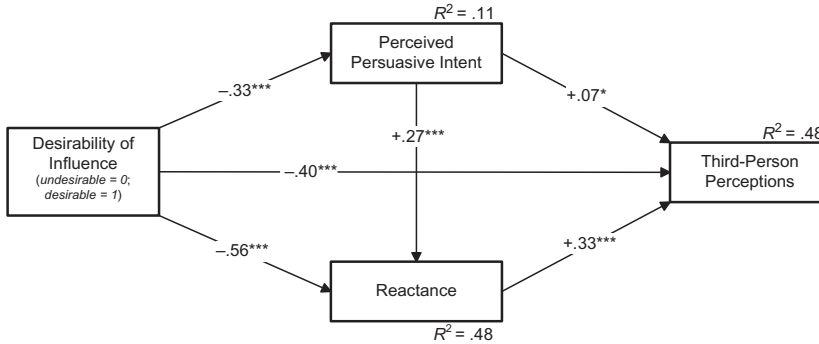

FIGURE 2 Observed relationships between the desirability of influence of a media stimulus about the advantages and disadvantages granting asylum to refugees, recipients' perceived persuasive intent, and reactance evoked by the stimulus and third-person perceptions (Study 1).
Note. *$p < .05$. ***$p < .001$.

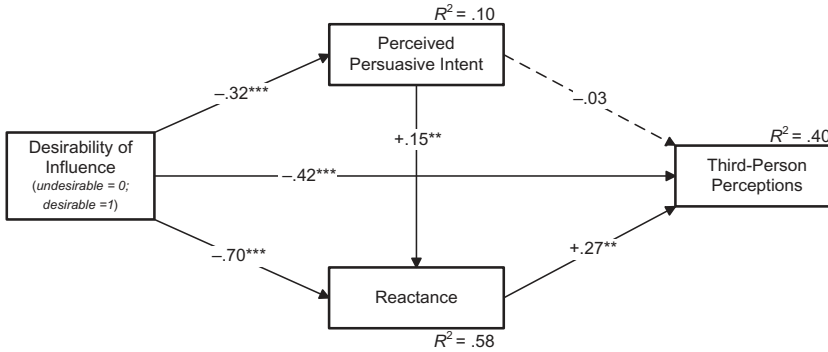

FIGURE 3 Observed relationships between the desirability of influence of a media stimulus about the advantages and disadvantages of pretanning before sunbathing, recipients' perceived persuasive intent, and reactance evoked by the stimulus and third-person perceptions (Study 2).
Note. **$p < .01$. ***$p < .001$.

persuasive intent and reactance (β = –.03, $p < .001$), bootstrapped 95% CI [–.04, –.019], indicating a "complementary mediation" (Zhao, Lynch, & Chen, 2010, p. 201).

Hence, we will now be able to provide an answer to RQ1. The ratio of the specific indirect effect of social desirability on TPP through perceived persuasive intent to the respective direct effect is .06, indicating that the direct effect of social desirability on TPP is more than 16 times as large as the mediated effect.[2] In contrast, the indirect effect of social desirability on TPP through reactance is almost half of the direct effect (ratio indirect to direct effect = .47). Moreover, the ratio of the indirect effect of social desirability on TPP through both mediators to the respective direct effect is .08, indicating that the direct effect of social desirability on TPP is more than 13 times larger than the mediated effect.

To sum up our findings from Experiment 1, we conclude that the sum of indirect effects of social desirability on TPP is large (β = –.24, $p < .001$), bootstrapped 95% CI [–.28, –.19], and that the model shows a complementary mediation (Zhao et al., 2010, p. 201) via perceived persuasive intent and reactance. All six hypotheses were accepted.

EXPERIMENT 2

In Experiment 2 we conducted an exact replication of Experiment 1 but used a completely different topic. Whereas the policy of granting asylum to refugees was at the heart of Experiment 1, the replication study focuses on the effects of pretanning before sunbathing. Experiment 2 investigates whether the observed patterns of influences between social desirability, perceived persuasive intent, reactance, and TPP are resistant to replication using a different topic and sample.

Method

Participants. A subset of a different sample ($n = 251$; 156 female, 95 male; age: $M = 34.10$, $SD = 13.12$; 50.2% university degree) took part in Experiment 2. All participants were recruited from the same online panel as in Experiment 1. Again, although not representative, the sample was diverse with regard to sex and age.

Stimuli. In Experiment 2, participants were exposed to a news magazine interview article that, on the surface, looked almost identical to the one used in

[2] The ratio of indirect to direct effects is defined as $P_M = \frac{ab}{c'}$ (Hayes, Preacher, & Myers, 2011); in this case, that is –.03/–.52 = .064, meaning that the (unstandardized) indirect effect through persuasive intent is about 6% of the size of the direct effect.

Experiment 1; here, the health risks of pretanning in a solarium before sunbathing are discussed. As skin cancer early detection screenings are obligatory and free of charge in Germany every 2 years since 2008, public awareness for the dangers of ultraviolet rays has increased. Moreover, since the International Agency for Research on Cancer as part of the World Health Organization has classified UV-emitting tanning devices as "carcinogenic to humans," tanning salons were restricted to people older than 18 in Germany in 2009. Hence, in the socially desirable experimental condition, it is argued against pretanning before sunbathing, as pretanning does not protect from sunburn in the summer but instead increases the risk of skin cancer. On the contrary, in the socially undesirable condition it is argued that pretanning gently prepares the skin for summer sunbathing and that the scientific evidence for unhealthy effects of pretanning are highly ambiguous. In both experimental conditions, the interview portrays five questions and answers of about the same length (desirable stimulus article = 391 words; undesirable stimulus article = 377 words). Again, both interviews were accompanied by a fact box (33 words in both conditions) containing background information on the scientific evidence for the unhealthy practice of pretanning.

Procedure. Again, a one-factorial, between-subjects experimental design was applied, and participants were randomly assigned to one of two experimental conditions (socially desirable vs. socially undesirable). Experiment 2 was conducted online. Before and after the stimulus was presented, participants answered a questionnaire. After six questions capturing preexisting attitudes and existing knowledge about pretanning and skin cancer, a news magazine article on the advantages and disadvantages of pretanning before sunbathing was presented.

Participants were instructed to read the article carefully, but again, there were no limitations of reading time. Only cases where participants finished the post-stimulus survey were included in data analysis. After reading the stimulus, participants answered all the questions relevant for replication in the poststimulus survey, and their answers were measured as described in the General Methods section.

Results and Discussion

As a first step, we calculated the same path model using Mplus with a different sample and a robust MLR. Results reveal a strong direct negative effect of social desirability of a media stimulus on TPP ($\beta = -.42$, $p < .001$), bootstrapped 95% CI [–.55, –.29]; thus, our replication study leads us to accept H1. Moreover, we observed strong negative effects of social desirability on perceived persuasive intent ($\beta = -.32$, $p < .001$), bootstrapped 95% CI

[–.41, –.22], which allows us to accept H2. Surprisingly, we observed no substantial influence of perceived persuasive intent on TPP (β = –.03, p = .621), bootstrapped 95% CI [–.15, .09], which is why we have to reject H3 in the replication, as the hypothesis assumed a positive relationship. Moreover, there was a positive influence of perceived persuasive intent on reactance (β = .15, p < .001), bootstrapped 95% CI [.07, .23], and consequently we accept H4 in our replication study. Reactance is, in turn, positively associated with TPP (β = .27, p < .001), bootstrapped 95% CI [.13, .41], which prompts us to accept H5. Finally, there was a negative association between the social desirability of the manipulated news media stimulus and reactance evoked by the stimulus (β = –.70, p < .001), bootstrapped 95% CI [–.76, –.63], which led us to accept H6. The replication model explains a substantially large percentage of the observed variance in TPP (R^2 = .40), perceived persuasive intent (R^2 = .10), and reactance (R^2 = .58).

Moreover, Experiment 2 shows no significant completely standardized indirect effect of social desirability on TPP as mediated by perceived persuasive intent (β = .01, p = .625), bootstrapped 95% CI [–.03, .05], but in contrast, a significant completely standardized indirect effect through reactance was observed (β = –.19, p < .001), bootstrapped 95% CI [–.29, –.09]). In addition, Experiment 2 shows an indirect effect of social desirability on TPP through perceived persuasive intent and reactance (β = –.01, p = .013), bootstrapped 95% CI [–.02, –.003], indicating a "complementary mediation" (Zhao et al., 2010, p. 201).

The replication study allows us to answer RQ1 for a different topic. Focusing on only the significant specific indirect effects to the direct effect, Experiment 2 shows that the indirect effect of social desirability on TPP through reactance is again about half of the direct effect (ratio indirect to direct effect = .44). Moreover, the ratio of the indirect effect of social desirability on TPP through both mediators to the respective direct effect is .03, indicating that the direct effect of social desirability on TPP is about 30 times larger than the mediated effect.

Hence, based on the replication findings, except for H3, the results of Experiment 1 could predominantly be replicated. This is also reflected by the comparably high shares of explained variances between Experiment 1 and Experiment 2. Moreover, we found that the role of perceived persuasive intent had been instable in our replication, whereas the effects of reactance and social desirability on TPP were extremely stable within our replication. Explained variances ranged from 10% to 58% in both studies, indicating a good explanatory power of the model. Finally, the total effect of the stimulus was β = –.69, p < .001, in Experiment 1 (topic: asylum policy) and was β = –.61, p < .001, in Experiment 2 (topic: pretanning before sunbathing).

SUMMARY AND CONCLUDING DISCUSSION

This study was undertaken to clarify the role of social desirability, perceived persuasive intent, and reactance within the TPP research framework, as these influences have not yet been explored together, only independently (Eveland & McLeod, 1999; Jensen & Hurley, 2005; Tal-Or, Shilo, & Meister, 2009). In this manner, this study is able to produce knowledge on the interplay of the three tightly related concepts. The present study provides further evidence that (a) social desirability is an important moderator of TPP; both experiments show that higher social desirability leads to lower levels of TPP (H1). Moreover, (b) the study shows that socially undesirable media influences enhance perceived persuasive intent (H2) of the recipients, which in turn can foster TPP (H3), but not consistently; here, we can only speculate about the robustness of the effect of perceived intent on TPP but suggest to explore this finding further in future studies. Finally, (c) perceived persuasive intent is positively linked with reactance (H4), which turned out to be a crucial predictor of TPP (H5). The two experiments show that low social desirability of media effects not only directly lead to TPP but, independent of the topic, but also can evoke reactance (H6). At the same time, it is responsible for about half of the total effect of a socially desirable stimulus on TPP and should thus be included in future studies on TPP. Both experiments show that the role of perceived persuasive intent is smaller than the role of reactance. It cannot be ruled out that in existing studies on TPP, socially undesirable stimuli evoked reactance at the same time as TPP. Thus, it remains unclear to what degree observed effects can be traced back to the social undesirability of the stimulus or the reactance evoked by it. We found that reactance can contribute up to about 50% of the observed effect of socially desirable stimuli on TPP, so future studies should therefore explicitly focus on this implication. The effect may also be less than 50%, but it is likely to be relatively large and independent of the study topic itself, as shown in our replication. The ratio of the indirect effect (via reactance) to the direct effect of social desirability on TPP ranges between 0.46 in Experiment 1 and 0.44 in Experiment 2. This amount of explained variance is unobserved when these important mediators are excluded. These results sharpen our understanding of the underpinnings of TPP. In line with research conducted by Eveland and McLeod (1999), the present study shows that desirability influences TPP via perceived persuasive intent and adds another important mediator—reactance, which should be included in future studies on TPP.

Inevitably, there are several limitations to our findings. With regard to our dependent variable, it must be considered that using a subtractive measure for TPP is not the sole approach applied (Schmierbach, Boyle, & McLeod, 2008, p. 495), and it can even be reasonable to treat effects on the self and others as two distinct concepts (see McLeod, Detenber, & Eveland, 2001). By doing so, one would obtain more specific insights into the patterns of influence between the social desirability of media influences, perceived persuasive intent, and evoked reactance on the self and others. Furthermore, our measure of reactance is not completely satisfactory in the light of

more recent developments in reactance research (see Dillard & Shen, 2005; Quick & Stephenson, 2007). Restrictions of space and time for completing the whole study made our capturing only anger and a desire to contradict the interviewee an expression to restore lost freedom with one item each. Studies have developed other, more complex measures such as (a) thought-listing tasks for capturing anger (Dillard & Shen, 2005) or negative cognitions more in general and (b) multi-item scales for capturing other facets of reactance (Sittenthaler, Traut-Mattausch, Steindl, & Jonas, 2015). Moreover, our items—although they exhibited reliability—might also have captured aspects beyond reactance such as pro-censorship attitudes, willingness to speak, or comfort with confrontation, and might not fully capture whether the stimulus has been perceived as a threat to freedom. As we could point to the potential importance of reactance within the TPP framework with this study, a future worthwhile step would be to look at the relationships observed here in detail using more fine-grained measures of reactance and its subdimensions.

Moreover, we do not observe behavioral intentions (e.g., subscribing a petition on asylum policy) explicitly, although research on TPP has shown that presumed media effects have important implications on a behavioral level. Nevertheless, not all studies have been successful in finding TPP, as well as exploring their behavioral relevance. It is possible that more controversial or somehow provocative study topics lead to feelings of reduced decisional freedom and thus foster reactance. Although we replicated our first experiment with a completely different topic, we cannot rule out the effect of a controversial study topic. Future studies will have to investigate more systematically on the importance of study topics for research on TPP. Another important shortcoming is that we are not able to differentiate in more detail between message and source components and their interactions as influencing factors of desirability. Most often in research on TPP, social desirability refers to the nature of the message, not who is delivering it. Moreover, especially with regard to controversial political topics, social desirability is very much in the eye of the beholder (see Duck, Hogg, & Terry, 1995; Meirick, 2004). In the present research we cannot disentangle which factor, message content, or source led to the observed differences in social desirability. Future studies should, however, focus on message-specific effects in the TPP framework. A systematic exploration on the effects of different message features and their interaction on social desirability is necessary. Finally, we cannot rule out the influence of participants' political leaning. Nevertheless, it seems plausible to assume that some of the effect of the desirability manipulation depends on a participant's individual political standing. It would be worthwhile to explore this more thoroughly in future studies.

Further explicit research in this area might fuel theoretical development in at least two directions. First, existing findings suggest that the interplay between the perceived social desirability of a media message and an individual's perception of being influenced by a media message is not yet fully explained. For instance, a

news interview may be rich in good arguments on a topic deemed socially desirable (e.g., the acceptance of asylum seekers in Europe), but at the same time an article may lead some readers to believe that the interviewee tried to persuade the audience to favor his or her point of view. This may enhance readers' reactance against an interviewed person or his or her presented viewpoint. By now, in this case, TPP theory is not able to predict whether the desirable media message will lead to FPP, or whether perceptions of being persuaded by the same message will foster TPP and/or reduce FPP at the same time. This lack of knowledge is also reflected by the weak effects that are often revealed in studies on the presumed influence of prosocial messages (Duck, Terry, & Hogg, 1995; Henriksen & Flora, 1999; Innes & Zeitz, 1988).

Second, these findings challenge the assumption that media messages are objectively desirable or undesirable. Instead, presumed media effects are likely to interact with individual perceptions of media messages (e.g., with exemplification effects as shown by Scherr, Müller, & Fast, 2013) that in turn depend on individual factors, as Valkenburg and Peter (2013) pointed out; surprisingly, this is a fairly new perspective for research on third-person effects. For example, two independent studies found that depressive symptoms enhance FPP (Scherr, 2016; Scherr & Reinemann, 2011) both cross-sectionally and over time, which has been explained by the general tendency of depressed persons to internalize more and to self-enhance less. Moreover, Ganster, Hennessey, and Luthans (1983) proposed three models of social desirability (unmeasured variable, suppressor variable, or moderator variable); the bottom line of these models should be that we must elaborate more on the social desirability of media effects and should have a closer look at the mechanisms in which it can be involved.

Moreover, in recent years there has been accumulated evidence for the fact that narrative media content can reduce reactance (Moyer-Gusé, 2008) as individuals become cognitively and emotionally more engrossed in the narrative (Busselle & Bilandzic, 2008), and hence persuasive attempts are more camouflaged. In the light of this clear link, future studies should investigate whether the patterns observed here are replicable in narrative contexts. They should also include a broader reaching measurement of reactance. Our operationalization of reactance does not necessarily reflect all facets of the concept (Quick et al., 2015), especially because its behavioral component could also be regarded as an individual consequence of anger and negative cognitions, rather than a part of the theoretical concept of reactance itself.

To conclude, based on two experiments on completely different topics (Experiment 1: asylum policy; Experiment 2: pretanning before sunbathing) we can show that TPP depends not only on the social desirability of a mediated stimulus but also on the reactance that it might evoke. Thereby, reactance consistently showed to be responsible for up to 50% of the observed effects of socially desirable stimuli on TPP. Moreover, perceptions

of being persuaded by a mediated message enhance reactance, and this holds true in less persuasive contexts than advertisements, for instance, political news or health-related service articles. Thus the effect of perceived persuasive intent on TPP consistently showed to be indirect through reactance. Against this backdrop, future studies should control for perceived persuasive intent and reactance in order to disentangle whether cognitive explanations of TPP (that rely less on the social desirability of the media content and more on knowledge activated by the stimulus) or motivational explanations (i.e., people want to preserve a positive self-image; Tsfati, 2014, p. 494) must be taken into consideration for explaining observed TPP.

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