

# Perspective Taking Combats Automatic Expressions of Racial Bias

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Five experiments investigated the hypothesis that perspective taking—actively contemplating others’ psychological experiences—attenuates automatic expressions of racial bias. Across the first 3 experiments, participants who adopted the perspective of a Black target in an initial context subsequently exhibited more positive automatic interracial evaluations, with changes in automatic evaluations mediating the effect of perspective taking on more deliberate interracial evaluations. Furthermore, unlike other bias-reduction strategies, the interracial positivity resulting from perspective taking was accompanied by increased salience of racial inequalities (Experiment 3). Perspective taking also produced stronger approach-oriented action tendencies toward Blacks (but not Whites; Experiment 4). A final experiment revealed that face-to-face interactions with perspective takers were rated more positively by Black interaction partners than were interactions with nonperspective takers—a relationship that was mediated by perspective takers’ increased approach-oriented nonverbal behaviors (as rated by objective, third-party observers). These findings indicate that perspective taking can combat automatic expressions of racial biases without simultaneously decreasing sensitivity to ongoing racial disparities.

*Keywords:* automatic processes, intergroup bias, perspective taking, prejudice

The 20th century witnessed a dramatic shift in both the public espousal and legal enforcement of the principle of racial equality. Indeed, survey data have revealed a substantial decline in overt expressions of racial bias since the passage of civil rights legislation nearly 50 years ago (Schuman, Steeh, Bobo, & Krysan, 1997), prompting one researcher to claim that this shift toward egalitarianism represents “the single clearest trend in studies of racial attitudes” (Bobo, 2001, p. 269). This collective attitudinal shift notwithstanding, the attainment of genuine racial equality continues to be impeded by contemporary manifestations of bias—ones that are qualitatively distinct from the “old-fashioned” racism that plagued previous generations but that are equally capable of ex-

erting pernicious effects. Because these biases are driven, in part, by normal psychological processes that operate relatively automatically (Dovidio & Gaertner, 2004; Macrae & Bodenhausen, 2000), designing strategies to combat them presents a formidable challenge.

The current research investigated the efficacy of *perspective taking*—the active contemplation of others’ psychological experiences—as a strategy for counteracting automatic expressions of racial bias. Although there is now a substantial literature attesting to the promise of perspective taking for attenuating overt expressions of bias (Batson, Polycarpou, et al., 1997; Dovidio et al., 2004; Galinsky & Ku, 2004; Shih, Wang, Bucher, & Stotzer, 2009; Vescio, Sechrist, & Paolucci, 2003; Vorauer & Sasaki, 2009), little is currently known about whether perspective taking likewise tempers the more indirect and automatic forms of racial bias that pervade contemporary society. To fill this empirical gap, we conducted five experiments examining the impact of perspective taking on several critical (but largely untested) intergroup outcomes: automatic evaluations, approach–avoidance reactions, and behaviors displayed during face-to-face interactions.

## Contemporary Racial Bias: Automatic Negativity and Behavioral Avoidance

The various forms that contemporary racial bias can take have been articulated in several prominent theories (e.g., *ambivalent racism*, Katz & Hass, 1988; *aversive racism*, Dovidio & Gaertner, 2004; *modern racism*, McConahay, 1986; *symbolic racism*, Sears & Henry, 2005). Despite differences in their defining features and operating characteristics, these theories generally posit that many Whites (and others) experience an inner conflict arising from competing response tendencies toward Blacks. One set of tendencies is grounded in the democratic principles of justice and equality and thus encourages nonbiased responses; the other is based on

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an underlying, automatically activated negative affective reaction that encourages discriminatory responses. Numerous studies have now shown that, despite a personal disavowal of prejudice, individuals' underlying interracial negativity often finds behavioral expression, particularly in behaviors that are difficult to monitor and control (e.g., many nonverbal behaviors; Dovidio & Gaertner, 2004).

Face-to-face interracial interactions provide one such context. Because the prospect of interracial contact can be a source of anxiety and discomfort (Blascovich, Mendes, Hunter, Lickel, & Kowai-Bell, 2001; Stephan & Stephan, 1985; Trawalter, Richeson, & Shelton, 2009), many people try to avoid interracial contact whenever possible. Yet, oftentimes interracial contact is unavoidable; in such cases, individuals' underlying negativity may "leak out" behaviorally. For instance, studies have shown that Whites who harbor negative automatic reactions toward Blacks tend to display less nonverbal "friendliness"—fewer approach-oriented (e.g., smiling, forward body leaning) and more avoidance-oriented (e.g., gaze aversion, increased interpersonal distance) behaviors—during interracial interactions (e.g., Dovidio, Kawakami, & Gaertner, 2002; Fazio, Jackson, Dunton, & Williams, 1995; McConnell & Leibold, 2001; see Greenwald, Poehlman, Uhlmann, & Banaji, 2009, for a meta-analytic review). Insofar as Black interaction partners are able to detect underlying interracial negativity in Whites' nonverbal behaviors (see Dovidio et al., 2002; Richeson & Shelton, 2005), they, like Whites, may approach future interracial interactions with a sense of reticence (Shelton, Dovidio, Hebl, & Richeson, 2009; Tropp, 2007). Importantly, this reticence can undermine attempts to establish the rapport and trust that are critical to the development of positive intergroup relations.

Although social scientists have long been interested in unearthing effective strategies for reducing intergroup bias, only recently has attention shifted to strategies targeting automatically activated intergroup reactions. Despite a common assumption that automatic intergroup reactions reflect highly robust mental representations that are rooted in long-term socialization experiences (e.g., Rudman, 2004; Wilson, Lindsey, & Schooler, 2000), there is now considerable evidence that automatic intergroup reactions are readily influenced by a variety of contextual and psychological variables (e.g., Blair, Ma, & Lenton, 2001; Gawronski, Deutsch, Mbirikou, Seibt, & Strack, 2008; Kawakami, Phillips, Steele, & Dovidio, 2007; Olson & Fazio, 2006; Richeson & Nussbaum, 2004; Turner & Crisp, 2010; see Gawronski & Sritharan, 2010, for a comprehensive review). The current research sought to add to this accumulating body of research by exploring the effects of one promising bias-reduction strategy—perspective taking—on automatically activated expressions of racial bias.

### **Perspective Taking and the Attenuation of Contemporary Forms of Bias**

The ability and propensity to consider others' psychological perspectives is an invaluable tool for inferring the contents of others' minds and for predicting and explaining their actions. Social theorists have long argued that a well-developed perspective-taking capacity is critical for managing the complexities of social life (Higgins, 1981; Mead, 1934; Piaget, 1932; Smith, 1759/1976), with some viewing it as a critical antecedent to altruistic behavior (Batson, 1991) and to the development of moral

reasoning more generally (Selman, 1980). Its presence can promote cooperation (Batson & Moran, 1999) and facilitate conflict resolution (Galinsky, Maddux, Gilin, & White, 2008). Perspective-taking deficiencies, in contrast, have been linked to severe social dysfunction (as in the case of autism; Baron-Cohen, 1995) and to arrogant, inconsiderate, and even aggressive styles of interpersonal responding (Richardson, Hammock, Smith, Gardner, & Signo, 1994)—behaviors certain to add fuel to already fiery conflict situations.

Given the wide range of interpersonal benefits resulting from strategic perspective taking, there is good reason to suspect that actively contemplating outgroup members' psychological perspectives could be an efficacious strategy for cultivating more positive intergroup relations. Consistent with this supposition, there are now numerous studies attesting to the merits of perspective taking as a strategy for reducing intergroup bias. Whereas some studies have linked perspective taking to decreased activation and application of negative group stereotypes (Galinsky & Moskowitz, 2000), others have shown that adopting the perspective of a particular outgroup target leads to more positive evaluations of other individual members of the target's group (Shih et al., 2009) and of the target's group as a whole (Batson, Polycarpou, et al., 1997; Dovidio et al., 2004; Galinsky & Ku, 2004; Vescio et al., 2003; Vorauer & Sasaki, 2009).

Although these findings have greatly enhanced our understanding of the intergroup consequences of perspective taking, this work has focused almost exclusively on overt forms of bias (e.g., deliberate evaluations) to the exclusion of the more subtle forms of bias discussed previously (see Galinsky & Moskowitz, 2000, for an exception). Indeed, we are not aware of any published studies investigating the effects of perspective taking on automatic expressions of racial bias. Very few studies, moreover, have examined the behavioral implications of intergroup perspective taking, and what little research there is has yielded mixed results (Blatt, LeLacheur, Galinsky, Simmens, & Greenberg, 2010; Vorauer, Martens, & Sasaki, 2009; Vorauer & Sasaki, 2009).

Why might perspective taking engender more positive automatic interracial reactions? Research indicates that associative representations of many, if not most, social groups contain a mixture of both positive and negative aspects (Fiske, Cuddy, Glick, & Xu, 2002). One implication of this representational ambivalence is that factors that highlight the positive associations should promote more positive automatic intergroup reactions (Gawronski & Bodenhausen, 2006). To the extent that the cognitive elaboration stemming from perspective taking calls to mind different (and more positive) group-based associative content than might otherwise be considered, perspective taking holds the potential to promote more favorable automatic interracial evaluations. Furthermore, if the positive mental representations activated in the course of perspective taking elicit correspondingly more positive spontaneous behavior during interracial encounters, then perspective taking also holds the potential to produce more positive interracial contact experiences. Indeed, research indicates that when a given variable influences the activation of mental associations, there are often corresponding downstream effects on spontaneous forms of behavior (e.g., nonverbal behavior; see Gawronski & Sritharan, 2010).

Despite the benefits accrued from altering automatic interracial evaluations and behaviors, strategies whose primary goal is to

increase interracial harmony can have unintended consequences that limit their utility. For instance, although focusing on intergroup commonalities has long been argued to promote more positive intergroup evaluations, focusing solely on commonalities can limit motivation for actual social change by desensitizing people to the persistence of interracial disparities (Dovidio, Gaertner, & Saguy, 2009; Saguy, Tausch, Dovidio, & Pratto, 2009). If perspective taking, which has been shown to increase perceptions of intergroup commonality (Galinsky, Ku, & Wang, 2005; Galinsky & Moskowitz, 2000; Galinsky, Wang, & Ku, 2008), is susceptible to this unintended side effect, its general value as a strategy for navigating interracial contexts could be limited. However, providing evidence that perspective taking can produce more positive automatic interracial reactions without shrouding interracial disparities would indicate that the benefits of perspective taking do not come with psychological strings attached.

### Overview of the Current Research

The aim of the current research was to investigate the impact of perspective taking on automatic interracial reactions and behaviors. As noted earlier, we define perspective taking broadly as the active contemplation of others' psychological experiences. In each of our experiments, we manipulated perspective taking in an ostensibly unrelated context prior to the administration of the dependent measures. Specifically, we introduced participants to a Black male (either via video or a photograph) and instructed them to adopt his perspective as they watched him in a video or as they wrote a brief essay about a day in his life. Because previous research has found important psychological differences depending on how perspective taking is manipulated (see Batson, 2009, for a review), we included two different manipulations of perspective taking in Experiment 1. Whereas some participants tried to imagine the target's perspective (*perspective-taking-other*), others tried to imagine their own perspective as if they were in the target's situation (*perspective-taking-self*). In the remaining experiments, we employed only the *perspective-taking-other* manipulation. For comparison purposes, we introduced other participants to the same Black male and instructed them to adopt an objective focus, or we provided them with no additional instructions. Thus, the current research is perhaps most aptly described as an investigation of the effects of a perspective-taking mindset<sup>1</sup> on automatic expressions of racial bias.

Our first two experiments assessed the influence of perspective taking on automatic evaluations of Black Americans versus White Americans. Because prior research has demonstrated that factors that produce more positive intergroup evaluations can have the unintended consequence of obscuring intergroup inequalities (Dovidio et al., 2009; Saguy et al., 2009), Experiment 3 investigated whether perspective taking is vulnerable to this unintended side effect. Our final two experiments explored the behavioral implications of perspective taking. Experiment 4 explored whether changes in automatic interracial reactions following perspective taking are target-group-specific by assessing approach-avoidance action tendencies separately for Black and White targets. Experiment 5 examined the impact of perspective taking on behaviors displayed during an actual interracial interaction and on interaction partners' subjective experiences of the interaction.

In general, we predicted that perspective taking would lead to more positive automatic interracial evaluations and action tendencies. On the basis of the proposition that changes in mental representations elicit corresponding changes in behavior (see Gawronski & Sritharan, 2010), we further predicted that perspective-taking-induced changes in automatic interracial reactions would lead to more positive interracial interactions.

### Experiment 1: Automatic Interracial Evaluations

The primary purpose of Experiment 1 was to examine the impact of perspective taking on automatic evaluations of Black Americans relative to White Americans. Participants watched a video depicting a series of discriminatory acts directed toward a Black man versus a White man (Dovidio et al., 2004; Esses & Dovidio, 2002). As they watched the video, participants either adopted the Black man's perspective or they attempted to remain objective and detached. We included two different perspective-taking conditions in this experiment. Some participants tried to imagine the Black man's thoughts, feelings, and experiences (*perspective-taking-other* condition) as they watched the video; others tried to imagine their own thoughts, feelings, and experiences as if they were in the Black man's situation (*perspective-taking-self* condition). Because both approaches have been used in past research (e.g., Batson, Early, & Salvarini, 1997; Davis, Conklin, Smith, & Luce, 1996; Galinsky, Wang, & Ku, 2008) and, in some cases, have been found to have different psychological consequences (Batson, 2009), we wanted to explore whether the specific form of perspective taking would qualify our results. After watching the video, participants completed a variant of the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) that assesses automatic evaluations of Black Americans relative to White Americans (i.e., *personalized evaluative race* IAT; Olson & Fazio, 2004).

If adopting the perspective of a Black target activates different (and more positive) group-based associative content than the negative content ordinarily activated when processing a Black exemplar (Devine, 1989), then one could reasonably expect that perspective takers would exhibit more positive automatic interracial evaluations than would nonperspective takers. Alternatively, it is possible that adopting the perspective of a Black target simply heightens the motivation to be—or at least to appear to be—unbiased (Plant & Devine, 1998) and that perspective taking, despite having benefits for self-reported interracial evaluations (Dovidio et al., 2004; Vescio et al., 2003), exerts little effect on automatic interracial evaluations.

### Method

**Participants and design.** Fifty-one undergraduates (57% female, 43% male; 67% White, 33% Asian) received \$8 for participating. They were randomly assigned to one of three experimental conditions: *perspective-taking-other* versus *perspective-taking-self* versus objective focus.

<sup>1</sup> In keeping with the Würzburg School (e.g., Külpe, 1904; see also Gollwitzer, 1990), we use the term *mindset* to refer to a cognitive orientation or procedure that is derived from a prior, unrelated context and that, when enacted, can have carry-over effects on judgment and behaviors.

**Procedure and materials.** On arriving to the laboratory, participants were greeted by an experimenter and led to an individual cubicle where they were asked to perform several ostensibly unrelated experimental tasks. All tasks were administered via computer.

**Perspective-taking manipulation.** First, as a part of a “documentary assessment” task, participants watched a 5-min video clip depicting a Black man (Glen) and a White man (John) engaging in a variety of everyday activities (Dovidio et al., 2004). Participants watched as the two men received differential treatment while browsing in a department store, attempting to purchase an automobile at a car dealership, and interacting with local police. It was clear from the content of the video that Glen was treated unfairly because of his race.

Before watching the video clip, participants received one of three sets of instructions. Participants in both perspective-taking conditions were asked to take Glen’s (the Black man’s) perspective. Participants assigned to the *perspective-taking–other* condition received additional instructions urging them to visualize clearly and vividly what Glen might be thinking, feeling, and experiencing as he goes through the various activities depicted in the documentary. Participants assigned to the *perspective-taking–self* condition, on the other hand, were asked to imagine what they might be thinking, feeling, and experiencing if they were Glen, looking at the world through his eyes and walking in his shoes as he goes through the various activities depicted in the documentary. Finally, participants assigned to the *objective-focus* condition were asked to remain objective and emotionally detached as they watched the video—to not let themselves get caught up in imagining what the men might be thinking, feeling, and experiencing as the men go through the various activities depicted in the documentary.

**Personalized evaluative race IAT.** Next, as part of a “speeded categorization” task, participants completed a *personalized evaluative race IAT* (Olson & Fazio, 2004), which consisted of seven blocks of trials. In the first block (20 trials), participants assigned four facial images of Black people (two male, two female) to the category African American (left-hand key) and four facial images of White people (two male, two female) to the category European American (right-hand key). In the second block (20 trials), participants assigned 10 normatively positive words (e.g., *honesty, love, vacation*) and 10 normatively negative words (e.g., *cancer, failure, vomit*) to the categories I Like (left-hand key) and I Dislike (right-hand key). The third (20 trials) and fourth (40 trials) blocks consisted of a combination of the first two blocks. Specifically, participants pressed the left-hand key whenever an image of a Black person or a disliked word appeared and a right-hand key whenever an image of a White person or a liked word appeared. In the fifth block (40 trials), the initial target-concept discrimination completed in the first block was repeated but with the categorization keys switched. The sixth (20 trials) and seventh (40 trials) blocks consisted of reversed versions of the third and fourth blocks (i.e., left-hand key for images of White people and disliked words, right-hand key for images of Black people and liked words).

Before each block of trials, participants received brief instructions and were urged to respond as quickly as possible. No error feedback was provided (see Olson & Fazio, 2004). An intertrial interval of 250 ms followed each response. We counterbalanced the order of the experimental blocks across participants and ran-

domized the order of the trials within each block for each participant. Preliminary analyses revealed no effects of block order; therefore, we collapsed across this factor in the analyses reported below.

**Manipulation check.** Finally, participants completed three manipulation check items assessing the orientation they adopted while watching the video: “To what extent did you try to imagine what Glen might be thinking, feeling, and experiencing?” “To what extent did you try imagine what you might be thinking, feeling, and experiencing if you were Glen?” and “To what extent did you try to be objective and emotionally detached?” These ratings were made on 7-point scales (0 = *not at all*, 6 = *very much so*).

## Results and Discussion

Preliminary analyses in each experiment always included participant gender and participant ethnicity. We retained these variables in the reported analyses as covariates when significant effects emerged; otherwise, we collapsed the data across these variables.

**Manipulation check.** Inspection of the manipulation check items revealed that participants in both the perspective-taking–other ( $M = 4.75$ ,  $SD = 0.78$ ) and perspective-taking–self ( $M = 4.95$ ,  $SD = 0.91$ ) conditions reported imagining Glen’s thoughts, feelings, and experiences more than did objective-focus participants ( $M = 3.56$ ,  $SD = 1.75$ ),  $t_s \geq 2.48$ ,  $p_s \leq .02$ ,  $d_s \geq 1.09$ , whereas the two perspective-taking conditions did not differ from each other,  $t < 1$ ,  $p > .49$ ,  $d = 0.24$ . Participants in the perspective-taking–other ( $M = 4.69$ ,  $SD = 1.01$ ) and perspective-taking–self ( $M = 4.63$ ,  $SD = 1.26$ ) conditions also reported imagining what they might be thinking, feeling, and experiencing if they were Glen more than objective-focus participants did ( $M = 3.69$ ,  $SD = 1.40$ ),  $t_s \geq 2.25$ ,  $p_s \leq .03$ ,  $d \geq 0.65$ , whereas the two perspective-taking conditions did not differ from each other,  $t < 1$ ,  $p > .89$ ,  $d = 0.04$ . Finally, objective-focus participants ( $M = 4.00$ ,  $SD = 1.27$ ) reported trying to be more objective and emotionally detached than did participants in the perspective-taking–other ( $M = 2.50$ ,  $SD = 1.97$ ) and perspective-taking–self ( $M = 2.63$ ,  $SD = 1.57$ ) conditions,  $t_s \geq 2.49$ ,  $p_s \leq .03$ ,  $d \geq 0.72$ , who did not differ from each other,  $t < 1$ ,  $p > .81$ ,  $d = 0.07$ . Overall, the effect of instruction set was significant for all three items in separate one-way analyses of variance (ANOVAs),  $F_s \geq 3.39$ ,  $p_s \leq .04$ ,  $\eta_p^2 \geq .12$ . Thus, it appears that our two sets of perspective-taking instructions had largely comparable effects.

**Automatic interracial evaluations.** We computed IAT scores using the scoring algorithm developed by Greenwald, Nosek, and Banaji (2003), with higher  $D$ -scores reflecting an automatic preference for Whites over Blacks (i.e., pro-White bias). Because the two perspective-taking conditions were virtually indistinguishable from each other on the manipulation check items, we examined our hypotheses by conducting two planned contrasts (Rosenthal, Rosnow, & Rubin, 2000): The first contrast compared the two perspective-taking conditions with the objective-focus condition; the second contrast compared the two perspective-taking conditions with each other (see Davis et al., 1996, for a similar analytical approach). We also report the omnibus ANOVA.

If perspective taking encourages less negative (more positive) automatic evaluations of Black Americans relative to White Amer-

icans, then one would expect *lower* IAT scores in the two perspective-taking conditions than in the objective-focus condition. The critical contrast testing our primary hypothesis revealed that participants in both the perspective-taking–other ( $M = 0.32$ ,  $SD = 0.59$ ) and perspective-taking–self ( $M = 0.43$ ,  $SD = 0.41$ ) conditions exhibited significantly weaker pro-White bias than did objective-focus participants ( $M = 0.80$ ,  $SD = 0.37$ ),  $t(48) = 3.06$ ,  $p = .004$ ,  $d = 0.88$ , whereas the two perspective-taking conditions did not differ from each other,  $t(48) = 1.07$ ,  $p = .47$ ,  $d = 0.21$ . Overall, the effect of instruction set was significant in a one-way ANOVA,  $F(2, 48) = 4.84$ ,  $p = .01$ ,  $\eta_p^2 = .17$ .

These findings provide initial support for our contention that adopting the perspective of a Black target in one context can engender more favorable automatically activated interracial evaluations in a subsequent context. Furthermore, we found no differences between the two perspective-taking conditions—a pattern that was confirmed by the results of the manipulation check, which indicated that participants did not distinguish between the two perspective-taking instruction sets. Although some previous research has demonstrated important emotional, cognitive, motivational, and neurophysiological differences when comparing these two perspective-taking conditions (Batson, 2009), numerous other studies have observed null effects (Davis et al., 1996, Experiment 1; Davis et al., 2004, Experiment 2; Finlay & Stephan, 2000; Galinsky, Wang, & Ku, 2008, Experiment 2a). Batson (2009) has argued that null effects are especially likely when participants have very limited information about the target whose perspective they are asked to adopt, though this was not necessarily the case in Experiment 1 or in Finlay and Stephan’s (2000) study. Nevertheless, because participants in our remaining experiments received very little information about the perspective-taking target, we dropped the perspective-taking–self condition from these experiments.

## Experiment 2: Automatic Interracial Evaluations Redux

The goal of Experiment 2 was to replicate and extend the results from Experiment 1 using a different induction of perspective taking. Instead of watching a video depicting racial discrimination, participants received a photograph of a young Black male and wrote an essay about a day in his life (Galinsky & Moskowitz, 2000; Macrae, Bodenhausen, Milne, & Jetten, 1994). In this way, and unlike Experiment 1, participants were unconstrained in the context in which they chose to imagine the target and the manner in which they described him. As they wrote their essays, participants either imagined the target person’s thoughts, feelings, and experiences or they remained objective and detached. Afterwards, participants again completed a *personalized evaluative race* IAT (Olson & Fazio, 2004).

### Method

**Participants and design.** Thirty-eight undergraduates (79% female, 21% male; 58% White, 32% Asian, 10% Latino[a]) received either partial course credit or \$7 for participating. They were randomly assigned to one of two experimental conditions: perspective taking versus objective focus.

**Procedure and materials.** On arrival at the laboratory, participants were led to an individual cubicle where they were asked

to perform several ostensibly unrelated experimental tasks. All tasks were administered via computer.

**Perspective-taking manipulation.** First, as part of a linguistic task investigating “how people construct life event details from visual information,” participants wrote a short narrative essay about a randomly selected person whom they had never met. To emphasize the seemingly random selection of the target, we presented participants with eight different numbered boxes, each of which ostensibly corresponded to a specific individual. After clicking on one of the boxes, all participants saw a photograph of the same target person (a young Black man) along with instructions to spend about 5 min writing about a day in his life. Participants in the *perspective-taking* condition received additional instructions that were similar to the *perspective-taking–other* instructions from Experiment 1. Participants in the *objective-focus* condition received additional instructions that were modeled after those from Experiment 1.

**Personalized evaluative race IAT.** Next, participants completed a *personalized evaluative race* IAT (Olson & Fazio, 2004) that was similar to the one used in Experiment 1, with the following exceptions. First, we changed the number of trials in each block: The first, second, third, and sixth blocks contained 24 (rather than 20) trials, and the fourth, fifth, and seventh blocks contained 48 (rather than 40) trials. Second, instead of using normatively positive and negative words, we included 12 entities (e.g., *coffee*, *football*, *tequila*) shown in previous research to have no clear normative evaluation but a large degree of variability in personal evaluation (see Olson & Fazio, 2004). Finally, because there were no effects of block order in Experiment 1 and because our primary interest was to examine relative differences in associative evaluations as a function of instruction set rather than the absolute magnitude of associations per se, we did not counterbalance the order of the critical trial blocks.<sup>2</sup>

## Results and Discussion

As in Experiment 1, we computed IAT scores using Greenwald et al.’s (2003) scoring algorithm, with higher  $D$ -scores reflecting an automatic preference for Whites over Blacks (i.e., pro-White bias). Once again, if perspective taking encourages less negative (more positive) automatic evaluations of Black Americans versus White Americans, then we should observe a *less* pronounced IAT effect among perspective takers than objective-focus participants. As expected, perspective takers ( $M = 0.01$ ,  $SD = 0.52$ ) exhibited significantly weaker pro-White bias than did objective-focus participants ( $M = 0.49$ ,  $SD = 0.70$ ),  $t(36) = 2.39$ ,  $p = .02$ ,  $d = 0.78$ .

These findings provide additional support for our contention that perspective taking can attenuate the automatic interracial negativity that characterizes contemporary racial bias. Taken to-

<sup>2</sup> We should also note that although counterbalancing block order is a common practice in research using response interference tasks such as the IAT, research indicates that doing so can introduce systematic error variance and thereby undermine statistical power (for a more detailed discussion of the costs associated with counterbalancing block order, see Gawronski, Deutsch, & Banse, in press). Nevertheless, to help limit extraneous influences stemming from block order, as in Experiment 1, we doubled the number of trials during the fifth trial block (Nosek, Greenwald, & Banaji, 2007).

gether, the results of Experiments 1 and 2 are consistent with previous research documenting decreases in self-reported prejudicial attitudes following perspective taking (Batson, Polycarpou, et al., 1997; Dovidio et al., 2004; Galinsky & Ku, 2004; Vescio et al., 2003; Vorauer & Sasaki, 2009) and suggest that the effects of perspective taking on deliberate interracial evaluations are not fully explained by an increased motivation to appear unbiased to oneself or others.

### Experiment 3: Automatic and Deliberate Interracial Evaluations and Perceptions of Interracial Inequality

Experiment 3 sought to replicate these findings using a different measure of automatic interracial evaluations. Another goal of Experiment 3 was to determine what other types of race-related associations are automatically activated following perspective taking. Galinsky and Moskowitz (2000) discovered that one mechanism through which perspective taking reduces intergroup bias is by increasing perceptions of commonality between the self and the target of perspective taking (and other members of the target's group). However, studies have shown that heightened perceptions of intergroup commonality, although beneficial for reducing intergroup prejudice, can inadvertently cause perceivers to overlook and underestimate intergroup inequalities (Dovidio et al., 2009; Saguy et al., 2009). Thus, even though perspective taking appears to be an effective strategy for reducing automatic prejudice, it might simultaneously reduce acknowledgment of intergroup inequalities, which would raise concerns about its general utility as a strategy for improving intergroup relations and motivating social change.

To examine these issues, we first had participants complete the narrative essay task from Experiment 2. As before, some participants received perspective-taking instructions, whereas others wrote their essays without any additional instructions. Including this control condition allowed us to determine whether the results obtained in the first two experiments reflect the benefits of perspective taking or the detriments of an objective focus.

After writing their essays, participants completed two IATs, one of which was conceptually similar to the personalized evaluative race IAT used in Experiments 1 and 2—it assessed automatic evaluations of Black Americans relative to White Americans (*standard evaluative race IAT*; Greenwald et al., 1998). Because there are controversies surrounding which IAT is optimal for assessing automatic evaluations (e.g., Gawronski, Peters, & LeBel, 2008; Han, Czellar, Olson, & Fazio, 2010; Han, Olson, & Fazio, 2006; Nosek & Hansen, 2008a, 2008b; Olson & Fazio, 2004; Olson, Fazio, & Han, 2009), Experiment 3 utilized the standard IAT to extend the findings from Experiments 1 and 2. Although we expected the effects of perspective taking on the two IAT variants to be comparable, it is ultimately an empirical question.

The second IAT was designed to capture automatic tendencies to perceive interracial inequalities. More specifically, this latter IAT assessed automatically activated associations between Black Americans (vs. White Americans) and oppression-related (vs. privilege-related) concepts (*racial oppression IAT*; Uhlmann, Brescoll, & Paluck, 2006). If perspective taking produces more favorable automatic interracial evaluations without shrouding the existence of racial disparities, then perspective takers should show

a *weaker* association between Black Americans and negative concepts, coupled with a *stronger* association between Black Americans and oppression-related concepts.

Finally, we assessed deliberate intergroup evaluations using a set of feeling thermometer items. Participants reported their feelings of warmth versus coldness toward each of several different racial/ethnic groups (including Blacks and Whites).

## Method

**Participants and design.** Fifty-six undergraduates (54% female, 46% male; 71% White, 21% Asian, 4% Latino[a], 4% mixed or other races/ethnicities) received \$8 for participating. They were randomly assigned to one of two experimental conditions: perspective taking versus control.

**Procedure and materials.** On arrival at the laboratory, participants were led to an individual cubicle and were asked to perform several ostensibly unrelated experimental tasks. All tasks were administered via computer.

**Perspective-taking manipulation.** First, participants composed a brief essay about a day in the life of a photographed Black male as in Experiment 2, following one of two sets of instructions. Participants in the *perspective-taking* condition received the same perspective-taking instructions from Experiment 2, whereas participants in the *control* condition simply wrote about the person in the photograph without any additional instructions.

**Evaluative race IAT.** Next, participants completed two separate IATs (order was counterbalanced across participants). The *standard evaluative race IAT* (Greenwald et al., 1998) assessed the degree to which participants automatically associate Blacks and Whites with positivity versus negativity. This IAT was nearly identical to the *personalized evaluative race IAT* employed in Experiments 1 and 2, except that we changed the categories I Like and I Dislike to Good and Bad, respectively. The stimuli consisted of the same eight facial images of Black and White men and women and the same 10 positive and 10 negative words used in Experiment 1.

**Racial oppression IAT.** The *racial oppression IAT* (Uhlmann et al., 2006) assessed automatic associations of Blacks and Whites with oppression versus privilege. In this IAT, participants assigned Black and White facial images and oppression-related (e.g., *victimized, mistreated, exploited*) and privilege-related (e.g., *advantaged, dominant, powerful*) words to the categories African American, European American, Oppressed, and Privileged, respectively. In all other respects, the IATs were identical both to each other and to the IATs used previously.

**Feeling thermometers.** Lastly, participants completed items assessing the degree of warmth versus coldness they felt toward four different racial/ethnic groups: Whites, Blacks, Asians, and Latino(a)s. Participants were asked to focus on their feelings toward each group and to provide their ratings on 7-point scales (0 = *very cold*, 6 = *very warm*).

## Results and Discussion

**Automatically activated associations.** Once again, we computed IAT scores using Greenwald et al.'s (2003) scoring algorithm. For the *evaluative race IAT*, higher *D*-scores reflect an automatic preference for Whites over Blacks (i.e., pro-White bias);

for the *racial oppression* IAT, higher *D*-scores reflect stronger *Black–oppressed* (*White–privileged*) associations.

If perspective taking encourages less negative (more positive) automatic evaluations of Black Americans versus White Americans, then we should observe *lower* scores on the *evaluative race* IAT among perspective takers than control participants. Similarly, if perspective taking heightens (implicit) recognition of racial inequality, then we should observe *higher* scores on the *racial oppression* IAT among perspective takers than controls. As expected and displayed in Figure 1, perspective takers exhibited *weaker* pro-White bias on the *evaluative race* IAT,  $t(54) = 2.01$ ,  $p < .05$ ,  $d = 0.55$ , and *stronger* Black–oppressed (*White–privileged*) associations on the *racial oppression* IAT,  $t(54) = 2.03$ ,  $p < .05$ ,  $d = 0.55$ , than did control participants.

**Deliberate intergroup evaluations.** If perspective taking promotes more positive deliberate evaluations of Black Americans, then feelings of warmth toward Blacks as a group should be greater for perspective takers than for control participants. Furthermore, if the effects of perspective taking are target-group-specific, then feelings of warmth toward the other groups should not differ as a function of instruction set. As expected, perspective takers ( $M = 4.52$ ,  $SD = 1.24$ ) reported stronger feelings of warmth toward Blacks as a group than did control participants ( $M = 3.88$ ,  $SD = 1.09$ ),  $t(54) = 2.02$ ,  $p < .05$ ,  $d = 0.55$ , whereas feelings of warmth toward Whites, Latino(a)s, and Asians did not differ for perspective takers and control participants,  $t$ 's  $< 1.44$ ,  $p$ 's  $> .15$ ,  $d$ 's  $< 0.43$ .

**Mediation analyses.** We next conducted several mediation analyses to examine the underlying relationship between perspective taking and changes in automatic and deliberate interracial evaluations. According to the associative–propositional evaluation (APE) model (Gawronski & Bodenhausen, 2006), several different meditational patterns could be expected. First, perspective taking could exert a direct effect on automatic interracial evaluations, which then exert an indirect effect on deliberate evaluations of Blacks. Second, perspective taking could exert a direct effect on deliberate evaluations, which could exert an indirect effect on automatic interracial evaluations. Third, perspective taking could exert both direct and indirect effects on both automatic and deliberate evaluations (see Gawronski & Bodenhausen, 2006, for a more detailed discussion of these meditational patterns).

Using the bootstrapping procedures advocated by Shrout and Bolger (2002) and the SPSS macros created by Preacher and

Hayes (2008), we first assessed whether the effect of instruction set (0 = *control*, 1 = *perspective taking*) on deliberate evaluations (i.e., feeling thermometer ratings) of Blacks was mediated by automatic interracial evaluations (i.e., *evaluative race* IAT scores). As displayed in Figure 2, results revealed a marginally significant direct effect of automatic evaluations on deliberate evaluations ( $t = -1.93$ ,  $p = .06$ ). When controlling for this effect, the effect of instruction set on deliberate evaluations was no longer significant ( $t = 1.48$ ,  $p = .14$ ). We also observed a 95% confidence interval around the indirect effect of automatic evaluations ranging from .0138 to .4727, indicating significant mediation ( $p < .05$ ).

Next, we examined the reverse meditational pattern—that deliberate evaluations of Blacks mediated the relationship between perspective taking and automatic interracial evaluations. This analysis yielded no evidence for mediation; the 95% confidence interval around the indirect effect included zero ( $-.1390$  to  $.0087$ ).

Finally, we tested whether automatic perceptions of intergroup inequality (i.e., *racial oppression* IAT scores) mediated the relationship between perspective taking and deliberate evaluations of Blacks. Results failed to reveal a direct effect of the mediating variable on the outcome variable ( $t = 1.28$ ,  $p > .22$ ).

These findings are notable for several reasons. First, we replicated the findings from Experiments 1 and 2 using a different measure of automatic evaluations. Second, we replicated previous research showing that perspective taking leads to more positive deliberate evaluations of African Americans as a group (e.g., Dovidio et al., 2004; Vescio et al., 2003). Third, we demonstrated that changes in automatic evaluations mediated changes in deliberate evaluations.

Taken together, the results of Experiment 3 suggest that perspective taking might create a complex web of automatic interracial associations. On the one hand, perspective taking strengthened automatic associations between Blacks (Whites) and general positivity (negativity). On the other hand, it strengthened automatic associations between Blacks (Whites) and concepts related to oppression and disadvantage (power and privilege), which are clearly negative in valence. Arguably, the most important question is which of these seemingly inconsistent associations exerts a more pronounced effect on behavior. One way to explore this question is to examine the effect of perspective taking on basic approach–avoidance action tendencies.

#### Experiment 4: Approach–Avoidance Action Tendencies

One of the most basic functions of attitudes is to provide an orienting framework for interactions with the social environment, with favorable evaluations leading to engagement with a stimulus and negative ones to disengagement (e.g., Eaton, Majka, & Visser, 2008). Accordingly, extensive research has confirmed that approach-related motor responses (e.g., pulling an object toward oneself) are facilitated when people have a positive evaluation of a particular entity, whereas avoidance-related responses (e.g., pushing an object away from oneself) are facilitated when people harbor a negative evaluation of that entity (e.g., Chen & Bargh, 1999; Duckworth, Bargh, Garcia, & Chaiken, 2002; Eder & Rothermund, 2008; for a review, see Neumann, Förster, & Strack, 2003). The goal of Experiment 4 was to determine whether per-

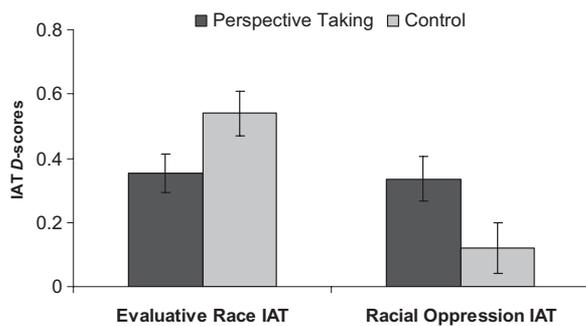


Figure 1. Evaluative race Implicit Association Test (IAT) and racial oppression IAT *D*-scores as a function of instruction set (perspective taking vs. control). Error bars depict standard errors (Experiment 3).

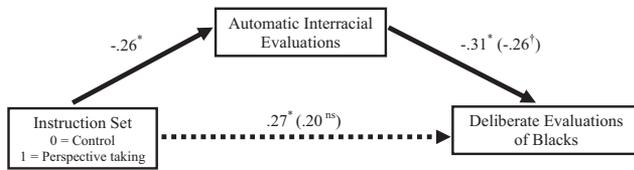


Figure 2. Automatic interracial evaluations mediate the effect of instruction set on deliberate evaluations of Blacks. Numbers represent standardized regression coefficients; numbers in parentheses represent simultaneous regression coefficients (Experiment 3).  $^{\dagger} p = .06$ .  $* p < .05$ .

spective taking might affect basic interracial approach–avoidance tendencies.

We investigated this possibility by having participants complete the same narrative essay task (with perspective-taking vs. control instructions) used in Experiment 3, after which they completed a motor task that involved moving a gaming joystick either toward (approach) or away from (avoidance) themselves in response to facial images of Black people, White people, and inanimate objects (i.e., pieces of furniture). Because participants were required to respond to faces of *both* races using the *same* motor response (and to pieces of furniture using the opposite motor response) within the same block of trials, this task allowed us to assess approach–avoidance reactions to Blacks and Whites separately. After completing the joystick task, participants were asked to help a different research assistant with a separate, unrelated task in a different room in the laboratory. In preparation for this task, participants were instructed to set up two chairs (one for themselves, the other for the research assistant), with the distance between the chairs serving as a second measure of automatic approach–avoidance reactions (e.g., Kawakami et al., 2007; Macrae et al., 1994). Depending on condition, participants were informed that the research assistant’s name was either “Jake” (a stereotypically White name) or “Tyrone” (a stereotypically Black name), which again allowed us to assess approach–avoidance reactions to Blacks and Whites separately.

## Method

**Participants and design.** Seventy-one undergraduates (58% female, 42% male; 54% Asian, 39% White, 4% Latino/a, 3% mixed or other races/ethnicities) received \$8 for participating. They were randomly assigned to one of four conditions in a 2 (instruction set: perspective taking vs. control)  $\times$  2 (race of research assistant interviewer: White vs. Black) between-participants design.

**Procedure and materials.** Participants arrived to the laboratory individually and were greeted by an experimenter who led them to an individual cubicle where they were asked to perform several ostensibly unrelated experimental tasks. The first task was same the narrative essay task used in Experiments 2 and 3. Participants wrote a narrative essay about a young Black male who appeared in a photograph, following either perspective-taking or control instructions.

**Approach–avoidance joystick task.** Next, as part of “motor task” investigating “how quickly people can make different motor movements in response to different stimuli,” participants responded to different images either by pulling the joystick toward

themselves or by pushing it away from themselves. The images consisted of the same eight facial images of Blacks and Whites from Experiments 1–3 as well as eight images of different pieces of furniture (e.g., table, chair, sofa), each of which appeared one-by-one in the middle of the screen.

The task consisted of two experimental blocks of 80 trials each, both of which were preceded by blocks of practice trials (16 preceding the first experimental block, 32 preceding the second block; see Nosek, Greenwald, & Banaji, 2007). In one block of experimental trials (*approach faces/avoid furniture*), participants were asked to gently *pull* the joystick toward themselves as quickly as possible if the image is a *face* and to gently *push* the joystick away from themselves as quickly as possible if the image is a *piece of furniture*. In the other block of experimental trials (*avoid faces/approach furniture*), participants received the opposite instructions—to *push* the joystick if the image is a *face* and to *pull* the joystick if the image is a *piece of furniture*. Critically, there was no mention of race or the terms *approach* and *avoid* at any point during the task.

Each trial began with a fixation cross presented for 1,000 ms, followed by a single image (either a face or a piece of furniture) that remained on the screen until participants moved the joystick in the appropriate direction. Incorrect responses were accompanied by a red “X,” which appeared in the center of the screen until participants made the correct movement. An intertrial interval of 250 ms followed both correct and incorrect responses. We randomized the order of trials within each trial block for each participant, and we counterbalanced the order of the trial blocks across participants. Preliminary analyses indicated that block order did not moderate the results; thus, we collapsed across this variable in the analyses reported below.

**Seating distance task.** Upon completing the “motor task,” participants were informed by the computer that the experiment had ended. As participants exited their cubicle, the experimenter casually asked participants whether they would remain in the laboratory for another 5 min to help a different research assistant with an unrelated task. The experimenter explained that this other research assistant (either “Jake” or “Tyrone,” depending on condition) would soon be starting a new experiment in which he would be interviewing students about their experiences in college. It was further explained that Jake/Tyrone needed to practice his interviewing skills before he could begin the new experiment. All participants agreed to the interview, at which point the experimenter led them to an adjacent room in the laboratory.

On entering the room, the experimenter (pointing to a stack of chairs in the corner of the room) instructed participants to remove two chairs from the stack, to set them up across from each other, and to have a seat. The experimenter then left the room, presumably to get Jake/Tyrone. A few seconds later, the experimenter returned, informed participants that the experiment had ended, and asked participants to complete a final questionnaire in their original cubicle. Contained within this questionnaire were two manipulation check items asking participants to recall the name of the interviewer and to guess the race/ethnicity of the interviewer. As participants completed the questionnaire, the experimenter measured (to the nearest quarter-inch) the distance between the two chairs. During debriefing, no participant voiced suspicions that the interview was related to the other experimental tasks.

**Results and Discussion**

**Approach–avoidance reactions.** After eliminating incorrect responses (3%) and response latencies <300 ms and >1,500 ms (<1%), we subjected the remaining latencies to a log-transformation prior to analysis (Chen & Bargh, 1999). For interpretive ease, descriptive statistics are reported in milliseconds. Mean response latencies and standard deviations for the different conditions appear in Table 1.

If perspective taking elicits more favorable interracial approach–avoidance reactions, then perspective takers should be faster to approach Black targets and slower to avoid Black targets relative to control participants. Furthermore, if the effects of perspective taking are specific to Black targets, then approach–avoidance reactions to White targets and inanimate objects should not differ as a function of instruction set. A 2 (instruction set: perspective taking vs. control) × 2 (movement: approach vs. avoidance) × 3 (target: Black people vs. White people vs. furniture) mixed ANOVA, with repeated measures on the last two factors, revealed the critical three-way interaction,  $F(2, 138) = 3.62, p = .03, \eta_p^2 = .05$ . This analysis also yielded main effects for movement,  $F(1, 69) = 27.96, p < .001, \eta_p^2 = .29$ , and target,  $F(2, 138) = 12.27, p < .001, \eta_p^2 = .14$ , indicating that approach reactions were faster than avoidance reactions and that reactions to the facial images were faster than reactions to furniture, respectively.

To specify the critical three-way interaction in terms of the current hypotheses, we calculated indices of approach-oriented action tendencies by subtracting participants’ approach latencies from their avoidance latencies for each of the targets. As expected and displayed in Figure 3, perspective takers exhibited stronger approach reactions for Black targets than did control participants,  $t(69) = 2.78, p < .01, d = 0.67$ , whereas approach reactions for the White targets and furniture did not differ between perspective takers and control participants,  $|t|s < 1, |p|s > .37, |d|s < 0.22$ .

**Seating distance.** Because of time constraints in several experimental sessions, four participants were unable to complete the seating distance task. We also excluded data from two other participants for failing to correctly identify the intended race of the interviewer, leaving 65 participants for the analyses reported below.

Table 1  
*Mean Response Latencies in Milliseconds as a Function of Target (Black People vs. White People vs. Furniture), Movement (Approach vs. Avoidance), and Instruction Set (Perspective Taking vs. Control), Experiment 4*

Type of movement/ instruction set	Target		
	Black people	White people	Furniture
Approach reactions			
Perspective taking	517 (64)	538 (79)	550 (82)
Control	540 (90)	532 (81)	531 (50)
Avoidance reactions			
Perspective taking	569 (91)	552 (76)	568 (83)
Control	539 (62)	541 (60)	561 (69)

Note. Standard deviations appear in parentheses.

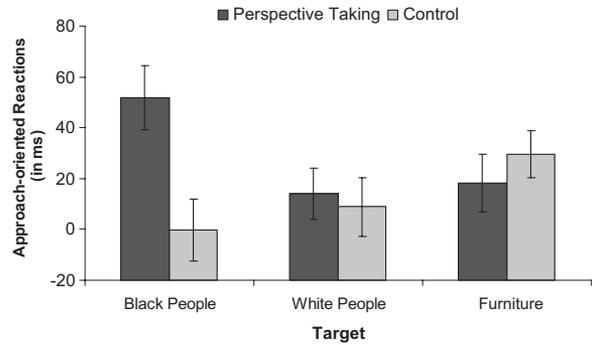


Figure 3. Approach (vs. avoidance) reactions as a function of target (Black people vs. White people vs. furniture) and instruction set (perspective taking vs. control). Error bars depict standard errors (Experiment 4).

If perspective taking engenders stronger approach-oriented action tendencies toward Black Americans, then seating distances from the ostensibly Black interviewer (“Tyrone”) should be closer for perspective takers than for control participants. Moreover, if the effects of perspective taking are specific to Black targets, seating distances from the ostensibly White interviewer (“Jake”) should not differ as a function of instruction set. As expected and displayed in Figure 4, perspective takers sat closer to the Black interviewer than did control participants,  $t(32) = 2.15, p = .04, d = 0.76$ , whereas seating distances from the White interviewer did not differ for perspective takers and control participants,  $t < 1, p > .41, d = 0.30$ . Furthermore, whereas control participants sat closer to the White interviewer than to the Black interviewer,  $t(31) = 2.00, p = .05, d = 0.72$ , perspective takers sat nonsignificantly closer to the Black interviewer than to the White interviewer,  $t(30) = 1.12, p = .27, d = 0.41$ . This pattern of means produced a significant Instruction Set × Interviewer Race interaction,  $F(1, 61) = 4.86, p = .03, \eta_p^2 = .07$ .

Employing two different measures of approach–avoidance action tendencies, the results of Experiment 4 indicate that adopting the perspective of a Black male target in one context strengthened automatic approach reactions toward Blacks as a group and encouraged stronger behavioral approach tendencies toward a different Black target in a subsequent context. These findings are con-

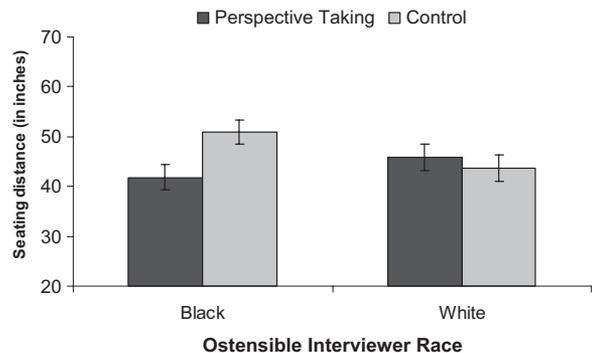


Figure 4. Seating distance as a function of ostensible interviewer race (Black vs. White) and instruction set (perspective taking vs. control). Error bars depict standard errors (Experiment 4).

sistent with our prediction—derived from the attitudes literature (Neumann et al., 2003)—that the changes in automatic interracial evaluations found in Experiments 1–3 should translate to stronger approach reactions and weaker avoidance reactions to Black Americans. Furthermore, the effects of perspective taking were specific to Black targets (see also Batson, Polycarpou, et al., 1997; Shih et al., 2009; Vescio et al., 2003), suggesting that the results of the first three experiments are likely to reflect increased positivity toward Black Americans rather than increased negativity toward White Americans.

Thus far, we have primarily examined the impact of perspective taking on *intrapersonal* dependent variables, albeit ones that should theoretically have noteworthy interpersonal consequences. Although showing marked differences on these outcomes is valuable in its own right, a critical litmus test of any bias-reduction strategy is whether it produces positive changes in actual behavior during encounters with members of the targeted group.

### Experiment 5: Interracial Contact Experiences

The goal of our final experiment was to more directly investigate the *interpersonal* consequences of perspective taking. More specifically, we examined its effects on behaviors displayed during an interracial interaction. Participants first completed the narrative essay task used in the previous experiments; some participants received perspective-taking instructions, others received objective-focus instructions, and remaining participants received no additional instructions (i.e., no-instruction control condition). Inclusion of these two control conditions afforded an assessment of how participants behave both in the absence of perspective taking as well as under default circumstances. Afterwards, rather than completing a response-latency measure of automatic interracial reactions as in the first four experiments, participants instead engaged in a brief, unexpected interracial interaction with one of two Black female experimenters, who later provided her perceptions of the positivity of the interaction. These interactions were videotaped and later coded by trained judges, who rated participants' nonverbal behaviors along several dimensions indicative of approach versus avoidance (e.g., smiling, eye contact, body posture; Andersen, 1985).

On the basis of the results of the first four experiments, one could reasonably predict that positive changes in automatic evaluations and approach–avoidance reactions might provide the impetus for more positive spontaneous behavior during intergroup interactions (see Gawronski & Sritharan, 2010). In contrast to this view, Vorauer et al. (2009) have argued that perspective taking, despite its bias-reducing potential in noninteraction contexts, can disrupt displays of positive behavior when enacted during an actual interaction. Specifically, Vorauer et al. (2009, Experiment 4) found that Aboriginal Canadian students reported less positive affect after face-to-face interactions with White Canadian students who had (vs. had not) actively taken their perspective during the interaction. Interestingly, this was only true for interactions with lower prejudiced White participants; perspective taking produced nonsignificantly positive effects for interactions with higher prejudiced participants. Thus, contrary to the current hypotheses, Vorauer et al.'s work suggests that perspective taking may, at best, have small effects during actual interracial interactions and might even backfire, resulting in more negative contact experiences.

### Method

**Participants and design.** Forty-nine undergraduates (67% female, 33% male; 77% White, 17% Asian, 6% Latino[a]) received partial course credit for their participation. They were randomly assigned to one of three experimental conditions: perspective taking versus objective focus versus no-instruction control.

**Procedure and materials.** Participants arrived to the laboratory individually for a study investigating “the dynamics of interpersonal interactions.” On arrival, participants were greeted by a White male experimenter (blind to experimental condition) and were led to an individual room in the laboratory where they learned that they would be completing several unrelated tasks. These included a linguistic task that involved writing a short essay, which was to be followed by a brief discussion with another student on a “to-be-determined” topic. Participants also learned that after the discussion with the other student they would answer a few questions prepared by their introductory psychology instructors. Before leaving the room, the White experimenter informed participants that another experimenter would assist them during the remainder of the experimental session. At this point, participants had received no information regarding the race of the other experimenter. During the linguistic task, participants composed a narrative essay about a photographed Black male target, following either perspective-taking, objective-focus, or control instructions.

After completing their essays, participants were greeted by one of two Black female experimenters (both blind to experimental condition and hypotheses) and were led to another room in the laboratory for the interaction (see McConnell & Leibold, 2001, for a similar procedure). This room was equipped with a table and two chairs. In addition (and unbeknownst to participants), a hidden video camera was positioned to record participants as they interacted with the experimenter. Upon entering the room, the Black experimenter informed participants that the other student with whom they would have their discussion had arrived late and was still completing the first task. In actuality, there was no other student. The Black experimenter then informed participants that, so as not to waste their time, they could answer the questions prepared by the introductory psychology instructors as they were waiting for the other student to finish the linguistic task. After assuring participants that their responses would remain confidential, the Black experimenter asked a series of mundane questions about their introductory psychology course (e.g., “What are your favorite and least favorite aspects about the class?”), pausing between each question and pretending to record participants' responses on a notepad. The interactions lasted for approximately 3 min.

After the interaction, the Black experimenter excused herself to “go check on the other participant.” In actuality, she reported her subjective experiences of the interaction (see the Black Experimenter Ratings section below). At this point, the original experimenter returned, informed participants that the experiment had ended, and requested permission to analyze their videotapes.

**Black experimenter ratings.** Immediately following the interaction, the Black experimenters completed items assessing (a) their *perceptions of participants' behaviors* (i.e., friendly, pleasant, likeable, engaged, relaxed, cold, curt, tense, uncomfortable;  $\alpha = .94$ ; see Dovidio et al., 2002) and (b) their *subjective enjoyment of*

the interaction (i.e., enjoyable, awkward, comfortable;  $\alpha = .80$ ; see Apfelbaum & Sommers, 2009). All ratings were made on 9-point scales (0 = *not at all*, 8 = *very much so*) and were reverse-coded where applicable.

**Nonverbal video coding.** Several weeks after data collection, we extracted a 30-s video clip from the middle of each interaction (Ambady, Bernieri, & Richeson, 2000). We then edited each clip so that only the participant was visible, thereby concealing the interracial composition of the interaction. Video clips for two participants were lost because of a recording malfunction, and an additional participant requested that his videotape be erased. Therefore, analyses are based on the 46 remaining participants. Three female coders (two Black, one White) who were blind to experimental condition and hypotheses viewed the videos without sound and rated for the presence of approach-oriented action tendencies, which were operationalized here in terms of several spontaneous nonverbal behaviors reflecting an approach orientation (i.e., smiling, eye contact, leaning toward [vs. away from] experimenter, fidgeting; see Andersen, 1985). All items were rated on 9-point scales (reverse-coded where applicable), with endpoints tailored to the particular behavior (e.g., 0 = *not smiling at all*, 8 = *smiling a lot*). The judges' ratings were sufficiently reliable (*intraclass*  $r = .68$ ), and, thus, their ratings were combined ( $\alpha = .82$ ), with higher scores reflecting more approach-oriented nonverbal behaviors.

## Results and Discussion

Preliminary analyses revealed main effects of participant gender on the Black experimenters' ratings, indicating more positive ratings for female than male participants; thus, we retained participant gender as a covariate in those analyses. Additional analyses revealed no differences as a function of the particular Black experimenter (1 vs. 2) or participant ethnicity, so we collapsed across these variables.

Because previous research has observed null effects between objective-focus and control conditions (e.g., Dovidio et al., 2004), we examined our hypotheses by conducting a planned contrast (Rosenthal et al., 2000) comparing the perspective-taking condition with both the objective-focus and no-instruction control conditions (see Dovidio et al., 2004, for a similar analytical approach). We also report the results of all simple comparisons and the omnibus analyses of (co)variance.

If perspective taking encourages more positive behaviors, then the Black experimenters should report more positive perceptions of participants' behaviors and more positive subjective experiences of the interaction itself following interactions with perspective takers than following interactions with objective-focus and control participants. Furthermore, we expected that perspective takers would exhibit more positive automatic reactions (operationalized here as objective, third-party observers' ratings of participants' approach-oriented nonverbal behaviors) than would objective-focus and no-instruction control participants. Means and standard deviations appear in Table 2.

**Black experimenters' perceptions of participants' behaviors.** As predicted, the critical contrast comparing the positivity of perspective takers' behaviors with that of nonperspective takers was reliable,  $t(44) = 2.41$ ,  $p = .02$ ,  $d = 0.73$ . Additional comparisons revealed that behavior ratings for perspective takers were more positive than were ratings for objective-focus participants,

Table 2

*Black Experimenter Ratings (Positivity of Behavior and Subjective Experiences) and Third-Party Observer Ratings of Approach-Oriented Nonverbal Behaviors as a Function of Instruction Set (Perspective Taking vs. No-Instruction Control vs. Objective Focus), Experiment 5*

Dependent variable	Instruction set		
	Perspective taking	No-instruction control	Objective focus
Black experimenter ratings			
Positivity of behaviors	6.34 (0.98)	5.47 (1.68)	5.30 (1.16)
Subjective experiences	6.12 (0.82)	5.35 (1.40)	5.20 (1.26)
Approach-oriented nonverbal behaviors	5.15 (0.68)	4.48 (1.23)	4.43 (0.79)

*Note.* Standard deviations appear in parentheses.

$t(44) = 2.24$ ,  $p = .03$ ,  $d = 0.68$ , and marginally more positive than were ratings for control participants,  $t(44) = 1.91$ ,  $p = .06$ ,  $d = 0.58$ . Behavior ratings for control and objective-focus participants did not differ,  $t < 1$ ,  $p > .70$ ,  $d = 0.11$ . Overall, the effect of instruction set was marginally significant in a one-way ANOVA,  $F(2, 44) = 2.93$ ,  $p = .06$ ,  $\eta_p^2 = .12$ .

**Black experimenters' subjective experiences.** Also as expected, Black experimenters reported more positive subjective experiences following interactions with perspective takers than following interactions with nonperspective takers,  $t(44) = 2.60$ ,  $p = .01$ ,  $d = 0.78$ . Additional comparisons indicated that interactions with perspective takers were rated more positively than were interactions with either objective-focus participants,  $t(44) = 2.26$ ,  $p = .03$ ,  $d = 0.68$ , or control participants,  $t(44) = 2.23$ ,  $p = .03$ ,  $d = 0.67$ . Ratings for control and objective-focus participants did not differ,  $t < 1$ ,  $p > .98$ ,  $d = 0.02$ . A one-way ANOVA testing the omnibus effect of instruction set on the Black experimenters' subjective experiences was significant,  $F(2, 44) = 2.93$ ,  $p = .04$ ,  $\eta_p^2 = .13$ .

**Approach-oriented nonverbal behaviors.** Consistent with predictions, perspective takers displayed more approach-oriented nonverbal behaviors than did nonperspective takers,  $t(43) = 2.39$ ,  $p = .02$ ,  $d = 0.73$ . Additional comparisons revealed that perspective takers displayed more approach-oriented behaviors than did either objective-focus,  $t(43) = 2.10$ ,  $p = .04$ ,  $d = 0.64$ , or control participants,  $t(43) = 2.01$ ,  $p = .05$ ,  $d = 0.61$ . Ratings for control and objective-focus participants did not differ,  $t < 1$ ,  $p > .87$ ,  $d = 0.16$ . A one-way ANOVA testing the omnibus effect of instruction set on approach-oriented nonverbal behaviors was marginally significant,  $F(2, 43) = 2.86$ ,  $p = .07$ ,  $\eta_p^2 = .12$ .

**Mediation analysis.** We next conducted a mediation analysis testing whether the effect of instruction set on the Black experimenters' ratings was mediated by objective, third-party observers' ratings of approach-oriented nonverbal behaviors. Because the two sets of ratings provided by the Black experimenters were highly positively correlated ( $r = .87$ ,  $p < .001$ ), we combined them to form a *positivity of interaction* composite. To dichotomize the independent variable, we tested the effect of the contrast comparing perspective takers with the combination of objective-focus and control participants (see Dovidio et al., 2004). As shown in Figure

5, results revealed a marginally significant direct effect of approach-oriented behaviors on positivity of interactions ( $t = 2.45$ ,  $p = .02$ ). When controlling for this effect, the previously significant effect of instruction set on positivity of interactions ( $t = 2.36$ ,  $p = .02$ ) was no longer significant ( $t = 1.50$ ,  $p = .14$ ). We also observed a 95% confidence interval around the indirect effect of approach-oriented behaviors ranging from .0271 to .2386, indicating significant mediation ( $p < .05$ ).

These results indicate that face-to-face interactions with perspective takers were viewed more positively by Black experimenters than were interactions with objective-focus and control participants. Furthermore, the increase in approach-oriented nonverbal behaviors among perspective takers (as assessed by objective, third-party observers) mediated the relationship between perspective taking and the positivity experienced by the Black experimenters. These findings generally complement those obtained in the first four experiments by demonstrating that the salutary effects of perspective taking extend to *interpersonal* processes and outcomes.

These findings are entirely consistent with what might be predicted from the results of Experiments 1–4 and with theorizing by Galinsky et al. (2005), who have asserted that one of the primary functions of perspective taking is to facilitate both the creation and maintenance of social bonds. Although other research has observed negative intergroup behaviors following perspective taking (Vorauer et al., 2009; Vorauer & Sasaki, 2009), our procedures differed from those of Vorauer and colleagues in several notable ways that could potentially account for the divergence in findings. We elaborate on these procedural differences in the General Discussion.

## General Discussion

The current research investigated the viability of perspective taking as a strategy for attenuating automatic expressions of racial bias. Results obtained across five experiments—using two different perspective-taking manipulations; two different comparison conditions; and a combination of self-report, latency-based, and behavioral dependent measures—consistently document the merits of perspective taking for generating more favorable automatic interracial evaluations, approach–avoidance tendencies, and interpersonal behaviors. Specifically, we have provided the first empirical demonstration that perspective taking—regardless of the specific form (perspective-taking–self vs. perspective-taking–other)—can positively alter automatic intergroup evaluations. We

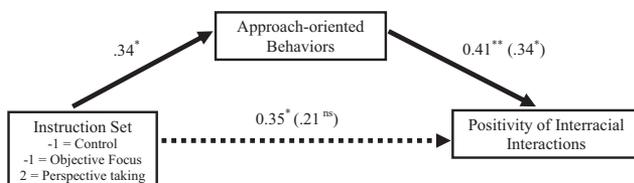


Figure 5. Approach-oriented nonverbal behaviors (as rated by third-party observers) mediate the effect of instruction set on positivity of interracial interactions (as rated by Black interaction partners). Numbers represent standardized regression coefficients; numbers in parentheses represent simultaneous regression coefficients (Experiment 5). \*  $p < .05$ . \*\*  $p < .01$ .

also have demonstrated that, unlike other bias-reduction strategies (Dovidio et al., 2009; Saguy et al., 2009), perspective taking does not blind perceivers to the realities of interracial disparities. Not only did it weaken associations between Blacks and general negativity (Whites and general positivity), but it also strengthened associations between Blacks and oppression-related concepts (Whites and privilege-related concepts). Furthermore, perspective taking elicited parallel effects on automatic and deliberate interracial evaluations, with changes in the former mediating changes in the latter (Gawronski & Bodenhausen, 2006).

The current research also revealed that the benefits of perspective taking were evident both in participants' action tendencies and their actual behavior. First, we showed that perspective taking strengthened automatic approach-oriented action tendencies toward Blacks (but not Whites) as a group and toward a specific Black (but not White) person. Whereas the IATs employed in Experiments 1–3 were unable to distinguish between positive reactions to Black targets and negative reactions to White targets (or vice versa), the results of Experiment 4 suggest that the effects of perspective taking are indeed target-group-specific (Batson, Polycarpou, et al., 1997; Shih et al., 2009; Vescio et al., 2003). Second, we found that perspective taking led to more favorable interracial interactions, according to Black interaction partners and to objective, third-party observers. Furthermore, the perspective-taking-induced changes in approach-oriented nonverbal behaviors (as rated by the observers) mediated changes in the experiences reported by Black interaction partners. Collectively, these findings indicate that perspective taking can be a viable strategy for engendering more positive automatic evaluations, approach–avoidance reactions, and spontaneous behaviors in intergroup contexts.

## Mechanism(s) Underlying the Current Findings

We demonstrated that perspective taking can enrich interracial contact experiences by increasing the positivity of automatic reactions, specifically by strengthening approach-oriented action tendencies. But how exactly does perspective taking produce shifts in automatic intergroup reactions? According to the APE model (Gawronski & Bodenhausen, 2006), strategic attempts to alter automatic reactions can produce changes either (a) by temporarily modifying the activation pattern of preexisting associations or (b) by reshaping the underlying structure of associations in memory. Although determining how perspective taking alters automatic interracial evaluations was not the focus of the current research, we believe that it could produce changes through either route described by the APE model.

First, because representations of African Americans contain both positive and negative aspects (e.g., Fiske et al., 2002; Katz & Hass, 1988), it is possible that perspective taking alters automatic interracial reactions by activating more positive group-based associative content than the predominantly negative content that is ordinarily activated upon encountering a Black individual (Devine, 1989). Consistent with this view, Galinsky and Moskowitz (2000) showed that accessibility for negative group-based stereotypes can be attenuated by perspective taking.

Second, it is possible that perspective taking alters automatic evaluations by increasing perceptions of psychological connectedness between the self and the target of perspective taking (e.g., Davis et al., 1996; Galinsky et al., 2005; Galinsky & Moskowitz,

2000; Galinsky, Wang, & Ku, 2008). The logic underlying this associative self-anchoring account is that once an associative link between the self and an object of evaluation is established, to the extent that people espouse positive automatic evaluations of themselves—as most people do (e.g., Bosson, Swann, & Pennebaker, 2000)—these positive self-evaluations should transfer to the object of evaluation (Gawronski, Bodenhausen, & Becker, 2007; Prestwich, Perugini, Hurling, & Richetin, 2010; Zhang & Chan, 2009). Consistent with this reasoning, Galinsky and Ku (2004) found that only people with higher levels of self-esteem evince more positive self-reported intergroup attitudes following perspective taking. Future research could examine whether positive automatic self-evaluations moderate the effects of perspective taking on automatic intergroup evaluations.

### Prospects for Perspective Taking in Interaction Contexts

The results of Experiment 5 indicate that perspective taking may offer a valuable tool for curbing behavioral displays of bias. Although these results are entirely consistent with what might be predicted on the basis of the results of the first four experiments, they are at odds with other research showing that perspective taking can have negative behavioral consequences during intergroup interactions (Vorauer et al., 2009; Vorauer & Sasaki, 2009). How then can we reconcile this divergent pattern of findings? As noted earlier, there were a number of procedural differences across the two research programs.

First, Vorauer et al.'s (2009) participants learned very early on that they would be interacting with an outgroup member—in fact, they were explicitly told that the experiment was investigating “first meeting situations involving members of different ethnic groups” (p. 821). Participants in the current research, in contrast, received no indication that they would have an interracial interaction prior to its occurrence, leaving little time for participants to dwell on race-based evaluative concerns before the interaction itself (cf. Vorauer, Main, & O’Connell, 1998).

Second, whereas Vorauer et al.'s (2009) participants were explicitly instructed to engage in perspective taking (or not) during the interaction itself, participants in the current research engaged in perspective taking *prior to* the interaction (ostensibly as part of another study) and thus were never explicitly instructed to adopt their interaction partner’s perspective. These procedural differences suggest the possibility that approaching an intergroup interaction with a perspective-taking mindset may foster positive outcomes, whereas actively taking the perspective of the outgroup individual with whom one is interacting may have negative consequences. Future research could examine this possibility by varying whose perspective is taken and when. A related possibility is that adopting the perspective of an interaction partner during the interaction itself may impose additional attentional demands on participants (see also Malle & Pearce, 2001)—ones that may be absent for nonperspective takers or participants induced with a perspective-taking mindset. These attentional demands could interfere with otherwise egalitarian thought processes among lower prejudiced individuals, thereby producing negative behavioral outcomes. Future research could examine this possibility by including a condition wherein participants’ attentional resources are taxed

during the interaction via a secondary task that disallows the opportunity to focus on potential evaluation.

Third, our interaction scenario was much more constrained than the one utilized by Vorauer et al. (2009). In the current research, participants answered a series of innocuous questions about their experiences in introductory psychology for approximately 3 min. In contrast, participants in Vorauer et al.’s study had a much lengthier interaction (approximately 15 min), during which they discussed a number of different topics (e.g., career goals, relationships with family members). These procedural differences raise the possibility that perspective taking may be more likely to yield positive behavioral effects when interactions are relatively brief and/or when discussion topics are relatively innocuous. In line with this reasoning, research has shown that behaviors displayed during interracial interactions can vary substantially depending on both the duration of the interaction and the nature of the discussion topic(s) (Shelton & Richeson, 2006; Trawalter & Richeson, 2008; Trawalter et al., 2009). Future research could examine these possibilities by varying the length of the interaction, the topic(s) of discussion, or both.

In sum, there are a number of procedural differences between the current research and that of Vorauer and colleagues (Vorauer et al., 2009; Vorauer & Sasaki, 2009)—any one (or combination) of which may have accounted for the observed differences. On the basis of these considerations, it seems that the most pressing question for future research is not whether perspective taking yields positive or negative behavioral effects in intergroup contexts but rather under what circumstances and for whom positive versus negative behaviors can be expected.

### Concluding Remarks

Although the blatant racism of earlier eras has declined dramatically in recent decades, contemporary forms of bias continue to thwart the realization of genuine racial equality. The current research provides converging evidence for the utility of perspective taking as a strategy for combating automatic expressions of racial bias and for facilitating more favorable interracial contact experiences. Although this research most directly addresses the efficacy of intergroup perspective taking under relatively controlled laboratory conditions, we believe it has important implications outside the laboratory as well. Specifically, we hope these experiments lay an empirical and theoretical foundation upon which effective intergroup relations programs (i.e., in classrooms, workshops) may be based. Future research should continue to explore the implications of intergroup perspective taking by determining the contexts in which its benefits can most effectively be harnessed.

### References

- Ambady, N., Bernieri, F., & Richeson, J. A. (2000). Towards a histology of social behavior: Judgmental accuracy from thin slices of behavior. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 32, pp. 201–271). San Diego, CA: Academic Press.
- Andersen, P. A. (1985). Nonverbal immediacy in interpersonal communication. In A. W. Siegman & S. Feldstein (Eds.), *Multichannel integration of nonverbal behavior* (pp. 1–36). Hillsdale, NJ: Erlbaum.
- Apfelbaum, E. P., & Sommers, S. R. (2009). Liberating effects of losing executive control: When regulatory strategies turn maladaptive. *Psychological Science*, 20, 139–143. doi:10.1111/j.1467-9280.2009.02266.x

- Baron-Cohen, S. (1995). *Mindblindness: An essay on autism and theory of mind*. Cambridge, MA: MIT Press.
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Batson, C. D. (2009). Two forms of perspective taking: Imagining how another feels and imagining how you would feel. In K. D. Markman, W. M. Klein, & J. A. Suhr (Eds.), *Handbook of imagination and mental simulation* (pp. 267–279). New York, NY: Psychology Press.
- Batson, C. D., Early, S., & Salvarini, G. (1997). Perspective taking: Imagining how another feels versus imagining how you would feel. *Personality and Social Psychology Bulletin*, *23*, 751–758. doi:10.1177/0146167297237008
- Batson, C. D., & Moran, T. (1999). Empathy-induced altruism in a prisoner's dilemma. *European Journal of Social Psychology*, *29*, 909–924. doi:10.1002/(SICI)1099-0992(199911)29:7::AID-EJSP9653.0.CO;2-L
- Batson, C. D., Polycarpou, M. P., Harmon-Jones, E., Imhoff, H. J., Mitchener, E. C., Bednar, L. L., . . . Highberger, L. (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. doi:10.1037/0022-3514.72.1.105
- Blair, I. V., Ma, J. E., & Lenton, A. P. (2001). Imagining stereotypes away: The moderation of automatic stereotypes through mental imagery. *Journal of Personality and Social Psychology*, *81*, 828–841.
- Blascovich, J., Mendes, W. B., Hunter, S. B., Lickel, B., & Kowai-Bell, N. (2001). Perceiver threat in social interactions with stigmatized others. *Journal of Personality and Social Psychology*, *80*, 253–267. doi:10.1037/0022-3514.80.2.253
- Blatt, B., LeLacheur, S. F., Galinsky, A. D., Simmens, S. J., & Greenberg, L. (2010). Perspective-taking: A method to increase satisfaction in medical encounters. *Academic Medicine*, *85*, 1445–1452.
- Bobo, L. (2001). Racial attitudes and relations at the close of the twentieth century. In N. J. Smelser, W. J. Wilson, & F. M. Mitchell (Eds.), *Racial trends and their consequences* (Vol. 1, pp. 264–301). Washington, DC: National Academy Press.
- Bosson, J. K., Swann, W. B., Jr., & Pennebaker, J. (2000). Stalking the perfect measure of implicit self-esteem: The blind men and the elephant revisited? *Journal of Personality and Social Psychology*, *79*, 631–643. doi:10.1037/0022-3514.79.4.631
- Chen, M., & Bargh, J. A. (1999). Consequences of automatic evaluation: Immediate behavioral predispositions to approach or avoid the stimulus. *Personality and Social Psychology Bulletin*, *25*, 215–224. doi:10.1177/0146167299025002007
- 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. doi:10.1037/0022-3514.70.4.713
- Davis, M. H., Soderlund, T., Cole, J., Gadol, E., Kute, M., Myers, M., & Weihing, J. (2004). Cognitions associated with attempts to empathize: How do we imagine the perspective of another? *Personality and Social Psychology Bulletin*, *30*, 1625–1635. doi:10.1177/0146167204271183
- Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*, 5–18. doi:10.1037/0022-3514.56.1.5
- Dovidio, J. F., & Gaertner, S. L. (2004). Aversive racism. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 36, pp. 1–52). San Diego, CA: Academic Press.
- Dovidio, J. F., Gaertner, S. L., & Saguy, T. (2009). Commonality and the complexity of “we”: Social attitudes and social change. *Personality and Social Psychology Review*, *13*, 3–20. doi:10.1177/1088868308326751
- Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2002). Implicit and explicit prejudice and interracial interaction. *Journal of Personality and Social Psychology*, *82*, 62–68. doi:10.1037/0022-3514.82.1.62
- Dovidio, J. F., ten Vergert, M., Stewart, T. L., Gaertner, S. L., Johnson, J. D., Esses, V. M., . . . Pearson, A. R. (2004). Perspective and prejudice: Antecedents and mediating mechanisms. *Personality and Social Psychology Bulletin*, *30*, 1537–1549. doi:10.1177/0146167204271177
- Duckworth, K. L., Bargh, J. A., Garcia, M., & Chaiken, S. (2002). The automatic evaluation of novel stimuli. *Psychological Science*, *13*, 513–519.
- Eaton, A. A., Majka, E. A., & Visser, P. S. (2008). Emerging perspectives on the structure and function of attitude strength. *European Review of Social Psychology*, *19*, 165–201. doi:10.1080/10463280802383791
- Eder, A. B., & Rothermund, K. (2008). When do motor behaviors (mis)match affective stimuli? An evaluative coding view of approach and avoidance reactions. *Journal of Experimental Psychology: General*, *137*, 262–281. doi:10.1037/0096-3445.137.2.262
- Esses, V. M., & Dovidio, J. F. (2002). The role of emotions in determining willingness to engage in intergroup contact. *Personality and Social Psychology Bulletin*, *28*, 1202–1214. doi:10.1177/01461672022812006
- Fazio, R. H., Jackson, J. R., Dunton, B. C., & Williams, C. J. (1995). Variability in automatic activation as an unobtrusive measure of racial attitudes: A bona fide pipeline? *Journal of Personality and Social Psychology*, *69*, 1013–1027. doi:10.1037/0022-3514.69.6.1013
- Finlay, K. A., & Stephan, W. G. (2000). Reducing prejudice: The effects of empathy on intergroup attitudes. *Journal of Applied Social Psychology*, *30*, 1720–1737. doi:10.1111/j.1559-1816.2000.tb02464.x
- Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competence. *Journal of Personality and Social Psychology*, *82*, 878–902. doi:10.1037/0022-3514.82.6.878
- 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. doi:10.1177/0146167203262802
- Galinsky, A. D., Ku, G., & Wang, C. S. (2005). Perspective-taking: Fostering social bonds and facilitating social coordination. *Group Processes & Intergroup Relations*, *8*, 109–124. doi:10.1177/1368430205051060
- Galinsky, A. D., Maddux, W. W., Gilin, D., & White, J. B. (2008). Why it pays to get inside the head of your opponent: The differential effects of perspective-taking and empathy in strategic interactions. *Psychological Science*, *19*, 378–384. doi:10.1111/j.1467-9280.2008.02096.x
- 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. doi:10.1037/0022-3514.78.4.708
- Galinsky, A. D., Wang, C. S., & Ku, G. (2008). Perspective-takers behave more stereotypically. *Journal of Personality and Social Psychology*, *95*, 404–419. doi:10.1037/0022-3514.95.2.404
- Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, *132*, 692–731. doi:10.1037/0033-2909.132.5.692
- Gawronski, B., Bodenhausen, G. V., & Becker, A. P. (2007). I like it, because I like myself: Associative self-anchoring and post-decisional change of implicit evaluations. *Journal of Experimental Social Psychology*, *43*, 221–232.
- Gawronski, B., Deutsch, R., & Banse, R. (in press). Response interference tasks as indirect measures of automatic associations. In K. C. Klauer, C. Stahl, & A. Voss (Eds.), *Cognitive methods in social psychology*. New York, NY: Guilford Press.
- Gawronski, B., Deutsch, R., Mbirkou, S., Seibt, B., & Strack, F. (2008). When “just say no” is not enough: Affirmation versus negation training and the reduction of automatic stereotype activation. *Journal of Experimental Social Psychology*, *44*, 370–377. doi:10.1016/j.jesp.2006.12.004
- Gawronski, B., Peters, K. R., & LeBel, E. P. (2008). What makes mental associations personal or extra-personal? Conceptual issues in the methodological debate about implicit attitude measures. *Social and Person-*

- ality *Psychology Compass*, 2, 1002–1023. doi:10.1111/j.1751-9004.2008.00085.x
- Gawronski, B., & Sritharan, R. (2010). Formation, change, and contextualization of mental associations: Determinants and principles of variations in implicit measures. In B. Gawronski & B. K. Payne (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications* (pp. 216–240). New York, NY: Guilford Press.
- Gollwitzer, P. M. (1990). *Action phases and mind-sets*. In E. T. Higgins & R. M. Sorrentino (Eds.), *The handbook of motivation and cognition: Foundations of social behavior* (Vol. 2, pp. 53–92). New York, NY: Guilford Press.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. K. L. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology*, 74, 1464–1480. doi:10.1037/0022-3514.74.6.1464
- Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology*, 85, 197–216. doi:10.1037/0022-3514.85.2.197
- Greenwald, A. G., Poehlman, T. A., Uhlmann, E. L., & Banaji, M. R. (2009). Understanding and using the Implicit Association Test: III. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology*, 97, 17–41. doi:10.1037/a0015575
- Han, H. A., Czellar, S., Olson, M. A., & Fazio, R. H. (2010). Malleability of attitudes or malleability of the IAT? *Journal of Experimental Social Psychology*, 46, 286–298. doi:10.1016/j.jesp.2009.11.011
- Han, H. A., Olson, M. A., & Fazio, R. H. (2006). The influence of experimentally-created extrapersonal associations on the Implicit Association Test. *Journal of Experimental Social Psychology*, 42, 259–272. doi:10.1016/j.jesp.2005.04.006
- Higgins, E. T. (1981). Role taking and social judgment: Alternative developmental perspectives and processes. In J. H. Flavell & L. Ross (Eds.), *Social cognitive development: Frontiers and possible futures* (pp. 119–153). Cambridge, England: Cambridge University Press.
- Katz, I., & Hass, R. G. (1988). Racial ambivalence and value conflict: Correlational and priming studies of dual cognitive structures. *Journal of Personality and Social Psychology*, 55, 893–905. doi:10.1037/0022-3514.55.6.893
- Kawakami, K., Phillips, C. E., Steele, J. R., & Dovidio, J. F. (2007). (Close) distance makes the heart grow fonder: Improving implicit racial attitudes and interracial interactions through approach behaviors. *Journal of Personality and Social Psychology*, 92, 957–971. doi:10.1037/0022-3514.92.6.957
- Külpe, O. (1904). Versuche über Abstraktion [Experiments on abstraction]. *Bericht über den 1. Kongress für Experimentelle Psychologie*, 1, 56–68.
- Macrae, C. N., & Bodenhausen, G. V. (2000). Social cognition: Thinking categorically about others. *Annual Review of Psychology*, 51, 93–120. doi:10.1146/annurev.psych.51.1.93
- Macrae, C. N., Bodenhausen, G. V., Milne, A. B., & Jetten, J. (1994). Out of mind but back in sight: Stereotypes on the rebound. *Journal of Personality and Social Psychology*, 67, 808–817. doi:10.1037/0022-3514.67.5.808
- Malle, B. F., & Pearce, G. E. (2001). Attention to behavioral events during social interaction: Two actor-observer gaps and three attempts to close them. *Journal of Personality and Social Psychology*, 81, 278–294. doi:10.1037/0022-3514.81.2.278
- McConahay, J. B. (1986). Modern racism, ambivalence, and the Modern Racism Scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91–125). Orlando, FL: Academic Press.
- McConnell, A. R., & Leibold, J. M. (2001). Relations between the Implicit Association Test, explicit racial attitudes, and discriminatory behavior. *Journal of Experimental Social Psychology*, 37, 435–442. doi:10.1006/jesp.2000.1470
- Mead, G. H. (1934). *Mind, self, and society*. Chicago, IL: University of Chicago Press.
- Neumann, R., Förster, J., & Strack, F. (2003). Motor compatibility: The bidirectional link between behavior and evaluation. In J. Musch & K. C. Klauer (Eds.), *The psychology of evaluation: Affective processes in cognition and emotion* (pp. 7–49). Mahwah, NJ: Erlbaum.
- Nosek, B. A., Greenwald, A. G., & Banaji, M. R. (2007). The Implicit Association Test at age 7: A methodological and conceptual review. In J. A. Bargh (Ed.), *Social psychology and the unconscious: The automaticity of higher mental processes* (pp. 265–292). New York, NY: Psychology Press.
- Nosek, B. A., & Hansen, J. J. (2008a). The associations in our heads belong to us: Searching for attitudes and knowledge in implicit evaluation. *Cognition & Emotion*, 22, 553–594. doi:10.1080/02699930701438186
- Nosek, B. A., & Hansen, J. J. (2008b). Personalizing the Implicit Association Test increases explicit evaluation of the target concepts. *European Journal of Psychological Assessment*, 24, 226–236. doi:10.1027/1015-5759.24.4.226
- Olson, M. A., & Fazio, R. H. (2004). Reducing the influence of extrapersonal associations on the Implicit Association Test: Personalizing the IAT. *Journal of Personality and Social Psychology*, 86, 653–667. doi:10.1037/0022-3514.86.5.653
- Olson, M. A., & Fazio, R. H. (2006). Reducing automatically-activated racial prejudice through implicit evaluative conditioning. *Personality and Social Psychology Bulletin*, 32, 421–433. doi:10.1177/0146167205284004
- Olson, M. A., Fazio, R. H., & Han, H. A. (2009). Conceptualizing personal and extrapersonal associations. *Social Psychology and Personality Compass*, 3, 152–170. doi:10.1111/j.1751-9004.2008.00164.x
- Piaget, J. (1932). *The moral judgment of the child*. London, England: Kegan Paul, Trench, Trubner and Co.
- Plant, E. A., & Devine, P. G. (1998). Internal and external motivation to respond without prejudice. *Journal of Personality and Social Psychology*, 75, 811–832. doi:10.1037/0022-3514.75.3.811
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891. doi:10.3758/BRM.40.3.879
- Prestwich, A., Perugini, M., Hurling, R., & Richetin, J. (2010). Using the self to change implicit attitudes. *European Journal of Social Psychology*, 40, 61–71. doi:10.1002/ejsp.610
- Richardson, D. R., Hammock, G. S., Smith, S. M., Gardner, W., & Signo, M. (1994). Empathy as a cognitive inhibitor of interpersonal aggression. *Aggressive Behavior*, 20, 275–289. doi:10.1002/1098-2337(1994)20:4:AID-AB24802004023.0.CO;2-4
- Richeson, J. A., & Nussbaum, R. J. (2004). The impact of multiculturalism versus color-blindness on racial bias. *Journal of Experimental Social Psychology*, 40, 417–423. doi:10.1016/j.jesp.2003.09.002
- Richeson, J. A., & Shelton, J. N. (2005). Thin slices of racial bias. *Journal of Nonverbal Behavior*, 29, 75–86. doi:10.1007/s10919-004-0890-2
- Rosenthal, R., Rosnow, R. L., & Rubin, D. B. (2000). *Contrasts and effect sizes in behavioral research: A correlational approach*. Cambridge, England: Cambridge University Press.
- Rudman, L. A. (2004). Sources of implicit attitudes. *Current Directions in Psychological Science*, 13, 79–82. doi:10.1111/j.0963-7214.2004.00279.x
- Saguy, T., Tausch, N., Dovidio, J. F., & Pratto, F. (2009). The irony of harmony: Intergroup contact can produce false expectations for equality. *Psychological Science*, 20, 114–121. doi:10.1111/j.1467-9280.2008.02261.x
- Schuman, H., Steeh, C., Bobo, L., & Krysan, M. (1997). *Racial attitudes in America: Trends and interpretations*. Cambridge, MA: Harvard University Press.
- Sears, D. O., & Henry, P. J. (2005). Over thirty years later: A contemporary

- look at symbolic racism and its critics. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 37, pp. 95–150). New York, NY: Academic Press.
- Selman, R. L. (1980). *The growth of interpersonal understanding: Developmental and clinical analyses*. New York, NY: Academic Press.
- Shelton, J. N., Dovidio, J. F., Hebl, M., & Richeson, J. A. (2009). Prejudice and intergroup interaction. In S. Demoulin, J. P. Leyens, & J. F. Dovidio (Eds.), *Intergroup misunderstandings: Impact of divergent social realities* (pp. 21–38). New York, NY: Psychology Press.
- Shelton, J. N., & Richeson, J. A. (2006). Interracial interactions: A relational approach. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 38, pp. 121–181). New York, NY: Academic Press.
- Shih, M., Wang, E., Bucher, A. T., & Stotzer, R. (2009). Perspective taking: Reducing prejudice towards general outgroups and specific individuals. *Group Processes & Intergroup Relations*, *12*, 565–577. doi:10.1177/1368430209337463
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods*, *7*, 422–445. doi:10.1037/1082-989X.7.4.422
- Smith, A. (1976). *The theory of moral sentiments* (1st ed.). London, England: Oxford University Press. (Original work published 1759)
- Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of Social Issues*, *41*, 157–175. doi:10.1111/j.1540-4560.1985.tb01134.x
- Trawalter, S., & Richeson, J. A. (2008). Let's talk about race, baby! When Whites' and Blacks' interracial contact experiences diverge. *Journal of Experimental Social Psychology*, *44*, 1214–1217. doi:10.1016/j.jesp.2008.03.013
- Trawalter, S., Richeson, J. A., & Shelton, J. N. (2009). Predicting behavior during interracial interactions: A stress and coping approach. *Personality and Social Psychology Review*, *13*, 243–268. doi:10.1177/1088868309345850
- Tropp, L. R. (2007). Perceived discrimination and interracial contact: Predicting interracial closeness among Black and White Americans. *Social Psychology Quarterly*, *70*, 70–81. doi:10.1177/019027250707000108
- Turner, R. N., & Crisp, R. J. (2010). Imagining intergroup contact reduces implicit prejudice. *British Journal of Social Psychology*, *49*, 129–142. doi:10.1348/014466609X419901
- Uhlmann, E. L., Brescoll, V. L., & Paluck, E. L. (2006). Are members of low status groups perceived as bad, or badly off? Egalitarian negative associations and automatic prejudice. *Journal of Experimental Social Psychology*, *42*, 491–499. doi:10.1016/j.jesp.2004.10.003
- 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. doi:10.1002/ejsp.163
- Vorauer, J. D., Main, K., & O'Connell, G. (1998). How do individuals expect to be viewed by members of lower status groups? Content and implications of meta-stereotypes. *Journal of Personality and Social Psychology*, *75*, 917–937. doi:10.1037/0022-3514.75.4.917
- Vorauer, J. D., Martens, V., & Sasaki, S. J. (2009). When trying to understand detracts from trying to behave: Effects of perspective taking in intergroup interaction. *Journal of Personality and Social Psychology*, *96*, 811–827. doi:10.1037/a0013411
- Vorauer, J. D., & Sasaki, S. J. (2009). Helpful only in the abstract? Ironic effects of empathy in intergroup interaction. *Psychological Science*, *20*, 191–197. doi:10.1111/j.1467-9280.2009.02265.x
- Wilson, T. D., Lindsey, S., & Schooler, T. (2000). A model of dual attitudes. *Psychological Review*, *107*, 101–126. doi:10.1037/0033-295X.107.1.101
- Zhang, H., & Chan, D. K.-S. (2009). Self-esteem as a source of evaluative conditioning. *European Journal of Social Psychology*, *39*, 1065–1074. doi:10.1002/ejsp.608

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