
The TAR Effect: When the Ones Who Dislike Become the Ones Who Are Disliked

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Four studies tested whether a source's evaluations of other individuals can recursively transfer to the source, such that people who like others acquire a positive valence, whereas people who dislike others acquire a negative valence (Transfer of Attitudes Recursively; TAR). Experiment 1 provides first evidence for TAR effects, showing recursive transfers of evaluations regardless of whether participants did or did not have prior knowledge about the (dis)liking source. Experiment 2 shows that previously but not subsequently acquired knowledge about targets that were (dis)liked by a source overrode TAR effects in a manner consistent with cognitive balance. Finally, Experiments 3 and 4 demonstrate that TAR effects are mediated by higher order propositional inferences (in contrast to lower order associative processes), in that TAR effects on implicit attitude measures were fully mediated by TAR effects on explicit attitude measures. Commonalities and differences between the TAR effect and previously established phenomena are discussed.

Keywords: *attitude formation; cognitive balance; implicit measures; persuasion; transference*

Imagine yourself at a party, witnessing a conversation of a small group of people about a person you do not know and who apparently could not make it to the festivities. At some point of the conversation, one of the involved individuals endorses a negative evaluation of that person. According to previous research on persuasion, this information may influence your own attitude toward the target person under certain conditions (Albarracín, 2002; Chen & Chaiken, 1999; Kruglanski & Thompson, 1999; Petty & Wegener, 1999). However, is it possible that the communicated evaluation also affects your attitude toward the person that

endorsed the evaluation? Is it possible that an endorsed attitude toward another individual recursively transfers to the person holding that attitude, such that communicators become associated with their endorsed evaluation? The main goal of the present research was to test this possibility. Specifically, we aimed at providing first evidence for what we label the TAR effect (Transfer of Attitudes Recursively), which refers to the recursive influence of an observed evaluation on the formation of a corresponding attitude toward the source of that evaluation. In addition, the present research tested some important boundary conditions of TAR effects and alternate predictions regarding their underlying mechanisms.

Sources as Causes Versus Targets of Attitude Change

The most common approach to studying the formation and change of attitudes in social psychology is the persuasion paradigm (for a review, see Johnson, Maio, & Smith-McLallen, 2005). In a typical persuasion study, participants are presented with either strong or

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weak arguments endorsing a particular evaluation of an attitude object, with the presumed source of the message varying in terms of message-relevant (e.g., expert vs. nonexpert) or message-irrelevant (e.g., attractive vs. unattractive) characteristics. Despite significant differences between various theories of persuasion, the central tenet in all of these theories is that source characteristics can influence recipients' evaluations of the attitude object under certain conditions (e.g., Albarracín, 2002; Chen & Chaiken, 1999; Kruglanski & Thompson, 1999; Petty & Wegener, 1999). This influence can be direct when source characteristics directly transfer to the attitude object (e.g., likability of the source influencing the likability of the object; Walther, Nagengast, & Trasselli, 2005) or indirect when source characteristics influence the interpretation of the message (e.g., source expertise influencing the perceived strength of the arguments; Bohner, Ruder, & Erb, 2002).

Irrespective of the direct versus indirect nature of these effects, both cases imply that source evaluations function as a determinant of recipients' attitudes toward the target object (i.e., independent variable). However, there is only little research that has looked at source evaluations as a potential target of message-related effects (i.e., dependent variable). One notable exception is the so-called kill-the-messenger effect, which describes the phenomenon that transmitters of a message often become associated with the valence of the message they convey (for a discussion, see Walther et al., 2005). For instance, a study by Manis, Cornell, and Moore (1974) has shown that listeners evaluated transmitters of a message more favorably when the conveyed message supported the listeners' views than when it supported an opposing view. Importantly, this effect emerged even though it was clear that transmitters did not necessarily agree with the messages that they had to convey.

The present research expands on these findings by investigating recursive transfers of observed evaluations to the source of those evaluations. Focusing on TAR effects in the domain of interpersonal attitudes, we were particularly interested in whether a source's evaluations of other individuals can recursively transfer to the source, such that people who like other individuals acquire a positive valence, whereas people who dislike other individuals acquire a negative valence. Such recursive transfers go beyond previous research on persuasion by treating source evaluations as the target rather than a causal factor of attitude change. In addition, TAR effects differ from previously obtained kill-the-messenger effects, in that (a) TAR effects imply that sources indeed endorse the evaluation they convey and (b) TAR effects do not require that listeners hold an a priori attitude toward the subject of the message (i.e., the person that is liked or disliked by the source). In

fact, such a priori attitudes may even counteract the emergence of TAR effects, when such effects violate the basic principles of cognitive balance (Heider, 1958).

Underlying Mechanisms

From a theoretical perspective, there are at least two mechanisms that may contribute to TAR effects. First, the evaluation endorsed by a given source may function as a positive or negative unconditioned stimulus (US) that becomes associated with a formerly neutral, conditioned stimulus (CS)—in this case, the person endorsing the evaluation (see Walther et al., 2005). Research on evaluative conditioning (EC) has shown that such pairings can influence subsequent evaluations of the CS, such that CS that are repeatedly paired with positive US acquire a positive valence, whereas CS that are repeatedly paired with negative US acquire a negative valence (for a review, see De Houwer, Thomas, & Baeyens, 2001). Thus, a source who repeatedly endorses a positive or negative evaluation of other individuals may become associated with that evaluation, thereby influencing recipients' attitudes toward the source.

Alternatively, people may make deliberate inferences regarding the likability of individuals who repeatedly endorse positive or negative evaluations of other individuals. This notion of behavioral distinctiveness plays a significant role in theories of attribution, stating that low levels of distinctiveness indicate a causal origin in the actor rather than the stimulus object (Försterling, 1989; Kelley, 1973; Pruitt & Insko, 1980). Applied to TAR effects, low distinctiveness of a source's evaluations may indicate that these evaluations are caused by something in the person endorsing these evaluations rather than by something in the target of the evaluation. Thus, recipients may deliberately infer that sources who tend to like others are themselves likable whereas sources who dislike others may be dislikable.

Notwithstanding the plausibility of each of the two processes, they are quite different in terms of their underlying learning mechanisms. Whereas EC effects may be driven by lower order associative processes, the proposed attributional mechanism may involve higher order propositional inferences (see Gawronski & Bodenhausen, 2006). Specifically, EC-related pairings of CS and US may change recipients' associations in memory, and this change may occur outside of conscious awareness and without requiring any type of higher order inferences (e.g., Baeyens, Eelen, & van den Bergh, 1990; De Houwer, Hendrickx, & Baeyens, 1997; Hammerl & Grabitz, 1996; Walther & Nagengast, 2006). In contrast, causal induction using the principles of covariation (Försterling, 1989; Kelley, 1973; Pruitt & Insko, 1980) has been shown to involve higher order

cognitive processes (Gilbert, 1995; Hamilton, 1998), implying a propositional learning mechanism that is distinct from the associative mechanism underlying EC (for a discussion, see De Houwer, Vandorpe, & Beckers, 2005). Thus, TAR effects may be the result of either a lower order associative learning mechanism or higher order propositional inferences.

In the present research, we aimed at providing first evidence for TAR effects, such that people acquire the valence that is implied by their evaluations of other individuals. In addition, we investigated some important boundary conditions of TAR effects—namely, the role of prior knowledge about the (dis)liking source (Experiment 1) and the impact of prior versus posterior knowledge about the (dis)liked target (Experiment 2). Finally, we tested whether TAR effects are mediated by lower order associative mechanisms, as implied by the EC account, or by higher order propositional inferences, as implied by the attributional account (Experiments 3 and 4).

EXPERIMENT 1

The main goal of Experiment 1 was to provide first evidence for TAR effects, implying that observed evaluations of other individuals may recursively transfer to the person endorsing those evaluations. In addition, we investigated whether TAR effects depend on prior knowledge about the (dis)liking source. For this purpose, participants were presented with information about pairs of individuals, indicating that one of the two individuals either likes or dislikes the other one. For some of the (dis)liking sources, participants received either positive or negative information beforehand; for others, participants received no prior information. Finally, all participants rated how much they liked or disliked each of the individuals presented during the impression formation task.

Method

Participants and design. Thirty-nine undergraduates (29 female, 10 male) participated in a study on impression formation in return for course credit. The experiment consisted of a 3 (prior information about source: positive vs. negative vs. no information) \times 2 (observed evaluation: source likes target vs. source dislikes target) within-subjects design.

Materials and measures. The stimulus material consisted of black-and-white portrait photographs of 17 male individuals adapted from Walther (2002). The pictures were selected on the basis of pretests conducted by Gawronski, Walther, and Blank (2005). Of the 17 neutral pictures chosen for the present study, we selected

pictures of 5 individuals to be used as targets of an observed evaluation. The remaining 12 pictures were used as the sources of an observed evaluation. The 12 pictures were divided into 6 sets of 2 pictures each, which were counterbalanced across the six experimental conditions implied by the manipulations of prior information about source (i.e., positive vs. negative vs. no information) and observed evaluation (source likes target vs. source dislikes target). The dependent measure consisted of likability ratings, asking participants to rate how much they liked each of the 17 individuals on 9-point rating scales ranging from 1 (*not at all*) to 9 (*very much*).

Procedure. When participants arrived at the lab, they were welcomed by an experimenter and seated in a cubicle in front of a computer. Written instructions on the computer screen asked participants to imagine that they have just started a new job in a company and hence are interested in getting acquainted with their new colleagues. Participants were then presented with pictures of several (source) individuals and positive or negative statements about these individuals (e.g., likes to help new colleagues to incorporate, often insults the secretary). Four individuals were presented with positive information and four individuals were presented with negative information. Three statements were presented for 8 source individuals, resulting in a total of 24 trials. For the remaining 4 source individuals, participants received no information. Participants' task was to form an impression of the individuals presented on the screen. Picture–statement pairs were randomly presented one by one for 7,000 ms with an intertrial interval of 1,000 ms.

After this task, participants were asked to imagine that they were now acquainted with some of their new colleagues but that they were still unfamiliar with others. However, within their 1st week, they have learned a lot about the relations between their colleagues. Participants were then presented with pairs of source and target individuals. Source individuals were presented on the left side of the screen. Target individuals were presented on the right side of the screen. Additionally, one of the two relations “likes” or “dislikes” was presented in the center of the screen, indicating the attitude of the source individual on the left toward the object individual on the right, as implied by reading direction. For half of the source individuals, the presented relation was positive (i.e., likes); for the remaining half, the relation was negative (i.e., dislikes). Pairs of individuals were randomly presented for 5,000 ms with an intertrial interval of 1,000 ms. Participants' task was to form impressions of the individuals presented on the screen. Each of the 12 source individuals was paired once with each of the 5 object individuals, resulting in a total of 60 trials. After this task,

participants were asked to rate the likability of each of the 12 sources.

Results

Likability ratings of the sources were merged as a function of the six experimental conditions implied by prior information (positive vs. negative vs. no information) and observed evaluation (source likes target vs. source dislikes target). Likability scores were aggregated by calculating mean values. Submitted to a 3 (prior information about subject) \times 2 (observed evaluation) ANOVA for repeated measures, these scores revealed a highly significant main effect of prior information, $F(1, 38) = 204.74$, $p < .001$, $\eta^2 = .843$ (see Figure 1). Consistent with the intended manipulation, attitudes were highly positive for sources initially presented with positive information, neutral for sources with no prior information, and negative for sources initially presented with negative information. Post hoc comparisons revealed that likability ratings for sources with no prior information differed significantly from ratings for sources with positive information, $F(1, 38) = 369.33$, $p < .001$, $\eta^2 = .907$, and from sources with negative information, $F(1, 38) = 36.36$, $p < .001$, $\eta^2 = .489$. Ratings for sources with positive information also differed significantly from ratings for sources with negative information, $F(1, 38) = 204.75$, $p < .001$, $\eta^2 = .843$. More important to the present hypotheses, a significant main effect of observed evaluation indicated that sources were rated more positively when they liked other individuals than when they disliked other individuals, $F(1, 38) = 8.15$, $p = .007$, $\eta^2 = .177$. This main effect was not qualified by an interaction of prior information and observed evaluation, $F(1, 38) = 0.01$, $p = .91$, $\eta^2 < .001$. Instead, the main effect of observed evaluation was significant for all prior information conditions: positive prior information, $F(1, 38) = 5.08$, $p = .03$, $\eta^2 = .118$, negative prior information, $F(1, 38) = 4.36$, $p = .04$, $\eta^2 = .103$, and no prior information, $F(1, 38) = 5.97$, $p = .02$, $\eta^2 = .136$.

Discussion

Results from Experiment 1 provide first evidence for the TAR effect, indicating that people's evaluations of other individuals can recursively transfer to themselves. In the present study, the sources of an observed evaluation were evaluated more positively when they liked than when they disliked other individuals. This effect emerged regardless of participants' prior knowledge about the (dis)liking source, such that TAR effects occurred for both unfamiliar, neutral sources and familiar sources for which participants already held a positive or negative attitude.

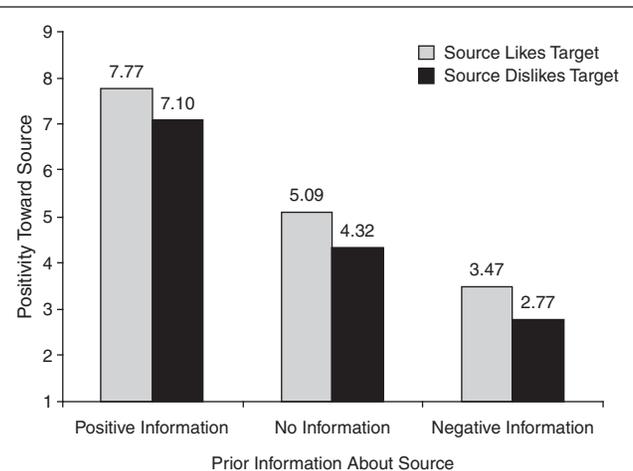


Figure 1 Experiment 1: Mean positivity toward source individual as a function of prior information about source (positive information vs. no information vs. negative information) and source's attitude toward target individual (source likes target vs. source dislikes target).

EXPERIMENT 2

The main goal of Experiment 2 was to test the role of prior knowledge about the (dis)liked target individuals as a potential boundary condition for TAR effects. According to balance theory (Heider, 1958), people tend to like individuals who are liked by their friends but dislike individuals who are disliked by their friends. Conversely, people tend to dislike individuals who are liked by people they personally dislike but tend to like individuals who are disliked by people they personally dislike (e.g., Aronson & Cope, 1968; Gawronski et al., 2005). This prediction has important implications for potential boundary conditions of TAR effects. Even though cognitive balance and the TAR effect imply the same outcome for sources who like or dislike positively evaluated targets, the two principles imply different outcomes for sources who like or dislike negatively evaluated targets. Specifically, both cognitive balance and the TAR effect imply that sources should be evaluated more favorably when they like than when they dislike a positively evaluated target. However, whereas the TAR effect implies that sources should be evaluated as more favorable when they like than when they dislike a negatively evaluated target, balance theory predicts that sources should be evaluated as less favorable when they like than when they dislike a negatively evaluated target. Drawing on these considerations, the main goal of Experiment 2 was to test the role of evaluative knowledge about the (dis)liked targets as a potential boundary condition for TAR effects.

In this context, we were also interested in the potential role of timing-related factors. Gawronski et al.

(2005) have shown that cognitive balance influences the formation of interpersonal attitudes only when people hold a positive or negative attitude toward a source at the time they learn about the source's evaluation of another individual, but not when they receive positive or negative information about the source after they learn about the source's sentiments. Even though Gawronski et al.'s (2005) study investigated balance effects on attitudes toward the target (rather than the source), their findings suggest that the emergence of cognitive balance versus TAR effects may depend on the particular order of information acquisition. Specifically, cognitive balance may override TAR effects when observers have prior knowledge about a (dis)liked target. However, TAR effects may conversely override cognitive balance when observers acquire evaluative knowledge about the (dis)liked target after they learned about the evaluation endorsed by the (dis)liking source.

To test these assumptions, participants were presented with either positive or negative information about several target individuals. In addition, participants learned that these target individuals were either liked or disliked by unfamiliar, neutral source individuals. To test the potential impact of timing-related factors, half of the participants received the evaluative information about the (dis)liked target individuals first, whereas the remaining half learned about the evaluation endorsed by the (dis)liking source individual first. Finally, all participants rated how much they liked or disliked each of the individuals of the impression formation task.

Method

Participants and design. Sixty-two undergraduates (46 female, 16 male) participated in a study on impression formation in return for course credit. The experiment consisted of a 2 (information about target: positive vs. negative) \times 2 (observed evaluation: source likes target vs. source dislikes target) \times 2 (order: target information first vs. observed evaluation first) mixed-model design, with the first two factors as within-subject variables and the last factor as between-subjects variable. Due to a computer malfunction, data from 3 participants were only partially recorded and thus excluded from analyses.

Materials and measures. A total of 18 black-and-white portrait photographs of neutral males were adapted from Walther (2002), based on pretest data by Gawronski et al. (2005). Of these 18 pictures, we created 2 sets of 3 pictures to be used as target individuals. The remaining 12 pictures were divided into 4 sets of 3 three individuals to be used as source individuals. The picture sets for both source and target individuals were fully counterbalanced across the four experimental conditions

implied by the manipulations of prior information about target (positive vs. negative) and observed evaluation (source likes target vs. source dislikes target). The dependent measure consisted of likability ratings, asking participants to rate how much they liked each of the 18 individuals on a scale ranging from 1 (*not at all*) to 9 (*very much*). Likability ratings were aggregated according to the procedures described for Experiment 1.

Procedure. The general procedure was identical to Experiment 1 with one exception: Whereas participants in Experiment 1 received evaluative information about the source individuals, participants in Experiment 2 were presented with evaluative information about the target individuals. In the first part of the study, participants were presented with pictures of target individuals and positive or negative statements about these individuals. One set of three target individuals was presented with positive information; the other set was presented with negative information. Four statements were presented for each target individual, resulting in a total of 24 trials for the 2 sets of 3 individuals. In the second part, participants were presented with information about whether the object individuals are liked or disliked by the yet unfamiliar source individuals. The 4 sets of source individuals were combined with the 2 sets of target individuals in a manner reflecting the four conditions of the present study (i.e., source likes positive target; source likes negative target; source dislikes positive target; source dislikes negative target). Each of the 3 source individuals within a given set was presented once with each of the 3 target individuals of the corresponding set, resulting in a total of 36 trials. To test the potential impact of prior versus posterior information about target individuals, half of the participants received the evaluative information about the target individuals first and then the information about whether these individuals were liked or disliked by the source individuals. The remaining half were first presented with the information about whether the target individuals were liked or disliked by the source individuals and then with the evaluative information about the target individuals. Finally, all participants were asked to rate the likability of each of the 18 individuals.

Results

Target individuals. To test the effectiveness of our valence manipulation, mean likability ratings of target individuals were submitted to a 2 (information about target) \times 2 (order) mixed-model ANOVA. This analysis revealed a significant main effect, indicating that target individuals were rated more positively when they were presented with positive information than when they were presented with negative information ($M_s = 8.28$ vs. 1.74 , respectively), $F(1, 57) = 643.51$, $p < .001$,

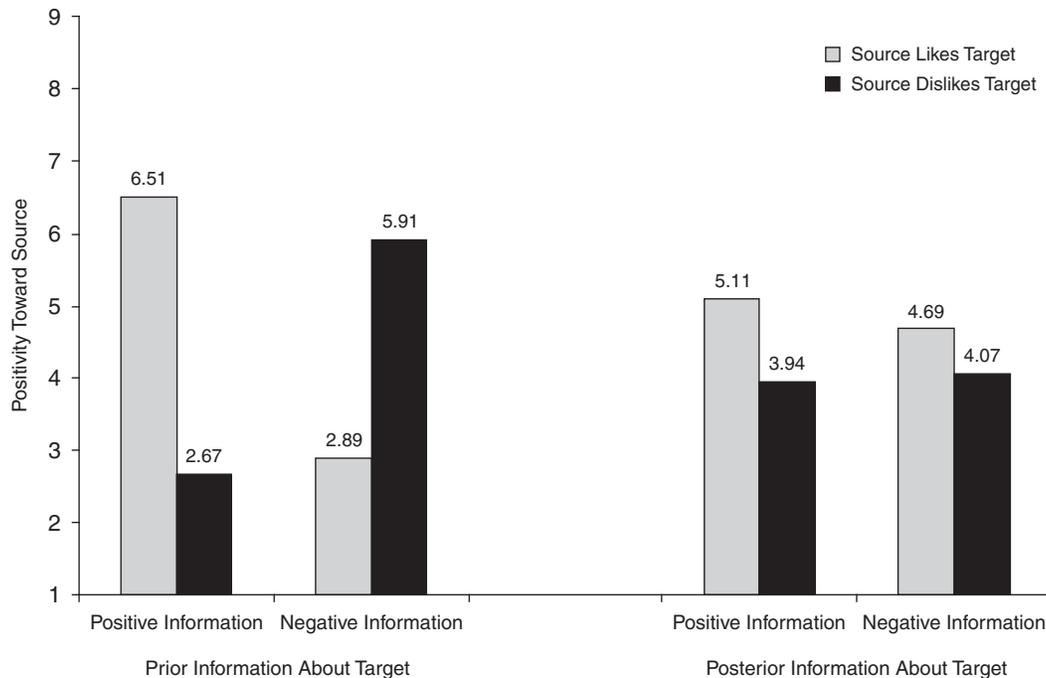


Figure 2 Experiment 2: Mean positivity toward source individual as a function of source's attitude toward target individual (source likes target vs. source dislikes target), information about target (positive information vs. negative information), and timing of acquisition of information about target (prior vs. posterior).

$\eta^2 = .920$. No other main or interaction effect reached statistical significance.

Source individuals. Mean likability ratings for the source individuals were submitted to a 2 (information about object) \times 2 (observed evaluation) \times 2 (order) mixed-model ANOVA for repeated measures. This analysis revealed a significant main effect of observed evaluation, $F(1, 57) = 30.62, p < .001, \eta^2 = .349$; a significant two-way interaction of order and observed evaluation, $F(1, 57) = 4.24, p = .04, \eta^2 = .069$; a significant two-way interaction of observed evaluation and target information, $F(1, 57) = 75.33, p < .001, \eta^2 = .569$; and most important for the present hypotheses, a highly significant three-way interaction of observed evaluation, target information, and order, $F(1, 57) = 54.70, p < .001, \eta^2 = .490$ (see Figure 2). To specify this interaction in terms of the present hypotheses, we conducted two independent 2 (information about target) \times 2 (observed evaluation) ANOVAs for the two order conditions.

When participants received the information about the sources' evaluations first, this analysis revealed only a significant main effect of the observed evaluation, $F(1, 27) = 22.13, p < .001, \eta^2 = .450$, indicating that sources who liked target individuals were evaluated more favorably

than sources who disliked target individuals. No other main or interaction effect reached statistical significance.

When participants received the evaluative information about the target individuals first, the same analysis revealed a significant main effect of the observed relation, $F(1, 30) = 8.10, p = .008, \eta^2 = .213$, which was qualified by a highly significant two-way interaction of observed evaluation and target information, $F(1, 30) = 83.71, p < .001, \eta^2 = .736$. Consistent with the basic notion of balance theory, sources were rated more favorably when they liked positive target individuals than when they disliked positive target individuals, $F(1, 30) = 97.91, p < .001, \eta^2 = .765$. Conversely, sources were rated less favorably when they liked negative target individuals than when they disliked negative target individuals, $F(1, 30) = 53.14, p < .001, \eta^2 = .639$. Moreover, sources were rated more favorably when they liked positive target individuals than when they liked negative target individuals, $F(1, 30) = 76.71, p < .001, \eta^2 = .719$. In contrast, sources were rated less favorably when they disliked positive target individuals than when they disliked negative target individuals, $F(1, 30) = 67.48, p < .001, \eta^2 = .692$.

Discussion

Results from Experiment 2 point to an important boundary condition of TAR effects. Specifically, the

current findings indicate that prior, but not posterior, knowledge about the (dis)liked target individuals promotes the emergence of cognitively balanced attitudes (Heider, 1958). In the present study, participants showed more favorable evaluations of sources who liked positively evaluated targets compared to sources who disliked positively evaluated targets, a pattern that is consistent with both cognitive balance and the TAR effect. However, participants showed less favorable evaluations of sources who liked negatively evaluated targets compared to sources who disliked negatively evaluated targets, a pattern that is consistent with balance theory but not the TAR effect. In other words, the desire to hold balanced attitudes seems to override TAR effects, which leads to different outcomes when observers hold a negative attitude toward the target individual that is (dis)liked by a given source.

However, results from Experiment 2 also indicate that the overriding impact of cognitive balance depends on whether evaluative knowledge about the target is acquired before or after observers learn about the evaluation endorsed by the (dis)liking source. When participants had prior knowledge about the (dis)liked target, cognitive balance overrode the TAR effect. If, however, participants acquired their knowledge about the (dis)liked target after they learned about the evaluation endorsed by the (dis)liking source, TAR effects conversely overrode cognitive balance. In this case, participants showed more favorable evaluations of sources who liked other target individuals compared to sources who disliked other targets, irrespective of the subsequently learned valence of the target individuals. Taken together, these results indicate that the moderating role of evaluative knowledge about the (dis)liked target individuals on the emergence of the TAR effect is limited to conditions when people have prior knowledge about the (dis)liked target. However, TAR effects remain unqualified by subsequently acquired knowledge about the (dis)liked target.

EXPERIMENT 3

The main goal of Experiment 3 was to provide deeper insights into the nature of the processes underlying TAR effects. As outlined in the introduction, there are at least two mechanisms that may be responsible for the emergence of TAR effects. First, resembling the associative mechanism proposed to underlie EC effects (for reviews, see De Houwer et al., 2001; Walther et al., 2005), the observed evaluation may function as a positive or negative US that becomes mentally associated with a CS—in this case, the source endorsing a particular evaluation. Thus, a source who repeatedly endorses

a positive or a negative evaluation of other targets may become associated with that evaluation, thereby influencing observers' attitudes toward the source. Alternatively, resembling the propositional mechanism proposed to underlie causal induction (Gilbert, 1995; Hamilton, 1998), observers may engage in higher order inferences regarding potential causes of the observed evaluation (i.e., source vs. target). Thus, to the degree that repeated evaluations of a particular kind may suggest a causal origin located in the source (Försterling, 1989; Kelley, 1973; Pruitt & Insko, 1980), observers may deliberately infer that people who tend to like others are themselves likable whereas people who tend to dislike others are themselves dislikable.

According to recent theorizing by Gawronski and Bodenhausen (2006), the two mechanisms of attitude change can be described in terms of their underlying mediation pattern. The first mechanism involves a mediation via associative processes (see De Houwer et al., 2005), such that TAR effects are driven by newly created evaluative associations in memory, which in turn may influence evaluative judgments about the (dis)liking source. In contrast, the second mechanism involves a mediation via propositional processes (see De Houwer et al., 2005), such that inferences about possible causes of the observed evaluation influence the inferred evaluation of the (dis)liking source, which in turn may determine the associative representation of the source.

To test these alternate mediation patterns, the present study relied on a procedure by proposed by Gawronski and Bodenhausen (2006) to disentangle the influence of associative and propositional processes in attitude change. Drawing on the functional equations of implicit measures with the outcome of associative processes and explicit measures with the outcome of propositional processes (e.g., Gawronski & Strack, 2004; Rydell, McConnell, Mackie, & Strain, 2006; Strack & Deutsch, 2004), Gawronski and Bodenhausen (2006) argued that the particular nature of a given influence is reflected in the mediation pattern it produces for implicit and explicit evaluations.¹

First, there may be a direct influence on the associative representation of an attitude object, which may indirectly influence evaluative judgments about that object. According to Gawronski and Bodenhausen (2006), this pattern should result in a mediation via implicit evaluations, such that the obtained effect on explicit evaluations is fully mediated by implicit evaluations. Consistent with this assumption, Gawronski and Bodenhausen showed that EC effects on explicit attitude measures were fully mediated by EC effects on implicit attitude measures, as revealed by a reanalysis of data by Olson and Fazio (2001). From this perspective, the proposed associative mechanism should be reflected

in a direct effect on implicit evaluations and a corresponding indirect effect on explicit evaluations that is fully mediated by the effect on implicit evaluations.

Alternatively, there may be a direct influence on deliberate inferences regarding the evaluative quality of an attitude object, which may indirectly influence the associative representation of that object. According to Gawronski and Bodenhausen (2006), this pattern should result in a mediation via explicit evaluations, such that explicit evaluations fully mediate corresponding effects on implicit evaluations. Moreover, research by Gawronski, Deutsch, Mbirikou, Seibt, and Strack (2008; also see Deutsch, Gawronski, & Strack, 2006; Gilbert, 1991) suggests that such indirect effects on implicit evaluations are likely to occur when valence-related inferences result in an affirmation of a given evaluation (e.g., person X is likable) but not when they imply a negation or rejection of an evaluation (e.g., it is not true that person X is likable). As TAR-related inferences involve affirmations rather than negations of evaluations, the proposed propositional mechanism should be reflected in a direct effect on explicit evaluations and a corresponding indirect effect on implicit evaluations that is fully mediated by the effect on explicit evaluations.

In summary, the proposed associative mechanism should result in corresponding TAR effects on explicit and implicit evaluations, with TAR effects on explicit evaluations being fully mediated by implicit evaluations. In contrast, the proposed propositional mechanism should result in corresponding TAR effects on explicit and implicit evaluations, with TAR effects on implicit evaluations being fully mediated by explicit evaluations.² The main goal of Experiment 3 was to test these alternate predictions.

Method

Participants and design. Eighty-two undergraduates (58 female, 24 male) participated in a study on attitudes and impression formation in return for course credit. Participants were randomly assigned to the 4 conditions of a 2 (observed evaluation: source likes target vs. source dislikes target) \times 2 (order of measurement: implicit first vs. explicit first) between-subjects design. Due to a computer malfunction, data from 5 participants were only partially recorded and thus excluded from analyses.

Materials. The stimulus material consisted of black-and-white portrait photographs of 13 male individuals adapted from Walther (2002). The pictures were again selected on the basis of pretests conducted by Gawronski et al. (2005). Of the 13 neutral pictures chosen for the

present study, we selected one picture to be used as the source. The remaining 12 pictures were used as target individuals.

Impression formation task. The impression formation task consisted of 24 trials, each of them providing information about the relation between two individuals. On half of the 24 trials, participants were presented with the source individual on the left side of the screen and one of the 12 target individuals on the right side of the screen. Depending on the experimental condition, participants learned that the source individual on the left side of the screen either “likes” or “dislikes” the target individual on the right side of the screen. In addition to these critical trials, the impression formation task also included 12 filler trials in which participants were presented with 2 of the 12 target individuals and a neutral statement about these individuals (e.g., shares an office with, went to a conference with). Pairs of individuals were randomly presented for 6,000 ms with an intertrial interval of 1,000 ms. Participants’ task was to form impressions of the individuals presented on the screen, using the “new job” instructions used in Experiment 1.

Measures. After the impression formation task, all participants completed an explicit and an implicit measure of attitudes toward the 13 individuals of the impression formation task. The explicit measure consisted of likability ratings, asking participants to rate how much they liked each of the 13 individuals on 9-point Likert-type scales ranging from 1 (*not at all*) to 9 (*very much*). As an implicit measure, we used Payne, Cheng, Govorun, and Stewart’s (2005) Affect Misattribution Procedure. On each trial of the task, participants were first presented with a fixation cross for 1,000 ms, which was replaced by one of the 13 individuals of the impression formation task for 75 ms. The presentation of the prime stimuli was followed by a blank screen for 125 ms, after which a Chinese character appeared for 100 ms. The Chinese character was then replaced by a black-and-white pattern mask, and participants had to indicate whether they considered the presented character as more pleasant or less pleasant than the average Chinese character. The pattern mask remained on the screen until participants had given their response. Following the instructions used by Payne et al., participants were told that the pictures can sometimes bias people’s responses to the Chinese characters and that they should try their absolute best not to let the pictures bias their judgments of the Chinese characters. The task included a total of 90 trials. On 30 of these trials, participants were presented with the source individual as prime stimulus; on the remaining 60 trials, participants were presented with 1 of the 12 target

individuals as prime stimulus, each of them being presented on 5 trials. The stimuli to be used as target stimuli in the priming task consisted of a pool of 90 distinct Chinese characters adapted from Payne et al.

Results

Explicit evaluations. A 2 (observed evaluation) \times 2 (order of measurement) ANOVA on explicit source evaluations revealed a highly significant main effect of observed evaluation, $F(1, 73) = 39.95$, $p < .001$, $\eta^2 = .354$. Consistent with the results of Experiments 1 and 2, sources were evaluated more positively when they liked other target individuals than when they disliked other target individuals ($M_s = 5.32$ vs. 1.97, respectively). No other main or interaction effect reached statistical significance (all $F_s < 1.09$).

Implicit evaluations. An index of implicit source evaluations was created by calculating the mean proportion of “more pleasant” responses on trials that used the source individual as prime stimulus (see Payne et al., 2005). Submitted to a 2 (observed evaluation) \times 2 (order of measurement) ANOVA, this index revealed a marginally significant main effect of observed evaluation, $F(1, 73) = 3.65$, $p = .06$, $\eta^2 = .048$. Replicating the pattern obtained for explicit evaluations, source individuals were evaluated more positively when they liked other target individuals than when they disliked other target individuals ($M_s = 0.53$ vs. 0.45, respectively). No other main or interaction effect reached statistical significance (all $F_s < 1.15$).

Mediation analyses. Explicit and implicit source evaluations were significantly correlated ($r = .45$, $p < .001$), thereby meeting a basic requirement for a possible mediation between the two variables (Baron & Kenny, 1986). In the first step, we tested a possible mediation via explicit evaluations, implying that TAR effects on implicit evaluations are mediated by explicit evaluations (propositional learning). For this purpose, implicit evaluations were simultaneously regressed to explicit evaluations and the observed evaluation factor using multiple regression analysis. This analysis revealed a significant effect of explicit evaluations, $\beta = .50$, $p < .001$, with the effect of observed evaluations being reduced to non-significance, $\beta = -.08$, $p = .54$ (see Figure 3). This finding supports the assumption that TAR effects on implicit evaluations are mediated by explicit evaluations, as predicted by the propositional learning account. This conclusion was corroborated by a Sobel test, which revealed a highly significant mediation effect of explicit evaluations on implicit evaluations, $z = 3.60$, $p < .001$.

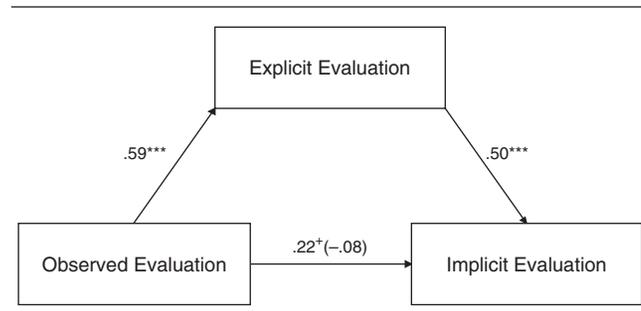


Figure 3 Experiment 3: Indirect effect of observed evaluations (source likes target vs. source dislikes target) on implicit source evaluations mediated by explicit source evaluations.

NOTE: *** $p < .001$. * $p < .10$.

In a second step, we tested the opposite mediation, implying that TAR effects on explicit evaluations are mediated by implicit evaluations (associative learning). For this purpose, explicit evaluations were simultaneously regressed to implicit evaluations and the observed evaluation factor. This analysis revealed significant effects of both implicit evaluations, $\beta = .34$, $p < .001$, and the observed evaluation factor, $\beta = .52$, $p < .001$. This finding is inconsistent with the assumption that TAR effects on explicit evaluations are mediated by implicit evaluations, as predicted by the associative learning account. This conclusion was corroborated by a Sobel test, which failed to provide strong support for a mediation effect of implicit evaluations on explicit evaluations, $z = 1.75$, $p = .08$.

Discussion

The main goal of Experiment 3 was to test whether TAR effects are driven by (a) lower order associative mechanisms influencing the associative representation of the (dis)liking subject individuals directly or (b) higher order propositional processes influencing associative representations indirectly via deliberately inferred evaluations. Using a procedure proposed by Gawronski and Bodenhausen (2006), the present results support the propositional mechanism, but they are inconsistent with the associative mechanism. Specifically, observed evaluations showed a direct influence on explicit evaluations, which indirectly influenced implicit evaluations. According to Gawronski and Bodenhausen, these results suggest that TAR effects are mediated by higher order propositional processes, which in turn influence the associative representation of the attitude object. In other words, observers may deliberately infer that people who like others are themselves likable whereas people who dislike others may be regarded as dislikable. This inferred evaluation may in turn influence the associative representation of the (dis)liking source, as reflected in the indirect effect on implicit evaluations.

EXPERIMENT 4

Even though Experiments 1 through 3 generally support our assumptions, one may object that the setup in these experiments deviates from the examples we used to illustrate the TAR effect. Whereas our examples of the TAR effect typically involved a first-person perspective (i.e., a source personally endorses a positive or negative evaluation of a given target), the scenarios in Experiments 1 through 3 used a third-person perspective (i.e., recipients receive descriptive information that a given source likes or dislikes a given target). Thus, it seems possible that TAR effects are limited to situations in which recipients learn about the evaluations of a source in an indirect manner. To rule out this possibility, Experiment 4 used the same general paradigm used in Experiment 3, the only difference being that the relevant information was now presented from a first-person perspective, ostensibly endorsed by the source (e.g., "I like him"). Drawing on the mediation pattern obtained in Experiment 3, we predicted that TAR effects on implicit evaluations should again be mediated by TAR effects on explicit evaluations, which is in line with the assumption that TAR effects are mediated by higher order propositional processes.

Method

Participants and design. Ninety-six undergraduates (70 female, 26 male) participated in a study on impression formation in return for course credit. Participants were randomly assigned to the four conditions of a 2 (observed evaluation: source likes target vs. source dislikes target) \times 2 (order of measurement: implicit first vs. explicit first) between-subjects design. Data from 3 participants who pressed the same key on more than 90% of all trials on the implicit measure were excluded from analyses.

Materials and procedure. The materials and the procedure were identical to Experiment 3, the only exception being that the statements were phrased in a first-person rather than third-person perspective. For this purpose, we created speech bubbles that depicted a statement of the source individual on the left side of the screen about the target individual on the right side of the screen. Both critical trials (i.e., "I like him") and distracter trials (e.g., "I share an office with him") were presented in this manner. All procedural details of the impression formation task (e.g., presentation times, intertrial interval) were identical to Experiment 4, as were the measures of explicit and implicit evaluations used.

Results

Explicit evaluations. A 2 (observed evaluation) \times 2 (order of measurement) ANOVA on explicit source

evaluations revealed a highly significant main effect of observed evaluation, $F(1, 89) = 39.66, p < .001, \eta^2 = .308$, indicating that sources were evaluated more positively when they liked other target individuals than when they disliked other target individuals ($M_s = 4.76$ vs. 1.77 , respectively). No other main or interaction effect reached statistical significance (all $F_s < 2.12$).

Implicit evaluations. An index of implicit source evaluations was created by calculating the mean proportion of "more pleasant" responses on trials that used the source individual as prime stimulus. Submitted to a 2 (observed evaluation) \times 2 (order of measurement) ANOVA, this index revealed a marginally significant main effect of observed evaluation, $F(1, 89) = 3.13, p = .08, \eta^2 = .034$. Replicating the pattern obtained for explicit evaluations, sources were evaluated more positively when they liked other target individuals than when they disliked other target individuals ($M_s = 0.46$ vs. 0.37 , respectively). No other main or interaction effect reached statistical significance (all $F_s < 1$).

Mediation analyses. Explicit and implicit source evaluations were significantly correlated ($r = .50, p < .001$), thus meeting a basic requirement for a possible mediation between the two variables (Baron & Kenny, 1986). In the first step, we again tested a potential mediation from explicit to implicit evaluations (propositional learning). For this purpose, implicit evaluations were simultaneously regressed to explicit evaluations and the observed evaluation factor using multiple regression analysis. This analysis revealed a significant effect of explicit evaluations, $\beta = .56, p < .001$, with the effect of observed evaluations' being reduced to nonsignificance, $\beta = -.12, p = .27$ (see Figure 4). This finding corroborates the assumption that TAR effects on implicit evaluations are mediated by explicit evaluations, as predicted by the propositional learning account. This conclusion was again confirmed by a Sobel test, which revealed a highly significant mediation effect of explicit evaluations on implicit evaluations, $z = 3.98, p < .001$.

In the second step, we tested the opposite mediation, implying that TAR effects on explicit evaluations are mediated by implicit evaluations (associative learning). For this purpose, explicit evaluations were simultaneously regressed to implicit evaluations and the observed evaluation factor. This analysis revealed significant effects of both implicit evaluations, $\beta = .41, p < .001$, and the observed evaluation factor, $\beta = .47, p < .001$. This finding is inconsistent with the assumption that TAR effects on explicit evaluations are mediated by implicit evaluations, as predicted by the associative learning account. This conclusion was again corroborated by a Sobel test, which failed to provide strong

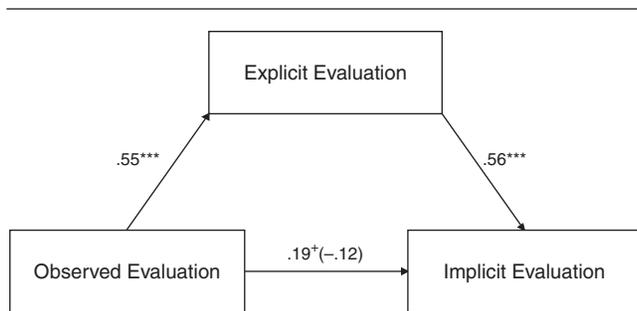


Figure 4 Experiment 4: Indirect effect of observed first-person evaluations (source likes target vs. source dislikes target) on implicit source evaluations mediated by explicit source evaluations.

NOTE: *** $p < .001$. * $p < .10$.

support for the opposite mediation effect of implicit evaluations on explicit evaluations, $z = 1.70$, $p = .09$.

Discussion

Results from Experiment 4 rule out concerns that TAR effects may emerge only when relevant information about the attitudes of a given source is presented in a third-person perspective (i.e., recipients receive descriptive information that a given source likes or dislikes a given target) but not when this information is presented in a first-person perspective (i.e., a source personally endorses a positive or negative evaluation of a given target). To rule out this possibility, Experiment 4 used the same general paradigm used in Experiment 3, the only difference being that the relevant information was presented from a first-person perspective. Replicating the mediation pattern obtained in Experiment 3, TAR effects on implicit evaluations were again fully mediated by TAR effects on explicit evaluations. These results corroborate our assumption that TAR effects are mediated by higher order propositional processes, as implied by the proposed attributional account. However, they are inconsistent with the assumption that TAR effects are mediated by associative processes, as implied by the proposed EC account.

GENERAL DISCUSSION

The main goal of the present research was to provide evidence for the TAR effect, which refers to the recursive influence of an observed evaluation on the formation of a corresponding attitude toward the person endorsing that evaluation. In addition, we tested some boundary conditions of the TAR effect and alternate predictions regarding its underlying mechanisms. Experiment 1 provided first evidence for TAR effects, showing that TAR effects emerged regardless of whether observers did or did not have prior knowledge

about the (dis)liking source. Experiment 2 indicated that TAR effects were overridden by prior, but not posterior, knowledge about the (dis)liked target individual. In these studies, prior evaluative knowledge about the (dis)liked target individual resulted in attitudinal patterns that are consistent with the logic of cognitive balance (Heider, 1958). Specifically, participants showed more favorable evaluations of sources who liked positively evaluated targets compared to people who disliked positively evaluated targets, a pattern that is consistent with both balance theory and the TAR effect. However, participants showed less favorable evaluations of sources who liked negatively evaluated targets compared to sources who disliked negatively evaluated targets, a pattern that is consistent with balance theory but not the TAR effect. Importantly, this balanced pattern emerged only for prior, but not for posterior, knowledge about the (dis)liked target individual. In the latter case, participants showed more favorable evaluations of sources who liked other target individuals compared to sources who disliked other target individuals, irrespective of the subsequently learned valence of the target individuals. This pattern is in line with the TAR effect but is inconsistent with the basic tenet of balance theory (Heider, 1958). Finally, Experiments 3 and 4 provided first insights into the mechanisms underlying TAR effects. In these studies, observed evaluations directly influenced explicit evaluations of the (dis)liking source, which in turn showed an indirect effect on implicit evaluations. According to theorizing by Gawronski and Bodenhausen (2006), this mediation pattern indicates that TAR effects are mediated by higher order propositional inferences rather than by lower order associative processes. One possibility consistent with this conclusion is that observers engage in attributional inferences regarding the cause of the observed evaluations. For instance, covariation-based theories of causal attribution claim that low distinctiveness in a person's behavior indicates that this behavior is caused by some characteristic of the person (e.g., Försterling, 1989; Kelley, 1973; Pruitt & Insko, 1980). In line with this reasoning, observers may deliberately infer that people who tend to like others are themselves likable whereas people who tend to dislike others may be dislikable. Given that such covariation-based inferences go beyond mere associative linking of two concepts (Gilbert, 1995; Hamilton, 1998), evaluations inferred via causal induction likely require higher order propositional processes, as reflected in the mediation pattern obtained in the present research.

TAR vs. Kill-the-Messenger Effects

As noted in the introduction, the TAR effect has some resemblance with the kill-the-messenger effect,

which describes the phenomenon that transmitters of a message often become associated with the valence of the message they convey (for a discussion, see Walther et al., 2005). However, TAR effects differ from kill-the-messenger effects in two important respects. First, even though the role of personal endorsement has not been manipulated in the present studies, our original conceptualization of the TAR effect implies that sources personally agree with the evaluation they convey. This characteristic differs from the basic notion of the kill-the-messenger effect, in which transmitters simply convey a message but do not necessarily approve its content (e.g., Manis et al., 1974). Notwithstanding this difference, it is an interesting question whether TAR effects also emerge for spontaneous evaluative reactions that are not explicitly endorsed by a source. For instance, a source may explicitly communicate a positive evaluation of a given individual, even though the source's spontaneous reaction to that individual may be negative (e.g., Rydell et al., 2006). Such dissociations between spontaneous and deliberate evaluations play a significant role in the literature on implicit measures, which presumably assess spontaneous evaluative reactions that may or may not be regarded as a valid basis for an explicitly endorsed evaluative judgment (Gawronski & Bodenhausen, 2006). Future research comparing the relative impact of spontaneous versus explicitly endorsed evaluations of a given source on observers' attitudes toward that source may help to clarify the role of personal endorsement for TAR effects.

A second difference between TAR and kill-the-messenger effects is that TAR effects do not require that listeners hold an a priori attitude toward the subject of the message. In Manis et al.'s (1974) study, for example, listeners evaluated transmitters of a message more favorably when they conveyed a message that supported their views than when the message supported an opposing view. This situation is different for the TAR effect where a priori attitudes can even counteract the emergence of TAR effects. As shown in Experiment 2, such counteractive processes are likely to occur when TAR effects would violate the basic notion of cognitive balance. Thus, despite surface similarities between TAR and kill-the-messenger effects, the two phenomena can be regarded as conceptually distinct, as they are characterized by very different features.

TAR Effects Versus Cognitive Balance

Another important phenomenon in the context of TAR effects is cognitive balance (Heider, 1958). Research on positivity offset demonstrated that people show a general tendency to approach objects in the absence of any information about these objects (e.g.,

Cacioppo, Gardner, & Berntson, 1997), which may contribute to TAR effects by virtue of the desire to hold balanced attitudes. According to balance theory, people should like individuals who like their friends, but they should dislike individuals who dislike their friends. Conversely, people should dislike individuals who like people they personally dislike, but they should like individuals who dislike people they personally dislike. Thus, to the degree that our participants showed a weak positive evaluation of the presumed neutral target individuals, the emergence of TAR effects would be in line with the basic notion of cognitive balance, such that people form positive attitudes toward sources who like positively evaluated individuals but negative attitudes toward sources who dislike positively evaluated individuals. Despite the consistency of this speculation with several findings of the present research, it is inconsistent with the results of Experiment 2. This study showed that TAR effects can lead to imbalanced attitudes when evaluative knowledge about the target is acquired after recipients learn about the evaluation of the source. Thus, even though a combination of cognitive balance and positivity offset can explain the emergence of TAR effects for presumably neutral target individuals, the TAR effect is conceptually distinct from cognitive balance, as TAR effects can produce imbalanced attitudes under certain conditions.

TAR Effects Versus Spontaneous Trait Transference

Another phenomenon that seems quite similar to the TAR effect is spontaneous trait transference (STT). This phenomenon refers to the finding that communicators often become associated with the traits they ascribe to other individuals (e.g., Brown & Bassili, 2002; Carlston & Skowronski, 2005; Crawford, Skowronski, & Stiff, 2007; Crawford, Skowronski, Stiff, & Scherer, 2007; Mae, Carlston, & Skowronski, 1999; Skowronski, Carlston, Mae, & Crawford, 1998). In the first demonstration of STT effects, Skowronski et al. (1998) used a savings-in-relearning paradigm in which participants were presented with pictures of various individuals and statements ostensibly made by these individuals about another person. The statements were created in a manner that they unambiguously implied a corresponding trait concept (e.g., the statement "he kicked the puppy dog" implying the trait "cruel"). After the presentation of the statement-picture pairs, participants were administered a paired-associate learning task in which participants were asked to memorize combinations of traits and person pictures. The critical test trials included photos of the earlier exposure task and traits that were or were not implied by the statement ostensibly made by

the person depicted in the picture. Finally, all participants completed a cued-recall task, in which they had to recall the trait term that had been paired with each photo of the paired-associate learning task. Results indicate that participants showed better memory performance for traits that were implied by an earlier statement ostensibly made by the person depicted on the picture compared to other traits that were not implied. According to Skowronski et al., this result suggests that participants spontaneously inferred the implied traits from the statements, which were then associatively linked with the communicator. Subsequent research has shown that these associations provide a basis for explicit trait judgments about the communicator, such that communicators are actually perceived as possessing the very traits they describe in others (e.g., Carlston & Skowronski, 2005; Mae et al., 1999).

The TAR effect resembles the notion of STT, in that both imply a recursive transference of a given characteristic to the person describing that characteristic in another individual. Nevertheless, the two phenomena are different in significant ways. First, whereas STT refers to the transference of a communicated trait, the TAR effect refers to the transference of valence. Thus, TAR effects seem closer to what Carlston and Skowronski (2005) labeled the *perceived likeability hypothesis*, which refers to the presumed effect that people tend to like individuals who compliment others and to dislike individuals who criticize others. Second, whereas the notion of STT implies an obviously unsound association of a communicated trait (e.g., intelligence) and the person ascribing this trait to another person, TAR effects may be the result of a naïve psychological theory that perceivers may regard as valid. For instance, it seems possible that TAR effects are due to people's assumption that sources who (dis)like others are themselves (dis)likable, because of certain traits that contribute to the sources' (dis)liking of other individuals (e.g., agreeableness). These speculations are in line with research showing that STT effects are mediated by lower order associative processes (e.g., Carlston & Skowronski, 2005), whereas TAR effects are mediated by higher order propositional processes (Experiments 3 and 4).

One interesting question in this context is whether TAR effects are limited to conditions in which sources convey a direct evaluation of another individual (e.g., "I like her") or whether similar effects emerge when an evaluation is indirectly implied by a descriptive trait statement (e.g., "She is smart"). At a superficial level, such effects may seem inconsistent with previous research on STT, which showed that STT effects are trait specific and do not generalize to other evaluatively consistent traits (e.g., Carlston & Skowronski, 2005;

Skowronski et al., 1998). However, given the aforementioned differences between STT and TAR effects, the lack of transfer at the level of trait descriptions does not necessarily imply a lack of transfer at the level of attitudes. In fact, STT research on trait generalizations has typically focused on generalizations to other traits but not on (explicit or implicit) summary evaluations of a communicator. Thus, it seems possible that ascriptions of positive or negative traits produce the same TAR effects that we have shown for direct evaluations. It is most interesting that such trait ascriptions may even show dual effects, such that the same trait ascriptions lead to STT effects via lower order associative processes and, at the same time, to TAR effects via higher order propositional processes.

CONCLUSION

Over the past decades, research on attitudes has focused predominantly on the general processes of attitude formation and change. In this research, the particular information that people use to inform their attitudes has often been taken for granted. The present studies provide some interesting insights in this regard, showing that people use the evaluations endorsed by a given source to inform their attitudes toward that source. Specifically, the present findings show that the evaluations endorsed by a given source can recursively transfer to the source, such that people tend to form positive attitudes toward sources who like other individuals but negative attitudes toward sources who dislike other individuals. Thus, attempts to convince someone of a negative evaluation of another person may sometimes backfire, such that recipients may use that evaluation to form a negative attitude toward the source rather than the target of the evaluation.

NOTES

1. Given that Gawronski and Bodenhausen's (2006) mediation approach has been proposed only recently, some readers may prefer more established methods to distinguish between the two accounts, such as cognitive load manipulations. Note, however, that these methods are substantially different in the particular questions they address. Whereas Gawronski and Bodenhausen's mediation method addresses underlying operating principles of a process (i.e., associative vs. propositional), traditional cognitive load manipulations address secondary features of a process (i.e., effortless vs. effortful) without providing any information on their operating principles. Given that the primary goal of the present study is to identify the underlying nature of TAR (Transfer of Attitudes Recursively) effects rather than secondary features, only the former approach is suitable to address the present question.

2. Note that these alternate hypotheses do not imply a notion of "anything goes," as there are multiple outcomes that would be inconsistent with either prediction, such as TAR effects on explicit but not

implicit evaluations, TAR effects on implicit but not explicit evaluations, or corresponding TAR effects without a mediating relation (see Gawronski & Bodenhausen, 2006).

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