

## Do Third-Person Perceptions Amplify Exemplification Effects?

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The presumed underlying mechanism of exemplification effects is that people generalize single-case media depictions and overestimate their position of social relevance, while at the same time neglecting more valid base-rate information. A  $2 \times 2$  between-subjects experiment with  $n = 112$  participants explored whether these exemplification effects can be explained by presumptions of strong media influences on others. Participants were shown a "rate my professor"-type website stimulus in which a single user had commented on a university course. Results show that fundamental assumptions of exemplification research interact with presumed media influences: exemplification effects can be amplified by third-person perceptions, particularly when people assess public opinion.

*Keywords: Exemplification effect, base-rate fallacy, third-person effect, climate of opinion, personal opinion, experiment*

### Exemplification Effects on Perceptions of the Climate of Opinion

There are two possible ways that media can present social reality: first, with single cases serving as exemplary illustrations, also referred to as exemplars, and, second, by presenting base-rate information, for example, statistical information based on aggregate cases (Zillmann & Brosius, 2000; Zillmann, Perkins, & Sundar, 1992). Tversky and Kahneman (1974) have demonstrated that it is much easier for people to process exemplars than base-rate information. Exemplars are substantially easier to comprehend and recall than base-rate information (Zillmann, 2006, p. 225). In communication research, these findings are known as exemplification effects. This term refers to the stronger influence of exemplars compared to base-rate information on recipients' personal opinions as well as on assessments of the prevailing climate of opinion (Brosius & Bathelt, 1994; Zillmann & Brosius, 2000). However, under

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Date submitted: 2012-07-16

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certain conditions, base-rate information exerts a stronger influence on personal opinion and perceptions of reality than do exemplars (Hoeken & Hustinx, 2009; Krosnick, Li, & Lehman, 1990). These findings are largely independent of the personal attributes of the participants (Aust & Zillmann, 1996; Iyengar & Kinder, 1987). The numerical aptitude of recipients, which can have an impact on the information processing of base rates and statistical data, constitutes an exception to this general finding (Gibson, Callison, & Zillmann, 2011).

The large body of research on the influence of vivid exemplars and more valid statistical information consistently shows that both factors influence the perceived climate of opinion more strongly than they influence recipients' personal opinions or intended behaviors (Daschmann, 2001, pp. 131–134). Prior experiences and/or pre-existing attitudes about a certain topic in the media are considered to be the explanation for these findings. Because of these factors, recipients' personal opinions might be less influenced by such media content than recipients' assessment of public opinion (Brosius, 1995, p. 293; Brosius & Bathelt, 1994). However, Perry and Gonzenbach (1997) found no significant differences in exemplification effects on the personal opinions of people with and without pre-existing attitudes. This article is intended to test for an alternative explanation for the differences in the strength of exemplification effects on personal opinion and perceived climate of opinion. It is argued that presumed media influences could play a role here.

### **Third-Person Effects on Perceptions of the Climate of Opinion**

When people assess media influences on self and others, they generally assume that the impact of the mass media on others is stronger than on themselves (Davison, 1983). This assumption is supported by consistent empirical evidence (Paul, Salwen, & Dupagne, 2000; Sun, Pan, & Shen, 2008). Therefore, these third-person perceptions (TPP) can be considered a stable and almost universal pattern of social perception. As a result, research efforts have examined the consequences of TPP (McLeod, Detenber, & Eveland, 2001, p. 679). Mutz (1989) was the first to empirically demonstrate a connection between TPP and public opinion—more precisely, the willingness to express opinions publicly within the scope of the spiral of silence (Noelle-Neumann, 1974), an aspect that Davison (1983) had already discussed in his seminal study. In addition, the notion of perceived media effects on others has influenced research on agenda-setting (McCombs & Shaw, 1972): Huck, Quiring, and Brosius (2009) combined the two theoretical frameworks, assuming that perceived media influences can activate agenda-setting processes and/or that distorted perceptions of reality (with regard to the perceived “influence of presumed media effects”) can shift the salience that is individually ascribed to a given issue. It is assumed that people who believe the mass media has a strong influence on others “believe that (1) mass media have a broad reach and (2) media messages have a strong effect on other people’s attribution of salience to different issues” (Huck, 2009, p. 145). Taken together, research has shown that TPP are involved in a variety of media effects that predict assessments of public opinion. Surprisingly, TPP have seldom been linked to exemplification effects.

Due to theoretical and structural similarities between TPP and the effects of exemplars and base-rate information presented in the media on both personal opinion and the perceived climate of public opinion, the two approaches are likely to share variance when explaining media effects of the same issue.

Particularly, third-person effects and exemplification effects are both based on the assumption of an irrational audience (Andsager & White, 2007): it is logically impossible that everyone is right when assuming that the media have a stronger negative effect on other people. TPP are based on heuristic assumptions that enable people to estimate distributions of attitudes, opinions, and interactions in large samples (Tversky & Kahneman, 1974). The same has been assumed for exemplification effects on the perception of the climate of opinion. Moreover, McLeod et al. (2001) found that heuristic assumptions most frequently occur when people assess media effects on others, as opposed to the more complex reasoning that takes place when people assess media effects on themselves. According to these findings, people who overestimate media influences on others should rely more strongly on information that is easy to process when assessing the climate of public opinion on a given issue. As outlined above, ease of comprehension and recall is a feature often ascribed to exemplary information.

### **Exemplification and Third-Person Effects on Perceptions of the Climate of Opinion**

So far, it has been argued that there are similarities, which are crucial for possible interaction effects, between exemplification effects and TPP. Specifically, these similarities refer to (1) the processing of environmental information, and (2) the generalization of given information to public opinion. This section reviews the literature concerning these two important antecedents.

With respect to information processing, the underlying mechanisms of exemplification effects and TPP can both be regarded as heuristic judgments of majority distributions (see Tversky & Kahneman, 1974). Research assumes that recipients more strongly rely on anecdotal information than on statistical information (Baesler & Burgoon, 1994) when assessing the climate of public opinion, although the latter is more valid from an evaluative point of view (Baesler & Burgoon, 1994; Hoeken, 2001; O'Keefe, 1990; Taylor & Thompson, 1982).

One reason for these findings is that exemplars are easier to process than statistical information. A considerable amount of literature has been published on differences in information processing. Two-process models such as the elaboration-likelihood model (ELM) (Petty & Cacioppo, 1986) or the heuristic-systematic model (HSM) (Chaiken, Liberman, & Eagly, 1989) differentiate between two routes of information processing (ELM: central and peripheral route; HSM: systematic and heuristic route). These models assume that information is either being processed in a rational and thought-out way, or on the basis of heuristic rules of thumb (e.g., "experts have to be right" or "you can trust friends"). Petty and Cacioppo (1986) contend that the central route relies on arguments ("message or issue information"), whereas the peripheral route concentrates on "peripheral cues," such as the expert status of a communicator. Chen and Chaiken (1999) describe additivity, bias, and attenuation hypotheses, offering a framework for the co-occurrence of the two strategies.

This notion is in line with the unimodel (UM) (Erb & Kruglanski, 2005; Kruglanski, Pierro, Manetti, Erb, & Spiegel, 2006). The UM assumes that message effects result from conclusions that are based on different kinds of "evidence." Such evidence can be found in argument quality, but also in heuristic cues like information about the communicator or consensus information, that is, agreement of others (Erb & Kruglanski, 2005, p. 119). Recipients' judgments are thus not solely based on elements of either heuristic

or systematic processing, but rather on a combination of elements from both routes: systematic arguments are interpreted against the background of relevant heuristic cues (Erb & Kruglanski, 2005, p. 122). Exemplars can be regarded as heuristic or peripheral cues, and base-rate information can be considered to be "consensus information" when it refers to public opinion. Thus, both types of information are likely to be processed heuristically and therefore are likely to amplify biased perceptions of reality. Following the assumptions of the UM, exemplars and base-rate information can be linked with relevant background knowledge, such as general assumptions about the strength of media effects on others. Consistent findings show that some people exhibit TPP while others do not (Paul et al., 2000). Those people who exhibit TPP might then use these perceptions as background knowledge when judging public opinion on the basis of media content. Exemplars and base-rate information referring to public opinion can serve as heuristic cues and consensus information in this process. Thus exemplars and base-rate information are likely to be linked with existing background knowledge on how the media influence perceptions of reality, and are processed together.

With regard to the generalization of given information to public opinion, exemplification effects are mostly interpreted as a heuristic fallacy (Gilovich, Griffin, & Kahneman, 2002): recipients are thought to be more likely to perform their assessment of the climate of opinion based on vivid, more easily processed exemplars, rather than on more valid yet more complex and abstract base-rate information. Earlier studies have explained this fallacy in reference to the availability heuristic (Tversky & Kahneman, 1973): people prefer information that is easy to remember when assessing the climate of opinion. However, if presumed message effects on others play a role in these judgments, the heuristic fallacy must be theoretically reconsidered in exemplification effects: people might assume that the presented climate of opinion has a stronger influence on other recipients and, consequently, on the climate of opinion as a whole, including the individual behavior of others. If so, the heuristic fallacy of exemplification effects cannot only be explained as an availability heuristic, since people allege that others are strongly influenced by those messages.

So far, empirical studies have only taken the reverse relationship between exemplification effects and presumed media influences into account. Arpan (2009) and Schmierbach, Xu, and Boyle (2012) offer some evidence for an interrelation between the two concepts. Arpan (2009) tested the influence of the quantity and valence of exemplars in a media stimulus on the valence and strength of presumed media effects on others. The study shows a weak positive correlation between the two variables. Schmierbach, et al. (2012) demonstrate that perceived effects on others are stronger when an exemplar is used. The moderate effect sizes observed in the studies are not surprising since presumed media effects are usually very robust (see Sun et al., 2008). In light of these findings, it seems even more promising to investigate whether exemplification effects are influenced by an exaggerated assumption of media effects on others—especially among recipients without any previous attitude toward the issue in question.

### **Hypotheses**

This article is based on the similarities between exemplification effects and the theoretical assumptions of TPP (Davison, 1983; Xu & Gonzenbach, 2008). As we have argued, it is reasonable to suppose that this biased perception of the strength of media influences on self and others is relevant when

exemplars are processed. Furthermore, prior attitudes and experiences may not always be responsible for the finding that personal opinions are less influenced by exemplars than the perceived climate of public opinion. Alternatively, the conviction may prevail that others (and thus the public opinion) are more strongly influenced by exemplars presented in the media than the individuals themselves.

The objective of this study is to empirically test the assumption that exemplification effects are moderated by TPP and to discuss the results against the background of existing exemplification research. We know from exemplification research that exemplars presented in the media (a) influence the perception of the prevailing climate of opinion more strongly than the personal opinion of participants, and (b) have a greater overall influence than simultaneously presented base-rate information (see Brosius & Bathelt, 1994). Exemplars illustrate a given topic and thus more strongly influence what people think about an issue than base-rate information does. Therefore, exemplification is considered to be a robust and stable effect, which usually (an exception may be numerical abilities; see Gibson et al., 2011) cannot be explained by the states or traits of the recipients (Daschmann, 2004). This study uses a fictitious topic. Observed differences between exemplification effects on personal opinion and perceived climate of opinion therefore cannot primarily be explained by prior attitudes. In accordance with the findings of earlier research on exemplification, we hypothesize:

*H1a (exemplification effects in general):* Personal opinion, the perceived climate of opinion, and intended actions indicated by the participants will be more positive (vs. negative) after being shown a positive (vs. negative) exemplar.

*H1b (exemplification effect):* The influence of an exemplar, particularly on the perceived climate of opinion, is greater than the influence of competing base-rate information.

Since people prefer information that is easy to process when assessing the climate of opinion, the influence of exemplars on such assessments has proven to be strong. Exemplars that indicate a climate of opinion serve as heuristic cues for recipients' assessment of the public opinion. In contrast, personal opinion and intended actions are more strongly affected by prior attitudes and existing knowledge. Thus, we hypothesize that:

*H1c (exemplification effects on the climate of opinion):* The influence of the exemplar (positive vs. negative) is stronger on perceived climate of opinion than on personal opinion or intended actions.

The novelty this study adds to existing exemplification research is to examine the influence of TPP on exemplification effects. As a necessary condition for measuring any interactions, respondents must exhibit TPP in the first place. A large body of research has indicated that TPP can be considered to be a very stable perceptual phenomenon. Thus, we hypothesize that:

*H2 (TPP):* People assess the influence of exemplars (positive vs. negative) as being stronger on others than on themselves.

So far, we have argued that TPP should most notably influence the perceived climate of opinion resulting from exposure to exemplars. Because TPP result from the difference between presumed message effects on self and others, it is conceivable that TPP might also affect recipients' personal opinion and intended behaviors—and, therefore, moderate exemplification effects on these two levels.

Existing research on exemplification has shown that exemplars and base-rate information most strongly affect the perceived climate of opinion (and have a comparably weaker effect on personal opinion and intended behavior). Therefore, interaction effects of exemplars and TPP should be strong, particularly for perceived public opinion. If recipients factor presumed media influences on self and others into their assessments, exemplification effects on the perceived climate of opinion should be more pronounced than those on personal opinion and intended actions. From the perspective of information processing, it can be argued that TPP are more closely associated with heuristic information processing (McLeod et al. 2001 and therefore amplify the influence of exemplars on perceptions of reality. In order to test this assumption, our analysis distinguishes between people with and without TPP. The dichotomization leads to an ex-post-facto experimental design and results in a certain loss of explanatory power, since we cannot differentiate between weak and strong TPP. The same approach, however, has been used in other studies (e.g. Willnat, 1996) to test causalities of TPP. Therefore, we hypothesize that:

**H3a (interaction):** Personal opinion, perceived climate of opinion, and intended actions indicated by participants who exhibit TPP will be more positive (vs. negative) after being shown a positive (vs. negative) exemplar, compared to participants without TPP.

Existing studies have argued that exemplars and base-rate information can serve as heuristic cues and consensus information. Thus, they are likely to be linked to existing background knowledge. This knowledge could pertain to how the media influence perceptions of reality. If some people believe that a climate of opinion presented in the media exerts a strong influence on other recipients and, therefore, on the climate of opinion as a whole, exemplars will have a stronger influence on these people, particularly on their assessments of the climate of opinion.

**H3b:** The interaction effect of message valence and TPP is stronger for the perceived climate of opinion than for personal opinion or intended actions.

## Method

### Participants

To test our hypotheses about the interplay of exemplification effects and TPP, we conducted an experiment at a large university in southern Germany, for which  $n = 112$  students (70% female) from introductory communications courses volunteered. The average age of participants was  $M = 21.95$  years ( $SD = 3.03$ ). Students were asked to evaluate the layout and readability of a teacher rating website. Furthermore, because students were recruited in introductory courses, they had no previous knowledge of the theoretical framework of the third-person effect or of exemplification effects or prior attitudes and experiences with respect to the topic of the manipulated media stimulus they were shown. Given the sample size, the statistical power to detect large differences in sample group means was .95 (see Cohen, 1992; effect sizes were believed to be medium to large according to existing literature on exemplification

effects; an effect of  $d = .50$  can be regarded as a medium effect size, an effect of  $d = .80$  as a large effect; Brosius and Bathelt (1994), for example, show that the effect of exemplars that are either consistent or inconsistent with base-rate information ranges from  $d = 0.49$ – $1.09$  for different topics).

### **Materials**

Participants were shown one of four different printed versions of a screenshot displaying a German website for rating professors (comparable to [www.ratemyprofessors.com](http://www.ratemyprofessors.com)). We conducted an experiment with a  $2 \times 2$  between-subjects factorial design (i.e., valence of the exemplar [positive vs. negative], valence of base-rate information [positive vs. negative]). The screenshot showed ratings of a fictitious university professor who was said to teach communication studies at a German university. A short introduction to the screenshot explained that the professor was about to move from his current university to the university where the participants were studying. In this way, participants should, on the one hand, feel involved in the subject of the study, and, on the other hand, have no previous knowledge of, or attitudes toward, the professor. In the screenshot, several not completely “unfolded” user comments were shown, so that participants could only read some neutral first words, such as “In my opinion . . .”. Above all, the study focuses on the unfolded user commentary on the subject (a personal comment about the aforementioned professor and his teaching skills), which can be regarded as a vivid exemplar for the group of students who attended the professor’s lectures. The student in the exemplar goes on to describe the course with an integrated base rate by revealing how a precise number of other students felt about the course in question. The presentation of a single exemplar (ex) combined with base-rate information (br) on judgments about different issues is a common and ecologically valid approach (see Lyon & Slovic, 1976; Hamill, Wilson & Nisbett, 1980; Schmierbach, Xu & Boyle, 2012, p. 690). The student’s personal opinion in the exemplar depicted the course either in a positive manner (ex+: “. . . Professor W. . . . has always been helpful when questions arose . . .”) or in a negative manner (ex-: “. . . Professor W. . . . has never been helpful when questions arose . . .”). The base-rate information on the same course was presented in either a positive manner (br+: “. . . the other 13 students think that Professor W. has always been helpful”) or in a negative manner (ex-: “. . . the other 13 students think that Professor W. has never been helpful”).

### **Procedure**

Before and after being shown one of the four different versions of the screenshot, participants completed a questionnaire. Prior to being presented with the stimulus, participants were asked to reveal any predispositions that could result in bias in this context (e.g., “I routinely read/write comments online” or “I routinely use teacher rating websites for my personal course enrollment,” with answers ranging from 1, “strongly disagree,” to 5, “strongly agree”). Across conditions, no significant mean differences could be observed concerning these measures. After being shown the screenshot, participants answered a second questionnaire that specifically focused on the core outcome measures (personal opinion, climate of opinion, behavioral intention) and on more general evaluations of the website as compared to [ratemyprofessor.com](http://ratemyprofessor.com) (e.g., “Websites like [ratemyprof.com](http://ratemyprof.com) only show tendencies,” with answers ranging from 1, “strongly disagree,” to 5, “strongly agree”). Furthermore, volunteers were asked about their perceptions of the stimulus itself (e.g., “the screenshot was credible/not credible,

interesting/uninteresting, comprehensible/incomprehensible," etc., measured on a 5-step semantic differential) and their knowledge of either the course or the teacher in the stimulus (both measured with yes/no questions). No significant mean differences were observed in any of these categories, and, as expected, few participants had prior knowledge of the university or the professor (no knowledge of the university: 94%; no knowledge of Professor W.: 100%). Further analysis focused on the difference of exemplification effect sizes for these different dependent measures, as well as on interactions of these measures with TPP.

### **Measures**

To ascertain exemplification effects, participants were asked about their overall impressions of the course, their personal opinion about the course, and the probability of their enrolling in the course. The latter item was used as an indicator of intended future behavior. The central dependent measures for our data analysis were indices (three items for the perceived climate of opinion, Cronbach's  $\alpha = .80$ , e.g., "Students of his university think Professor W. is a good teacher"; two items for personal opinion, Cronbach's  $\alpha = .81$ , e.g., "I think Professor W. is a good teacher"; a single item measuring the probability of application, e.g., "I would enroll in a course by Professor W.," with answers ranging from 1, "strongly disagree," to 5, "strongly agree").

TPP usually occur with undesirable messages. Their influence is thought to be higher on others than on self. To test the desirability of the stimulus' effects, we asked the participants if students, in general, should consider ratings on teaching evaluation websites when forming an impression of lecturers. Participants responded on a 5-point scale (1 = "students should consider teaching evaluation websites"; 5 = "students should not consider teaching evaluation websites"). Responses indicated that participants differed in their evaluation of the desirability of being influenced by teacher rating websites ( $M = 2.5$ ;  $Mdn = 2.0$ ;  $mode = 2.0$ ;  $skewness \gamma = 0.04$ ), thus TPP were likely to be observed in one part of the sample but not in the remainder of participants.

The perceived influence of the media message on the participants themselves, as well as on other students, was measured on a 5-point scale ranging from 1, "very weak," to 5, "very strong" ("My opinion of Professor W. is influenced by the user comment"; "The opinion of other students from the university of Professor W. is influenced by the user comment"). For data analysis, TPP are scaled as a subtractive measurement (perceived influence on others minus perceived influence on oneself), as is most prevalent in communication research (Schmierbach, Boyle, & McLeod, 2008, p. 498). Finally, we differentiated between people with TPP and people without, which is typical in research on third-person effects (see Willnat, 1996). To do so, we constructed a binary variable (TPP/no TPP) as an ex-post-factor to indicate the presence of TPP.

### **Results**

#### **Exemplification Effect**

H1a was tested with a MANOVA procedure (multivariate analysis of variance) in a general linear model. Positive vs. negative exemplars as well as positive vs. negative base-rate information were entered



into the model as binary independent variables. Personal opinion, perceived climate of opinion, and intended actions were entered as continuous dependent variables. Results showed strong effects of the exemplar on participants' personal opinion ( $F = 57.82, MSE = 16.55, p = .001, df = 1, \eta^2 = .36$ ), as well as on the perceived climate of opinion ( $F = 254.80, MSE = 98.98, p = .001, df = 1, \eta^2 = .71$ ) and on their future intended behavior ( $F = 20.43, MSE = 11.23, p = .001, df = 1, \eta^2 = .16$ ). The respective means of the three central dependent variables, shown in Figure 1, point in the hypothesized direction. This shows that the mean estimation of the three dependent variables was more positive when the participants were shown positive exemplars. H1a is therefore supported by the data.

With regard to existing findings on exemplification effects, hypothesis H1b postulates that exemplars have a larger impact on participants than simultaneously presented base-rate information, especially in terms of assessments of the climate of opinion. This hypothesis was tested with a generalized linear regression model (GLM). For this procedure, both types of information were entered separately into the linear model as independent variables (i.e., positive vs. negative exemplars and positive vs. negative base-rate information). Perceptions of the climate of opinion were entered as the only dependent variable in the model. The GLM demonstrated that the impact of an exemplar on the perceived climate of opinion ( $F_{ex}(1, 111) = 262.78, MSE = 100.71, p = .001, \eta^2 = .71$ ) is larger than the impact of simultaneously presented base-rate information ( $F_{br}(1, 111) = 13.39, MSE = 5.13, p = .001, \eta^2 = .11$ ). Thus, H1b is also supported by the data.

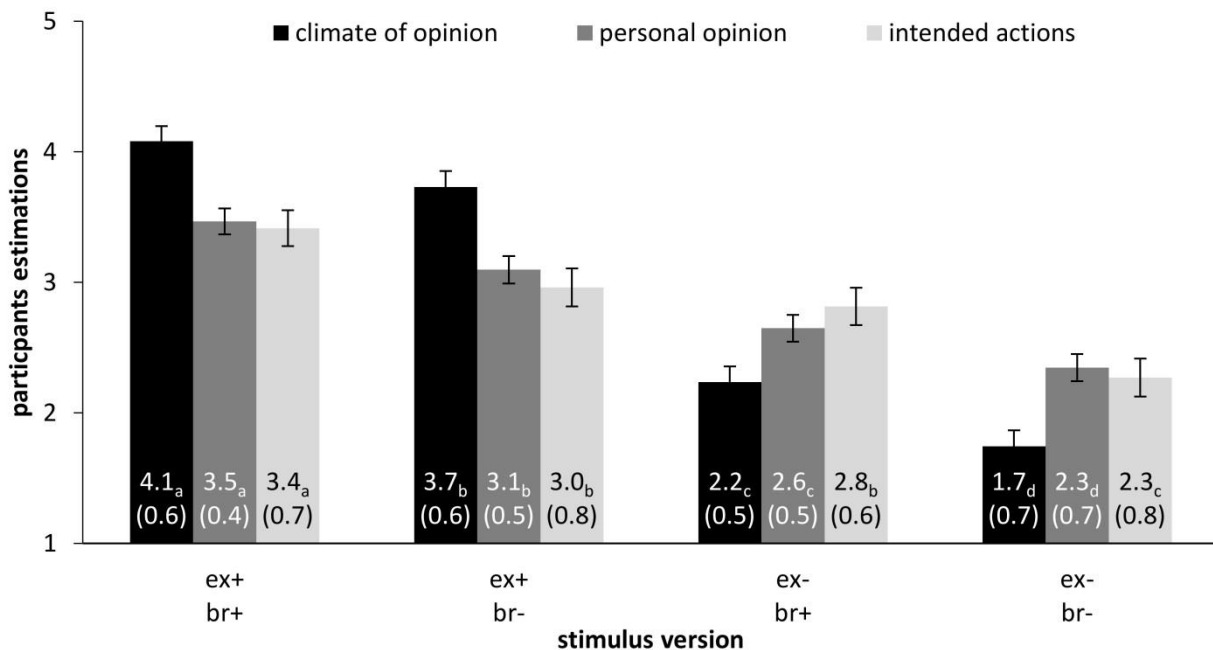


Figure 1. Mean differences (average agreement on 5-point Likert-like scales) representing exemplification effects of a ratings website screenshot on the perceived climate of opinion, personal opinion, and intended actions. Standard errors are represented in the figure by the error bars attached to each column. Means

(with standard deviations in parentheses) sharing similar subscripts differ significantly ( $p < .05$ ). Duncan's post-hoc test.  $n = 108-111$ . Scale from 1, "negative perceptions of the climate of opinion," to 5, "positive perception of the climate of opinion."

Furthermore, it is apparent from Figure 1 that exemplars exert the strongest influence on the perceived climate of opinion, which can be statistically tested by a comparison of effects size (in this case  $f$ ) measures. Data support H1c, since the impact of the stimulus is indeed strongest for perceived public opinion ( $f = .84$ ,  $SE = .11$ ), as compared to the impact on personal opinion ( $f = .63$ ,  $SE = .07$ ) or on intended future actions ( $f = 0.49$ ,  $SE = .08$ ). The respective Q-test according to Cochran (1954) is  $Q = 6.9$  ( $df = 2$ ,  $p < .05$ );  $I^2$  according to Higgins, Thompson, Deeks, and Altman (2003) is 71.0%—a moderate heterogeneity of observed effects. Thus, H1c is supported by the data.

Taken together, the present study confirms earlier findings on exemplification effects. In all experimental conditions, exemplars exert a stronger influence on recipients than the statistically more valid, yet less vivid, base-rate information (confirmed H1a), especially when it comes to assessments of the climate of opinion (confirmed H1b). This effect holds true not only for these assessments, but also for personal opinion and behavioral intentions insofar as influences of the stimulus were observable. In addition, exemplars were found to have the largest impact on the perceived climate of opinion (confirmed H1c). Our findings further corroborate the idea that differences among exemplification effects, particularly when their influence on the climate of opinion and personal opinion is assessed, do not necessarily depend on previous attitudes or knowledge.

### **Third-Person Perceptions**

The second hypothesis (H2) focuses on TPP, which are regarded as a stable perceptual phenomenon. TPP generally occur with undesirable messages, the influence of which is thought to be greater on others than on self, as described in the measures section. We differentiated between people who show TPP toward the issue in question and those who do not show this perceptual bias. To this end, we directly asked participants for the presumed influence of the stimulus on their opinion of the course and the professor described in the stimulus. In addition, we measured the estimated influence of the stimulus on other university students' opinion of the course and the professor. We know from third-person effects research that according to the social distance corollary (Cohen, Mutz, Price, & Gunther, 1988), socially distant people are thought to be more likely to be influenced by a certain media message from an observer's point of view than a group that is socially closer to the observer. Paired-samples  $t$ -tests demonstrated statistically significant differences between the estimated impact of the stimulus on the participants themselves compared to the impact on other students at their university— $t(110) = 2.38$ ,  $p = .02$ —as well as between the participants and the students of the university in the stimulus— $t(110) = 6.47$ ,  $p = .001$ . These results indicate that individuals in the study estimated the impact of the stimulus on themselves as lowest ( $M = 2.94$ ,  $SD = 1.01$ ), on other students of their university as greater ( $M = 3.14$ ,  $SD = 0.97$ ) than on themselves, but strongest on the students of the university in the stimulus ( $M = 3.57$ ,  $SD = 0.94$ ). Hence, this finding provides further support for the social distance corollary. H2 is confirmed.

For further analyses, TPP are regarded as a quasi-experimental factor in comparing the effects of exemplars to the different dependent variables between people with TPP and those without TPP. For this purpose, we recoded third-person perception scores into a binary variable (TPP/no TPP). The scores were calculated as the difference between the estimated influence of the stimulus on the participants themselves and the estimated influence of the stimulus on the students from the university in the stimulus (negative difference: TPP; positive difference: no TPP). Binary variables calculated the same way are often used in third-person research (see Willnat, 1996). In each of the four experimental groups, nearly the same number of participants showed TPP,  $\chi^2(3, 111) = 0.37, p = .95$ . Between groups, the total number of participants showing TPP ranged from 50% to 57%—a moderate percentage compared to other studies in the field. Participants generally viewed the stimulus as positive, which may have led to a greater amount of weak or even reversed TPP (see Duck, Terry, & Hogg, 1995).

### ***Interactions Between Exemplification Effects and TPP***

The third hypothesis focuses on the interaction between TPP and exemplification effects. We hypothesize that exemplification effects are stronger for people who show TPP than for those who do not (H3a). Additionally, we hypothesize (H3b) that interaction effects between TPP and exemplification effects are strongest for assessments of the climate of opinion. This hypothesis was tested with a MANOVA procedure. The three dependent variables—personal opinion, perceived climate of opinion, and intended actions—were entered into a multivariate variance analysis with the original experimental factors as the independent variables [valence of exemplar (positive vs. negative)  $\times$  valence of base-rate information (positive vs. negative)] and TPP as a quasi-experimental factor (i.e., the quasi-experimental binary variable TPP/no TPP). This was done because, in this particular context, exemplification effects depend on the valence of the stimulus and, therefore, cannot be regarded in isolation. The MANOVA shows significant multivariate main effects for the valence of the exemplar [Wilk's  $\lambda = .27, F(3, 98) = 86.79, p = .001, \eta^2 = .73$ ] and for the valence of the base-rate information [Wilk's  $\lambda = .81, F(3, 98) = 7.75, p = .001, \eta^2 = .19$ ], in contrast to TPP, which have no significant main effect [Wilk's  $\lambda = .97, F(3, 98) = 0.98, p = .41, \eta^2 = .03$ ] on the dependent variables. Nevertheless, a significant main interaction effect of exemplars and TPP can be observed [Wilk's  $\lambda = .92, F(3, 98) = 3.02, p = .03, \eta^2 = .09$ ].

Given the significance of the overall tests, the univariate main effects and interaction effects were examined. Significant univariate main effects of exemplars can be obtained for personal opinion [ $F(1, 100) = 56.70, p = .001, \eta^2 = .36$ ], the climate of opinion [ $F(1, 100) = 250.38, p = .001, \eta^2 = .72$ ], and intended actions [ $F(1, 100) = 18.63, p = .001, \eta^2 = .16$ ]. Moreover, significant univariate main effects of base-rate information can be observed for personal opinion [ $F(1, 100) = 10.12, p = .002, \eta^2 = .09$ ], climate of opinion [ $F(1, 100) = 13.24, p = .001, \eta^2 = .12$ ], and intended actions [ $F(1, 100) = 12.06, p = .001, \eta^2 = .11$ ]. The interaction effect is only significant for assessments of the climate of opinion and yielded in the hypothesized direction (see Figure 2): for people who show TPP, in particular, assessments of the climate of opinion are more positive when a positive exemplar is shown ( $M_{noTPP/ex+} = 3.7, SD = 0.1/M_{TPP/ex+} = 4.1, SD = 0.1$ ), and more negative when a negative exemplar is shown ( $M_{noTPP/ex-} = 2.1, SD = 0.1/M_{TPP/ex-} = 1.9, SD = 0.1, F(1, 108) = 5.98, p = .02, \eta^2 = .06$ ). This interaction can best be described as an ordinal interaction (Leigh & Kinnear, 1980).

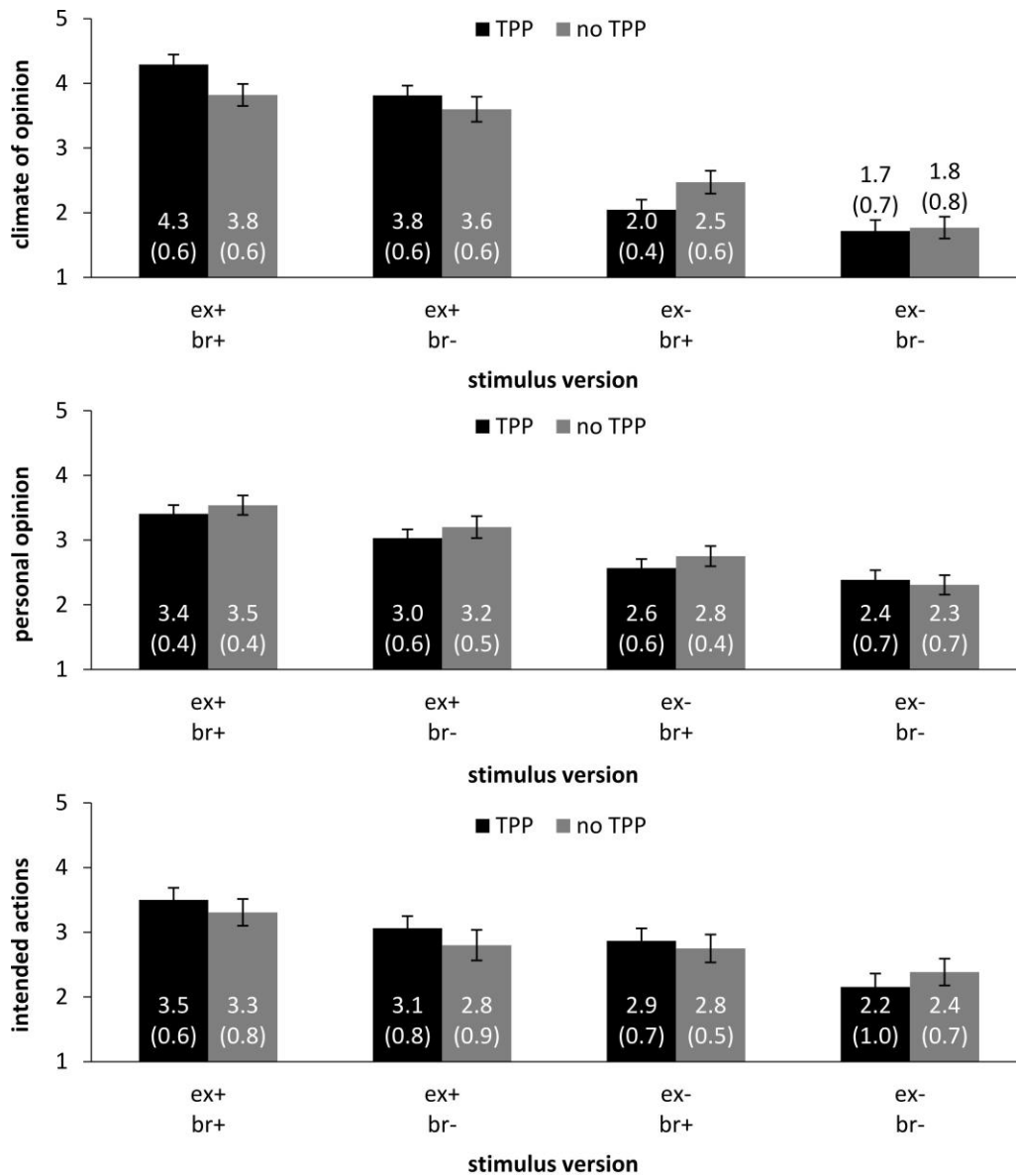


Figure 2. Mean differences (average agreement on 5-point Likert-like scales) representing exemplification effects of a ratings website screenshot on the perceived climate of opinion, personal opinion, and intended actions for participants with and without TPP. Standard errors are represented in the figure by the error bars attached to each column. Means (with standard deviations in parentheses),  $n = 111$ . Scale from 1, "negative perceptions of the climate of opinion," to 5, "positive perception of the climate of opinion."

Although not significant, the findings on interaction effects for the personal opinion of the participants are interesting: those who believe they are more strongly influenced by a media stimulus than other people are, or that the media influence is of approximately the same strength (i.e., no TPP), are more influenced by exemplars in their personal opinion [ $F(1, 108) = 0.21, p = .65, \eta^2 = .01$ ]. This finding can be regarded as a first-person effect of the group without TPP (see Golan & Day, 2008). Hence, the presence of TPP can amplify existing exemplification effects in terms of the perceived climate of opinion and might also reduce exemplification effects on personal opinion.

With regard to participants' intended future actions, no significant interaction between exemplification effects and TPP can be observed [ $F(1, 108) = 0.95, p = .33, \eta^2 = .01$ ]. Therefore, H3a can only be confirmed partially, for the perceived climate of opinion. This, however, supports H3b, since the only observable interaction effect is indeed for the climate of opinion. Finally, to put our results in relation to existing research on both theoretical topics, it is important to emphasize that the size of the main effects (i.e., the influence of an exemplar on the perceived climate of opinion) is larger than the interaction effect, and thus less susceptible to inferential fallacy.

### Discussion

As in other experiments, we observed an exemplar's valence had exceptional influence on recipients' perceptions of the climate of opinion. Our findings show that TPP amplifies exemplification effects—most notably with respect to the perceived public opinion. People who assume that others are more vulnerable to message effects than they themselves are were found to be more easily swayed by the position presented in the exemplars when they assess the climate of opinion. This indicates an indirect effect. People's assessments of the messages seem to take into account the presumed reactions of others. However, the interaction effect of the valence of an exemplar and TPP remains smaller compared to the main effect of the stimulus. Our findings show that participants who do not have TPP are also subjected to nearly the same exemplification impact as those who do have such perceptions. Therefore, TPP cannot explain exemplification effects to a great extent: even without TPP, exemplification effects still occur, although TPP are able to amplify the effects. Moreover, our experimental design eliminated prior attitudes as a possible explanation of this difference. Because of this, it seems important to discuss alternative explanations for the finding that exemplification effects are stronger for perceived climate of opinion than for personal opinion. The difference between an individual's own opinion and perceived climate of opinion cannot, as suggested by Brosius (1995, p. 293), merely be explained by prior attitudes. In fact, our findings are in line with existing research that experimentally tested the effects of prior attitudes on exemplification effects: Daschmann (2001) shows that prior attitudes can marginally diminish exemplification effects, but nevertheless, exemplification effects persist even in situations where prior attitudes or even repeated personal experiences prevail. Our results show that presumed media influence can partially explain the observable difference in effect strength. However, future research has to further explore moderators of the strength of exemplification effects on personal opinion and perceived public opinion.

### ***Limitations***

The study has several limitations. First, participants were shown a printed screenshot of a website. This is a crucial shortcoming in respect to the external validity of the study. But testing for exemplification effects in an online environment might have entailed other flaws: while being shown exemplification stimuli in a nonrestricted online situation, people might have searched for further information on the particular subject in the course of the experiment. This could have been an obstacle to exemplification effects. Participants might have realized that the issue, the public opinion, or the author of the exemplar had been fictitious and manipulated. Therefore, we preferred to use a controlled printed screenshot of a popular online rating website. Participants were familiar with this kind of information and with other examples of such information online.

Second, we have already mentioned that we chose a rather unusual stimulus integrating a subjective base rate into an exemplar—this is primarily the result of the pretest of several other stimulus versions ( $n = 288$ ; nine different stimuli). The particular version of the stimulus was selected because it amounted to the largest difference between exemplification effects on personal opinion and perceived climate of opinion. Nevertheless, future studies should investigate how other forms of exemplar and base-rate presentation affect the findings of this study and replicate findings on the interactions between TPP and exemplification effects.

Third, the desirability of being influenced by the stimulus in question was held constant across conditions. As desirability is the strongest predictor of TPP (Eveland & McLeod, 1999), it should be manipulated by future studies. This would be one suggestion for an experimental approach for further investigating TPP within the theoretical framework of exemplification effects.

### ***Conclusion***

Still, our findings have wide-ranging consequences: on the one hand, we have reinforced the relevance of presumed media influences in general, and, on the other hand, we have established a theoretical framework for TPP in the field of exemplification effects. Cappella (2006) differentiates between complementary classes of persuasion theories, including categories on information processing, behavior change, and message effects. He classifies exemplification effects in the latter category, which represents theories of small or middle range. However, Capella underlines connections between such theories and the theories of information processing and behavior change. Following this approach, we examined the influence of presumed media influence on the processing of exemplary information and the dependent variables personal opinion, intended behavior, and perceived climate of opinion. With this approach, we can support an alternative explanation to the well-demonstrated finding that exemplification effects on the perceived climate of opinion are much stronger than on personal opinion.

The ideas presented here are worth further examination and development. The data analysis presented in this article is constrained to the correlational demonstration of an interaction effect between exemplification effects and third-person perception. Future studies should also consider modeling the observed mechanism through structural equation modeling. Such modeling can more accurately highlight

causation between the interacting variables observed here. Considering the weak effect size of the interaction, future data analyses should also test for single effects of presumed media influence on the self, differentiated from the others (in contrast to their combination in TPP).

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