

PERSPECTIVE TAKING UNDERMINES STEREOTYPE MAINTENANCE PROCESSES: EVIDENCE FROM SOCIAL MEMORY, BEHAVIOR EXPLANATION, AND INFORMATION SOLICITATION

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Four experiments examined the effects of perspective taking on processes contributing to stereotype maintenance: biases in social memory, behavior explanations, and information seeking. The first two experiments explored whether perspective taking influences memory and spontaneous explanations for stereotype-relevant behaviors. Relative to participants in an objective-focus condition, perspective takers exhibited better recall of stereotype-inconsistent behaviors (Experiment 1) and spontaneously generated more dispositional explanations for them (Experiment 2). Perspective taking had little effect, however, on memory and explanations for stereotype-consistent behaviors. The final two experiments examined the effects of perspective taking on information seeking. Employing a trait hypothesis-testing paradigm in which interviewers tested whether an interviewee was an extravert (Experiment 3a) or an introvert (Experiment 3b), we found that perspective-taking interviewers solicited more hypothesis-inconsistent information than did controls. The findings collectively indicate that perspective taking can be an effective strategy for undermining stereotype maintenance, primarily via its influence on the processing of stereotype-inconsistent information.

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Stereotyping has been a perennial topic of social psychological inquiry since Lippman (1922) coined the term nearly a century ago. The formation (Sherman et al., 2009), representation (Sherman, 1996), and functional implementation (Brewer, 1996) of stereotypes all have been intensively investigated. Just like any form of categorization, stereotypes make social information processing orderly and efficient (Macrae, Milne, & Bodenhausen, 1994). By providing a rich source of information about social groups at little cognitive cost, stereotypes can be particularly informative for generating expectancies and tentative hypotheses about what a group is like and how its members are likely to behave in a given context (Hamilton, Sherman, & Ruvolo, 1990). Its efficiency advantages aside, stereotyping can also serve to enhance social identity (Tajfel, 1981), protect the self from threats (Fein & Spencer, 1997), or justify the status quo (Jost, Banaji, & Nosek, 2004).

Despite the various psychological functions that stereotyping serves for perceivers, ascribing a set of attributes to a group can reduce its members to preconceived caricatures and relegate them to marginalized positions in society. Accordingly, stereotypes serve as both descriptive lenses that guide perception and prescriptive shackles that limit opportunity (Schneider, 2005). Furthermore, stereotypes tend to be self-validating and self-perpetuating (Bodenhausen, Todd, & Becker, 2007); perceivers possess a number of mechanisms whereby ambiguous information is assimilated to stereotypic expectancies and disconfirming information is discounted, overlooked, or otherwise minimized. The current research investigated the viability of *perspective taking*—the active contemplation of others' psychological experiences—as a strategy for undermining cognitive processes involved in the perpetuation of stereotypes.

STEREOTYPE MAINTENANCE PROCESSES

A number of processes enable the maintenance of stereotypes (Hilton & von Hippel, 1995; Roese & Sherman, 2007). One process involves how perceivers remember expectancy-relevant information. Stereotypes often organize memory representations of social targets, and they also provide salient retrieval cues that can be used when these memories are subsequently searched. Consequently, people often exhibit better recall of stereotype-consistent than stereotype-inconsistent information (Fyock & Stangor, 1994). Insofar as consistent information is accessible in memory, it can potentially bias the processing of subsequently encountered information and color judgment (Bodenhausen, 1988). To be sure, numerous studies have demonstrated a memorial advantage for inconsistent information (especially on recognition-memory measures that minimize the influence of retrieval strategies and response biases; Stangor & McMillan, 1992).¹ Yet, even when perceivers do attend to inconsistent information, it is typically to reconcile it with the original stereotypic expectation; this process makes counterstereotypic information memorable, even as its ultimate impact on impressions is minimized (Sherman, Lee, Bes-

1. This seeming inconsistency in expectancy effects on memory appears to stem primarily from methodological nuances in how expectancy-based information is introduced. For instance, when introduced subtly (via a photograph or a target's name, as is typical in stereotype research), perceivers recall more expectancy-consistent information; however, when introduced overtly (via a trait label, as is typical in trait-expectancy research), perceivers recall more expectancy-inconsistent information (Heider et al., 2007).

senoff, & Frost, 1998; Sherman, Stroessner, Conrey, & Azam, 2005; Wyer & Srull, 1989).

Another stereotype maintenance mechanism involves people's explanations for stereotype-relevant behaviors. Perceivers routinely explain stereotype-relevant behaviors in ways that maintain the perceived veridicality of the stereotypes: they invoke stable, dispositional factors to explain stereotype-consistent behaviors and they invoke non-dispositional (i.e., external or internal/unstable; Weiner, 1985) factors to "explain away" stereotype-inconsistent behaviors (Jackson, Sullivan, & Hodge, 1993; Macrae & Shepherd, 1989). Importantly, this *stereotypic explanatory bias* is associated with a greater likelihood of exhibiting discriminatory behavior during face-to-face intergroup interactions (Sekaquaptewa, Espinoza, Thompson, Vargas, & von Hippel, 2003).

A third stereotype maintenance process involves how perceivers gather information about others. In general, perceivers tend to solicit information that is consistent with stereotypic expectancies (Snyder & Swann, 1978). For instance, Johnston and Macrae (1994) found that when participants could control the type and amount of information they received about a target group (e.g., physics students), they solicited more confirming than disconfirming information and provided trait ratings of the group that were congruent with these expectancies (i.e., hard-working). Insofar as perceivers solicit information that confirms these initial expectancies, stereotypes are more likely to persist (Hamilton et al., 1990).

In sum, stereotypes are maintained through a variety of mechanisms. Although much empirical attention has been devoted to uncovering the antecedents and consequences of stereotype-driven biases in memory, behavior explanation, and information seeking, surprisingly little research has investigated the effects of different bias-reduction strategies on these stereotype maintenance processes (for exceptions, see Macrae, Bodenhausen, Milne, & Wheeler, 1996; Sherman, Stroessner, Loftus, & DeGuzman, 1997). The current research aimed to shed greater light on this issue.

PERSPECTIVE TAKING AND STEREOTYPE MAINTENANCE PROCESSES

A well-developed capacity to contemplate others' psychological perspectives is critically important for negotiating social interactions of all types. Whereas perspective-taking proficiencies can inspire numerous positive social outcomes (Davis, 1994), deficiencies in perspective taking have been linked to social dysfunction (Baron-Cohen, 1995). Within intergroup contexts, in particular, research has demonstrated several benefits of strategic perspective taking. Multiple studies, for instance, have documented that perspective taking decreases intergroup prejudice (Batson et al., 1997; Dovidio et al., 2004; Galinsky & Ku, 2004; Todd, Bodenhausen, Richeson, & Galinsky, 2011). Surprisingly little is known, however, about the effects of perspective taking on stereotype maintenance processes. To our knowledge, only the work of Galinsky and Moskowitz (2000), which observed decreased activation and application of stereotypes following perspective taking compared to stereotype suppression, has directly examined its influence on stereotyping. Additional indirect evidence comes from work showing that perspective taking increased reliance on non-dispositional factors to explain an outgroup member's negative behavior (Vescio, Sechrist, & Paolucci, 2003). Notably lacking, though, are

studies specifically investigating whether perspective taking alters the stereotype maintenance processes discussed previously—biases in memory, behavior explanation, and information seeking.

Our theoretical perspective is guided by work linking perspective taking with cognitive complexity (Suedfeld, Tetlock, & Streufert, 1992). We contend that actively contemplating a target's perspective encourages perceivers to step outside their usual mental routines and default processing tendencies. During social comprehension, perceivers generally seek to verify their expectations about the social world (Nickerson, 1998). In this relatively passive, default mode of processing, highly automatized strategies are employed. As a result, target information is implicitly assimilated to salient stereotypic expectations, whereas counterstereotypic information is likely to be less central to target representations. We suggest that the mental simulation required for perspective taking could induce a more active, cognitively demanding mode of information processing than the typically passive, default mode of verification (see also Davis, Conklin, Smith, & Luce, 1996). Consequently, we hypothesized that perspective takers would be less likely to rely on typical approaches when encountering stereotyped targets and more likely to consider and integrate a wider range of information than would non-perspective takers. Furthermore, we expected that the more extensive processing resulting from perspective taking would be evident primarily in the processing of expectancy-inconsistent information.

THE CURRENT RESEARCH

We investigated the impact of perspective taking on three stereotype maintenance processes. Experiment 1 examined the influence of perspective taking on *memory* for stereotype-relevant behaviors performed by a Black target. Experiment 2 assessed the effects of perspective taking on spontaneous *explanations* for behaviors that were either consistent or inconsistent with stereotypes of African Americans. Finally, Experiments 3a and 3b tested whether perspective taking alters the *solicitation* of expectancy-relevant information in a trait hypothesis-testing context. Our broad hypothesis was that perspective taking would encourage perceivers to process expectancy-inconsistent information more extensively than they would otherwise and, consequently, to recall, interpret, and solicit social information in less stereotype-maintaining ways.

EXPERIMENT 1: SOCIAL MEMORY

Experiment 1 examined recall memory for behaviors that are consistent versus inconsistent with stereotypes of African Americans. Participants received stereotype-consistent and stereotype-inconsistent information (i.e., hostile and kind behaviors, respectively) about a young Black man. Some participants adopted his perspective as they read this information; others adopted an objective focus.

Because stereotypic expectancies were introduced subtly via a photograph of the target person, we predicted that in the absence of perspective taking, participants would recall more stereotype-consistent than stereotype-inconsistent behaviors

(Fyock & Stangor, 1994; Heider et al., 2007). Furthermore, we expected that perspective taking would attenuate this memory advantage for stereotype-consistent information. Specifically, we hypothesized that perspective takers would process stereotype-inconsistent behaviors more extensively, and thus would recall more of this information, than would objective-focus participants.

METHOD

Participants. Thirty-two undergraduates (69% female; 59% White, 41% Asian) received \$8 for participating.

Procedure and Materials. As part of a study investigating “decision-making processes,” participants received behavioral information about a man named Robert, after first having been randomly assigned to one of two instructional conditions. Participants in the *perspective-taking* condition were asked to visualize clearly and vividly what it would be like to be Robert as he engages in each of the behaviors being depicted. Participants in the *objective-focus* condition were asked to read the information as objectively as possible—to not get caught up in imagining what it would be like to be Robert. All participants then viewed a photograph of a young Black man and were asked to imagine a day in his life either while taking his perspective or while being objective.

After viewing Robert’s photograph for 1 minute, participants read 30 sentence fragments pre-tested for their level of hostility (Allen, Sherman, Conrey, & Stroessner, 2009; Sherman et al., 2005). Ten depicted hostile behaviors (e.g., “swore at the sales clerk”), 10 depicted kind behaviors (e.g., “gave up his seat on the crowded subway”), and 10 depicted behaviors that were irrelevant to hostility (e.g., “ate a sandwich for lunch”). Following previous research (Allen et al., 2009; Sherman et al., 2005), we treated the hostile behaviors as consistent and the kind behaviors as inconsistent with cultural stereotypes of African Americans. The behaviors appeared individually in a randomized order for 4 seconds each.

After reading the behaviors, participants completed a filler task for 5 minutes to clear working memory. Finally, participants completed a surprise free-recall task, during which they had 5 minutes to list all the behaviors they could remember.

RESULTS AND DISCUSSION

Two judges (both blind to experimental hypotheses and condition) coded the free-recall responses using a gist criterion. Their judgments were highly correlated ($r = .97$); discrepancies were resolved by a third judge (blind to experimental condition).² As Figure 1 illustrates, objective-focus participants recalled more stereotype-consistent than stereotype-inconsistent behaviors, $t(14) = 4.26$, $p = .001$, $d = 1.46$, whereas perspective takers recalled an equal number of consistent and inconsistent behaviors, $t(16) = 1.14$, $p = .27$, $d = 0.28$. Furthermore, although recall for stereotype-consistent behaviors did not differ across instruction set ($t < 1$, $d = 0.01$), perspective takers recalled more stereotype-inconsistent behaviors than did

2. Preliminary analyses revealed that neither participant gender nor participant ethnicity moderated results in Experiments 1 or 2; thus, the data were collapsed across these variables.

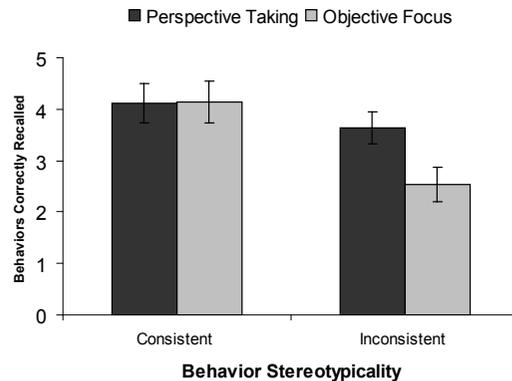


FIGURE 1. Number of stereotype-consistent and stereotype-inconsistent behaviors correctly recalled as a function of instruction set (perspective taking, objective focus); error bars depict standard errors (Experiment 1).

objective-focus participants, $t(30) = 2.45, p = .02, d = 0.89$. This pattern of means produced a significant interaction in a 2 (Instruction Set) \times 2 (Behavior Stereotypicality) mixed ANOVA, $F(1, 30) = 4.02, p = .05, \eta^2 = .12$.

An additional analysis revealed that perspective takers did not recall more filler behaviors than did objective-focus participants ($t < 1, d = -0.19$). Thus, it seems that perspective taking elicited a selective focus on the processing of stereotype-inconsistent information rather than more extensive processing overall.

These results indicate that perspective taking can indeed alter memory for stereotype-relevant behaviors. In the absence of perspective taking, participants recalled more stereotype-consistent than stereotype-inconsistent behaviors. When participants adopted Robert's perspective, however, the recall advantage for stereotype-consistent behaviors disappeared.

EXPERIMENT 2: BEHAVIOR EXPLANATION

Experiment 2 assessed the impact of perspective taking on a second stereotype maintenance process: behavior explanation. We employed a sentence-completion paradigm (Hastie, 1984) to examine spontaneous explanations for stereotype-relevant behaviors. As in Experiment 1, participants read stereotype-relevant information about a young Black man either while taking his perspective or while adopting an objective focus. Unlike Experiment 1, however, this information was not limited to the dimension of hostility-kindness; rather, the stereotype-consistent and stereotype-inconsistent behavior sets each included both positive and negative behaviors.

We predicted that, in the absence of perspective taking, participants would exhibit the stereotypic explanatory bias: dispositional explanations for stereotype-consistent behaviors and non-dispositional explanations for stereotype-inconsistent behaviors (Sekaquaptewa et al., 2003). Moreover, we expected that perspective taking would attenuate this bias. Based on our proposition that perspective taking encourages more extensive processing of stereotype-inconsistent information, we reasoned that perspective takers would spontaneously generate more explanations

for stereotype-inconsistent behaviors than would objective-focus participants. Importantly, we predicted that perspective takers' explanations would be more likely to consider dispositional factors, a pattern of responding that should undermine stereotype maintenance.

METHOD

Participants. Thirty-eight undergraduates (61% female; 53% White, 34% Asian, 13% Latino[a]) received \$8 for participating.

Procedure and Materials. The procedure and materials for Experiment 2 were similar to those from Experiment 1, with several exceptions. As part of a study investigating "linguistic processing of social behavior," participants viewed sentence fragments depicting behaviors performed by Robert. Unlike Experiment 1, however, participants' task was to add words to the end of each fragment to form a grammatically complete sentence (Hastie, 1984). Before beginning the sentence-completion task, participants were randomly assigned to receive either perspective-taking or objective-focus instructions, saw Robert's photo, and imagined a day in his life for 1 minute.

Next, participants viewed 24 sentence fragments pre-tested for their level of stereotypicality with respect to African Americans; they included a mix of both positive and negative behaviors (Sekaquaptewa et al., 2003). Eight depicted stereotype-consistent behaviors (e.g., "sang in the church choir"), 8 depicted stereotype-inconsistent behaviors (e.g., "studied the literature textbook"), and 8 filler fragments depicted stereotype-irrelevant behaviors (e.g., "caught a bad cold"). These fragments appeared individually in a randomized order and remained on screen until participants inserted words to form a grammatically complete sentence.

RESULTS AND DISCUSSION

Two judges (both blind to experimental hypotheses and condition) coded the sentence completions as continuations or explanations. They further coded each explanation as either dispositional (i.e., internal/stable) or non-dispositional (i.e., external or internal/unstable; Weiner, 1985; see Sekaquaptewa et al., 2003; Sherman et al., 2005, for similar coding procedures). Agreement between judges was substantial (> 80%); discrepancies were resolved by a third judge (blind to experimental condition).

The overall pattern of means (see Figure 2) produced a significant three-way interaction in a 2 (Instruction Set) \times 2 (Behavior Stereotypicality) \times 2 (Explanation Type) mixed ANOVA, $F(1, 36) = 9.13, p < .01, \eta p^2 = .20$. Objective-focus participants clearly evinced the stereotypic explanatory bias, as revealed by a Behavior Stereotypicality \times Explanation Type interaction, $F(1, 18) = 12.63, p < .01, \eta p^2 = .41$. Specifically, objective-focus participants generated more dispositional explanations for stereotype-consistent behaviors, $t(18) = 2.58, p = .02, d = 0.89$, and more non-dispositional explanations for stereotype-inconsistent behaviors, $t(18) = 1.30, p = .21, d = 0.49$. Perspective takers, in contrast, did not exhibit this bias; two-way interaction: $F(1, 18) = 1.06, p = .32, \eta p^2 = .06$. To better understand the impact of instruction set on behavior explanations, we conducted separate 2 (Instruction Set)

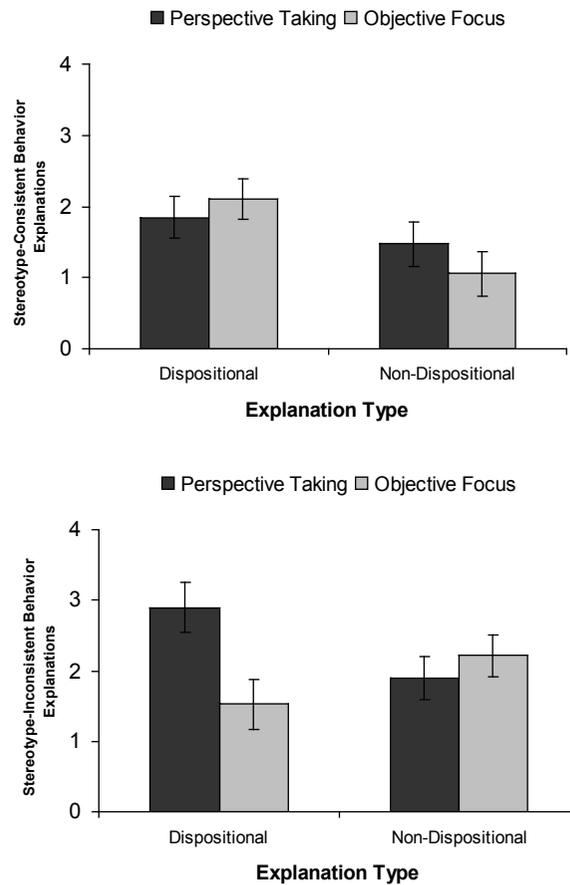


FIGURE 2. Number of dispositional and non-dispositional explanations for stereotype-consistent (top panel) and stereotype-inconsistent behaviors (bottom panel) as a function of instruction set (perspective taking, objective focus); error bars depict standard errors (Experiment 2).

$\times 2$ (Explanation Type) mixed ANOVAs for the stereotype-consistent and stereotype-inconsistent behavior explanations.

Stereotype-Consistent Behavior Explanations. In general, participants generated more dispositional than non-dispositional explanations for the stereotype-consistent behaviors, $F(1, 36) = 4.69, p = .04, \eta^2 = .12$. Furthermore, although perspective takers provided descriptively fewer dispositional and more non-dispositional explanations than did objective-focus participants, the Instruction Set \times Explanation Type interaction was not significant, $F(1, 36) = 1.10, p = .29, \eta^2 = .03$ (see Figure 2, top panel).

Stereotype-Inconsistent Behavior Explanations. Supporting our contention that perspective taking leads to more extensive processing of stereotype-inconsistent information, we found that perspective takers tended to provide more spontaneous explanations for stereotype-inconsistent behaviors than did objective-focus participants, $F(1, 36) = 3.48, p = .07, \eta^2 = .09$. More importantly, this analysis also revealed the critical Instruction Set \times Explanation Type interaction, $F(1, 36) = 5.33, p = .03, \eta^2 = .13$. As Figure 2 (bottom panel) illustrates, perspective takers pro-

vided more dispositional explanations for stereotype-inconsistent behaviors than did objective-focus participants, $t(36) = 2.75, p < .01, d = 0.92$, whereas instruction set did not affect non-dispositional explanations ($t < 1, d = -0.25$).

These results indicate that perspective taking influenced spontaneous explanations for stereotype-relevant behaviors; moreover, they suggest that the effects of perspective taking are not limited to the processing of positive outgroup behaviors. As in Experiment 1, perspective taking clearly influenced the processing of stereotype-inconsistent behaviors. Although perspective takers generated marginally more explanations for these behaviors than did objective-focus participants, a pattern of responding that has been linked to stereotype maintenance (e.g., Hastie, 1984), perspective takers invoked dispositional factors to explain them, which should undermine stereotype maintenance (Wilder, Simon, & Faith, 1996).

EXPERIMENTS 3A AND 3B: INFORMATION SOLICITATION

Thus far, we have shown that perspective taking influences the processing of expectancy-relevant information stemming from cultural stereotypes. Experiments 3a and 3b sought to generalize these findings by examining whether perspective taking affects the processing of expectancy-relevant information stemming from trait-based expectancies. Although some studies have found differences in the effects of trait expectancies versus stereotypic expectancies on information processing (see Stangor & McMillan, 1992), when expectancies are introduced in a similar manner—either overtly (which is typical in trait expectancy research) or subtly (which is typical in stereotype research)—trait expectancies and stereotypic expectancies have similar effects on information processing (Heider et al., 2007; see also Cantor & Mischel, 1977).

The primary goal of these experiments was to determine the effect of perspective taking on the tendency for perceivers to solicit expectancy-consistent information from others (Skov & Sherman, 1986; Snyder & Swann, 1978). We employed a trait hypothesis-testing paradigm wherein participants tested whether another student was an extravert (Experiment 3a) or an introvert (Experiment 3b). Participants received a list of questions designed to elicit evidence of extraversion or introversion and selected 12 to use in testing their hypothesis.

Another goal of these experiments was to determine whether the results of Experiments 1 and 2 reflect the benefits of perspective taking or the detriments of an objective focus. Although studies have generally failed to find performance differences between objective-focus and control conditions (e.g., Dovidio et al., 2004; Galinsky et al., 2008; Todd et al., 2011), we nonetheless employed a control condition wherein participants completed the dependent measures without having received specific instructions beforehand to be certain that our effects are driven by the perspective-taking instructions rather than by the objective-focus instructions.

We predicted that control participants would select more hypothesis-consistent than hypothesis-inconsistent questions (i.e., confirmation bias), but that perspective taking would attenuate this bias. Specifically, we hypothesized that perspec-

tive taking would direct perceivers' attention to hypothesis-inconsistent information that might otherwise be overlooked.

METHOD

Participants. Fifty undergraduates (24 in Experiment 3a, 26 in Experiment 3b³) received course credit for participating.

Procedure and Materials. As part of a study investigating "how individuals come to know each other," participants in both experiments were asked to interview another student who, based on personality tests completed during a previous semester, was believed to be an *extravert* (Experiment 3a) or an *introvert* (Experiment 3b). To ensure that participants had similar working definitions of extraversion (introversion), the experimenter gave them a personality profile describing a typical extravert (introvert). Participants' task was to determine how well the profile described the interviewee; they received a list of 26 questions that could be used to facilitate their investigation. Ten questions were designed to elicit hypothesis-consistent answers (e.g., "What do you like about parties?" for an extraverted hypothesis), 10 were designed to elicit hypothesis-inconsistent answers (e.g., "What factors make it hard for you to open up to people?" for an extraverted hypothesis), and 6 were filler questions that were unrelated to extraversion/introversion. The questions were constructed to elicit a hypothesis-consistent or hypothesis-inconsistent answer rather than simply a "yes" or "no" response, thereby allowing us to observe a confirmation bias rather than a positive test strategy (Trope & Bassok, 1982). Participants learned that because of time constraints they could only ask 12 questions. The number of hypothesis-consistent questions (extraverted questions in Experiment 3a, introverted questions in Experiment 3b) and hypothesis-inconsistent questions (introverted questions in Experiment 3a, extraverted questions in Experiment 3b) selected served as the dependent variables.

Before selecting questions, participants were randomly assigned to one of two instructional conditions. In the *perspective-taking* condition, participants were asked to imagine what it would be like to answer the questions and to visualize being in that different role. Participants in the *control* condition received no additional instructions. After selecting questions, participants learned that the experiment had ended; thus, they did not actually conduct the interview.

RESULTS AND DISCUSSION

Experiment 3a: Extraverted Hypothesis. As expected, control participants selected more hypothesis-consistent ($M = 7.25$, $SD = 1.76$) than hypothesis-inconsistent ($M = 2.75$, $SD = 1.86$) questions, $t(11) = 4.45$, $p = .001$, $d = 2.49$. This confirmation bias was attenuated among perspective takers ($M_s = 5.33$ and 4.33 , $SD_s = 1.15$ and $.89$, respectively), $t(11) = 2.17$, $p = .05$, $d = 0.97$. Furthermore, perspective takers selected more hypothesis-inconsistent questions than did controls, $t(15.74) = 2.66$, $p = .02$,

3. Due to a clerical error, participant gender and ethnicity were not recorded in Experiments 3a and 3b.

$d = 1.34$. The overall pattern of means produced a significant interaction in a 2 (Instruction Set) \times 2 (Question Type) mixed ANOVA, $F(1, 22) = 9.92, p < .01, \eta p^2 = .31$.

Experiment 3b: Introverted Hypothesis. Once again, control participants selected more hypothesis-consistent ($M = 6.92, SD = 1.44$) than hypothesis-inconsistent ($M = 4.15, SD = 1.28$) questions, $t(12) = 3.91, p < .01, d = 2.03$. Perspective takers, however, did not evince this confirmation bias ($M_s = 5.62$ and $5.23, SD_s = 1.39$ and 1.24 , respectively; $t < 1, d = 0.30$). Moreover, perspective takers selected more hypothesis-inconsistent questions than did controls, $t(24) = 2.18, p = .04, d = 0.89$. This pattern of means also produced a significant interaction, $F(1, 24) = 5.94, p = .02, \eta p^2 = .20$.

These results indicate that adopting the perspective of the interviewee led participants to solicit more hypothesis-inconsistent information. Thus, perspective taking appears to encourage people to solicit a more balanced set of information when testing their hypotheses.

GENERAL DISCUSSION

Four experiments, using a variety of paradigms, multiple baseline conditions, and expectancies deriving from both cultural stereotypes and personality traits, consistently documented that perspective taking can undermine stereotype maintenance processes. Our first experiment showed that perspective taking affected recall memory for stereotype-relevant behaviors. Perspective takers recalled more stereotype-inconsistent behaviors performed by a Black male target than did objective-focus participants, and they also recalled an equal number of stereotype-consistent and stereotype-inconsistent behaviors.

One limitation of Experiment 1 was that the stereotype-consistent and stereotype-inconsistent behaviors were all related to hostility and kindness, respectively, making it unclear whether perspective taking affected processing of stereotype-inconsistent behaviors or processing of positive outgroup behaviors more generally. Experiment 2 addressed this limitation by including a mix of both positive and negative behaviors that were either consistent or inconsistent with cultural stereotypes of African Americans. Whereas objective-focus participants spontaneously generated dispositional explanations for stereotype-consistent behaviors and non-dispositional explanations for stereotype-inconsistent behaviors, this stereotypic explanatory bias was not evident among perspective takers. Instead, perspective takers provided dispositional attributions for stereotype-inconsistent behaviors. In both experiments, moreover, the influence of perspective taking was primarily revealed on the processing of stereotype-inconsistent information.

Our final two experiments showed that when given the opportunity to gather information from an interviewee for whom they had a trait expectancy, participants who adopted the interviewee's perspective solicited more expectancy-inconsistent information than did control participants; perspective takers also solicited a more equitable amount of expectancy-consistent and expectancy-inconsistent informa-

tion. Together, these findings indicate that perspective taking can be a viable strategy for undercutting processes that contribute to the perpetuation of stereotypes.

POTENTIAL MECHANISM(S) UNDERLYING OUR FINDINGS

Throughout this article, we have claimed that perspective taking can undermine stereotype maintenance by leading perceivers to process expectancy-inconsistent information more extensively than they might otherwise. Although our results generally support this contention, it remains unclear exactly how perspective taking exerts this effect. We have proposed that perspective taking engenders more complex thinking (Suedfeld et al., 1992). In this respect, perspective-taking instructions may function much like the activation of accountability concerns. Tetlock, Skitka, and Boettger (1989) posited that accountability leads to more integratively complex thought because it encourages consideration of multiple perspectives. The act of considering others' perspectives may inherently activate more elaborate and complex forms of thought—thinking that is incompatible with a simplistic, stereotypic analysis. Prior research has confirmed that accountability increases attention to and evokes more dispositional explanations for expectancy-inconsistent behaviors (Erber & Fiske, 1984). Future research could explore whether perspective taking reduces stereotype maintenance processes via increased complex thinking, for example, by imposing time pressure or depleting perceivers' cognitive resources and seeing whether these constraints eliminate the effects of perspective taking on expectancy-inconsistent information processing.

A second, related possibility is inspired by research showing that (a) engaging in perspective taking engenders abstract thinking (Kozak, Marsh, & Wegner, 2006) and that (b) abstract thinking is associated with the ability to integrate a wider range of information (Henderson & Trope, 2009). Although it is currently unclear whether changes in thought complexity and/or abstract thinking underlie the relationship between perspective taking and reduction in stereotype maintenance processes, future research could explore these possibilities.

CONCLUDING REMARKS

Despite their utility as efficient, sense-making devices, stereotypes can place a considerable burden on stereotyped targets. Even when targeted persons contradict stereotypes, impressions drawn from their behavior are constrained by a variety of stereotype maintenance processes: perceivers remember, explain, and solicit social information in ways that confirm and support stereotypes. Our findings suggest that perspective taking offers one strategy for creating open psychological spaces where people can roam free, unfettered by stereotypes and other confining psychological processes.

REFERENCES

- Allen, T. J., Sherman, J. W., Conrey, F. R., & Stroessner, S. J. (2009). Stereotype strength and attentional bias: Preference for confirming versus disconfirming information depends on processing capacity. *Journal of Experimental Social Psychology, 45*, 1081-1087.
- Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind*. Cambridge, MA: MIT Press.
- Batson, C. D., Polycarpou, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., Klein, T. R., et al. (1997). Empathy and attitudes: Can feeling for a member of a stigmatized group improve feelings toward the group? *Journal of Personality and Social Psychology, 72*, 105-118.
- Bodenhausen, G. V. (1988). Stereotypic biases in social decision making and memory: Testing process models of stereotype use. *Journal of Personality and Social Psychology, 55*, 726-737.
- Bodenhausen, G. V., Todd, A. R., & Becker, A. P. (2007). Categorizing the social world: Affect, motivation, and self-regulation. In B. H. Ross & A. B. Markman (Eds.), *Psychology of learning and motivation: Categories in use* (Vol. 47, pp. 123-155). New York: Academic.
- Brewer, M. B. (1996). When stereotypes lead to stereotyping: The use of stereotypes in person perception. In C. N. Macrae, C. Stangor, & M. Hewstone, (Eds.), *Stereotypes and stereotyping* (pp. 254-275). New York: Guilford.
- Cantor, N., & Mischel, W. (1977). Prototypes in person perception. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 12, pp. 3-52). New York: Academic.
- Davis, M. H. (1994). *Empathy: A social psychological approach*. Dubuque: Brown & Benchmark.
- Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of self and other. *Journal of Personality and Social Psychology, 70*, 713-726.
- Dovidio, J. F., ten Vergert, M., Stewart, T. L., Gaertner, S. L., Johnson, J. D., Esses, V. M., Riek, B. M., & Pearson, A. R. (2004). Perspective and prejudice: Antecedents and mediating mechanisms. *Personality and Social Psychology Bulletin, 29*, 1537-1549.
- Erber, R., & Fiske, S. T. (1984). Outcome dependency and attention to inconsistent information. *Journal of Personality and Social Psychology, 47*, 709-726.
- Fein, S., & Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology, 73*, 31-44.
- Fyock, J., & Stangor, C. (1994). The role of memory biases in stereotype maintenance. *British Journal of Social Psychology, 33*, 331-344.
- Galinsky, A. D., & Ku, G. (2004). The effects of perspective-taking on prejudice: The moderating role of self-evaluation. *Personality and Social Psychology Bulletin, 30*, 594-604.
- Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: Decreasing stereotype expression, stereotype accessibility, and ingroup favoritism. *Journal of Personality and Social Psychology, 78*, 708-724.
- Galinsky, A. D., Wang, C. S., & Ku, G. (2008). Perspective-takers behave more stereotypically. *Journal of Personality and Social Psychology, 95*, 404-419.
- Hamilton, D. L., Sherman, S. J., & Ruvolo, C. M. (1990). Stereotype-based expectancies: Effects on information processing and social behavior. *Journal of Social Issues, 46*, 35-60.
- Hastie, R. (1984). Causes and effects of causal attribution. *Journal of Personality and Social Psychology, 46*, 44-56.
- Heider, J. D., Scherer, C. R., Skowronski, J. J., Wood, S. E., Edlund, J. E., & Hartnett, J. L. (2007). Trait expectancies and stereotype expectancies have the same effect on person memory. *Journal of Experimental Social Psychology, 43*, 265-272.
- Henderson, M. D., & Trope, Y. (2009). The effects of abstraction on integrative agreements: When seeing the forest helps avoid getting tangled in the trees. *Social Cognition, 27*, 402-417.
- Hilton, J. L., & von Hippel, W. (1995). Stereotypes. *Annual Review of Psychology, 47*, 237-271.

- Jackson, L. A., Sullivan, L. A., & Hodge, C. N. (1993). Stereotype effects on attributions, predictions, and evaluations: No two social judgments are quite alike. *Journal of Personality and Social Psychology, 65*, 69-84.
- Johnston, L. C., & Macrae, C. N. (1994). Changing social stereotypes: The case of the information seeker. *European Journal of Social Psychology, 24*, 581-592.
- Jost, J. T., Banaji, M. R., & Nosek, B. A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology, 25*, 881-919.
- Kozak, M., Marsh, A. A., & Wegner, D. M. (2006). What do I think you are doing? Action identification and mind attribution. *Journal of Personality and Social Psychology, 90*, 543-555.
- Lippmann, W. (1922). *Public opinion*. New York: Harcourt, Brace, Jovanovich.
- Macrae, C. N., Bodenhausen, G. V., Milne, A. B., & Wheeler, V. (1996). On resisting the temptation for simplification: Counterintentional effects of stereotype suppression on social memory. *Social Cognition, 14*, 1-20.
- Macrae, C. N., Milne, A. B., & Bodenhausen, G. V. (1994). Stereotypes as energy-saving devices: A peek inside the cognitive toolbox. *Journal of Personality and Social Psychology, 66*, 37-47.
- Macrae, C. N., & Shepherd, J. W. (1989). Stereotypes and social judgments. *British Journal of Social Psychology, 28*, 319-325.
- Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology, 2*, 175-220.
- Roese, N. J., & Sherman, J. W. (2007). Expectancies. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (2nd ed., pp. 91-115). New York: Guilford.
- Schneider, D. J. (2005). *The psychology of stereotyping*. New York: Guilford.
- Sekaquaptewa, D., Espinoza, P., Thompson, M., Vargas, P., & von Hippel, W. (2003). Stereotypic explanatory bias: Implicit stereotyping as a predictor of discrimination. *Journal of Experimental Social Psychology, 39*, 75-82.
- Sherman, J. W. (1996). Development and mental representation of stereotypes. *Journal of Personality and Social Psychology, 70*, 1126-1141.
- Sherman, J. W., Kruschke, J. K., Sherman, S. J., Percy, E. J., Petrocelli, J. V., & Conrey, F. R. (2009). Attentional processes in stereotype formation: A common model for category accentuation and illusory correlation. *Journal of Personality and Social Psychology, 96*, 305-323.
- Sherman, J. W., Lee, A. Y., Bessenoff, G. R., & Frost, L. A. (1998). Stereotype efficiency reconsidered: Encoding flexibility under cognitive load. *Journal of Personality and Social Psychology, 75*, 589-606.
- Sherman, J. W., Stroessner, S. J., Conrey, F. R., & Azam, O. (2005). Prejudice and stereotype maintenance processes: Attention, attribution, and individuation. *Journal of Personality and Social Psychology, 89*, 607-622.
- Sherman, J. W., Stroessner, S. J., Loftus, S. T., & DeGuzman, G. (1997). Stereotype suppression and recognition memory for stereotypical and non-stereotypical information. *Social Cognition, 15*, 205-215.
- Skov, R. B., & Sherman, S. J. (1986). Information-gathering processes: Diagnosticity, hypothesis-confirmatory strategies, and perceived hypothesis confirmation. *Journal of Experimental Social Psychology, 22*, 93-121.
- Snyder, M., & Swann, W. B. (1978). Hypothesis-testing processes in social interaction. *Journal of Personality and Social Psychology, 36*, 1202-1212.
- Stangor, C., & McMillan, D. (1992). Memory for expectancy-congruent and expectancy-incongruent information: A review of the social and the social-developmental literatures. *Psychological Bulletin, 111*, 42-61.
- Suedfeld, P., Tetlock, P. E., & Streufert, S. (1992). Conceptual/integrative complexity. In C. P. Smith (Ed.), *Motivation and personality: Handbook of thematic content analysis* (pp. 393-400). Cambridge, UK: Cambridge University Press.
- Tajfel, H. (1981). *Human groups and social categories*. Cambridge: Cambridge University Press.
- Tetlock, P. E., Skitka, L. J., & Boettger, R. (1989). Social and cognitive strategies for coping with accountability: Conformity, complexity and bolstering. *Journal of*

- Personality and Social Psychology*, 57, 632-640.
- Todd, A. R., Bodenhausen, G. V., Richeson, J. A., & Galinsky, A. D. (2011). Perspective taking combats automatic expressions of racial bias. *Journal of Personality and Social Psychology*, 100, 1027-1042.
- Trope, Y., & Bassok, M. (1982). Confirmatory and diagnosing strategies in social information gathering. *Journal of Personality and Social Psychology*, 43, 22-34.
- Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology*, 33, 455-472.
- Weiner, B. (1985). An attributional theory of achievement and motivation. *Psychological Review*, 92, 548-573.
- Wilder, D. A., Simon, A. F., & Faith, M. (1996). Enhancing the impact of counterstereotypic information: Dispositional attributions for deviance. *Journal of Personality and Social Psychology*, 71, 276-287.
- Wyer, R. S., Jr., & Srull, T. K. (1989). *Memory and cognition in its social context*. Mahwah, NJ: Erlbaum.

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