Implicit and Explicit Prejudice and Interracial Interaction

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The present research examined how implicit racial associations and explicit racial attitudes of Whites relate to behaviors and impressions in interracial interactions. Specifically, the authors examined how response latency and self-report measures predicted bias and perceptions of bias in verbal and nonverbal behavior exhibited by Whites while they interacted with a Black partner. As predicted, Whites' self-reported racial attitudes significantly predicted bias in their verbal behavior to Black relative to White confederates. Furthermore, these explicit attitudes predicted how much friendlier Whites felt that they behaved toward White than Black partners. In contrast, the response latency measure significantly predicted Whites' nonverbal friendliness and the extent to which the confederates and observers perceived bias in the participants' friendliness.

Attitudes serve a fundamental function by subjectively organizing the environment and orienting perceivers to objects and persons in it. However, people do not have to be aware of the operation of attitudes for attitudes to be influential; attitudes can be implicit as well as explicit. In contrast to explicit attitudes, which are exemplified by the attitudes measured by traditional self-report measures, implicit attitudes are evaluations that are automatically activated by the mere presence (actual or symbolic) of the attitude object and commonly function without a person's full awareness or control (Greenwald & Banaji, 1995). Implicit and explicit attitudes may or may not be consistent (Blair, 2001; Dovidio, Kawakami, & Beach, 2001; Wilson, Lindsey, & Schooler, 2000), and they commonly diverge for socially sensitive issues (Dovidio & Fazio, 1992). The present research examines how implicit and explicit racial attitudes of Whites relate to behaviors and impressions in interracial interactions.

Not only can implicit and explicit attitudes be largely dissociated, they also can influence behavior in different ways (Bargh, 1999; Dovidio & Fazio, 1992; Fazio, 1990). Wilson et al. (2000), for example, proposed that explicit attitudes shape deliberative, well-considered responses for which people have the motivation and opportunity to weigh the costs and benefits of various courses of action. Implicit attitudes, alternatively, influence responses that are more difficult to monitor and control (e.g., some nonverbal behaviors) or responses that people do not view as an indication of their attitude and thus do not try to control. Chen and Bargh (1997) also posited that the activation of implicit evaluations and associations can influence, often without the individual's awareness or intention, nonverbal behavior in systematic ways. Similarly, Fazio's (1990) motivation and opportunity as determinants of processing (MODE) model suggests that behavioral decisions may involve conscious deliberation or occur as spontaneous reactions to an attitude object or issue. When people have the opportunity (e.g., sufficient time) and motivation (e.g., concern about evaluation) to assess the consequences of various actions, explicit attitudes primarily influence responses as people reflect on the relevant attitudes. When the opportunity is not permitted (e.g., because of time pressure) or the motivation is absent (e.g., because the task is unimportant), implicit attitudes are more influential.

Recent research examining explicit and implicit measures of racial attitudes suggests that both are systematically related to behavior, but to different types of behavior. For example, a study by Fazio, Jackson, Dunton, and Williams (1995) found that direct ratings concerning the legitimacy of the Rodney King verdict and the illegitimacy of the anger of the Black community were correlated with explicit, self-reported prejudice (as measured by the Modern Racism Scale; McConahay, 1986) but not with an implicit response-latency measure. The implicit measure, however, corre-

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lated with perceptions of participant friendliness by a Black interviewer, reflecting more subtle and indirect manifestations of racial bias. Participants' Modern Racism Scale scores did not predict these responses.

Also consistent with the Fazio (1990) and Wilson et al. (2000) general attitude frameworks, Dovidio, Kawakami, Johnson, Johnson, and Howard (1997) hypothesized that the relationship between racial attitudes and behavior may be affected by the way attitudes are measured and the type of behavior being examined. Their research revealed that whereas self-reported prejudice predicted more deliberative behaviors, a response-latency measure of implicit prejudice predicted spontaneous behaviors. In particular, only explicit, self-reported prejudice predicted deliberative bias in evaluating a Black relative to a White interviewer. In contrast, the implicit but not the explicit measure predicted the extent to which White participants showed more spontaneous nonverbal behaviors (i.e., a higher rate of blinking and less eye contact) associated with discomfort or other negative feelings with a Black than with a White partner.

To the extent that implicit and explicit racial attitudes shape the everyday behaviors of Whites toward Blacks, these potentially divergent influences, which can produce mixed messages, can interfere with the communication and trust that is critical to developing long-term positive relations between Blacks and Whites. We suggest that different and sometimes contradictory behaviors of Whites toward Blacks in interracial interaction can help to contribute to the climate of miscommunication, misperception, and distrust that characterizes contemporary Black–White relations in the United States. For example, Blacks perceive racial discrimination to be more pervasive and damaging to Blacks than do Whites (Hochschild, 1995), and they believe that conspiracies inhibit the progress of Blacks (Crocker, Luhtanen, Broadnax, & Blaine, 1999). In addition, the majority of Blacks in America today have a profound distrust for the police and legal system, and about a third are overtly distrustful of Whites in general (Anderson, 1996).

The present research was designed to extend the work on implicit racial attitudes by exploring their role in shaping the behaviors of Whites during interracial interactions and influencing impressions formed by White and Black interactants. In particular, we propose that during an interracial interaction Whites and Blacks have fundamentally different perspectives on the attitudes and actions related to Whites. Whites have full access to their explicit attitudes and are able to monitor and control their more overt and deliberative behaviors. They do not have such full access to their implicit attitudes or to their less monitorable behaviors. We expect that as a consequence, Whites' beliefs about how they are behaving or how Blacks perceive them are based primarily on their explicit attitudes and their more overt behaviors, such as the verbal content of their interaction with Blacks, and not on their implicit attitudes or less deliberative (i.e., nonverbal) behaviors. We acknowledge that verbal behaviors may have significant implicit influences and that nonverbal behaviors can be deliberately regulated with some success, and this control can be improved by practice, experience, and knowledge (DePaulo & Friedman, 1998). Nevertheless, people generally monitor and control their nonverbal behaviors less frequently and effectively than they do their verbal behaviors. Thus, nonverbal behaviors represent relatively spontaneous social behaviors.

In contrast to the perspective of participants, the perspective of their partners in an interaction allows them to attend to both the spontaneous (e.g., nonverbal) and the deliberative (e.g., verbal) behaviors of Whites. To the extent that Whites may have implicit negative racial attitudes, these attitudes may be reflected in more negative nonverbal behaviors (Dovidio et al., 1997) in their interactions with Blacks than in their interactions with Whites. People generally rely heavily on nonverbal behaviors when interpreting others' behaviors, especially when there is an inconsistency between verbal and nonverbal behavior (Mehrabian, 1972). Furthermore, Blacks may be particularly sensitive to the nonverbal behaviors in interracial interactions. As Vorauer and Kumhyr (2001) have recently demonstrated, minority group members are attuned to negative behaviors of majority group members that could reveal their prejudice, and detecting these behaviors makes minority group members less satisfied with the interaction (Shelton, 2000).

In the present research, we assessed perceptions of interracial interactions by Whites and Blacks and related these perceptions to White participants' explicit and implicit attitudes. We first assessed the implicit attitudes using Dovidio et al.'s (1997) response-latency priming technique and explicit racial attitudes using Brigham's (1993) Attitudes Toward Blacks Scale. Then we arranged interracial conversations around a race-neutral topic. To provide baseline interaction measures and to control for individual differences in interaction styles that could obscure race-related responses, we also had participants interact with a White partner. We videotaped the interactions and subsequently had one set of coders rate the nonverbal and verbal behaviors of White participants and another set of coders rate their global impressions of participants from a videotape recorded from the partners' perspective. Our primary focus was on racial biases (i.e., differences in response to Black and White partners) in verbal and nonverbal behavior exhibited by Whites during their interactions, the extent to which White participants perceived their friendliness to differ for Black relative to White partners, and the extent to which their partners and additional observers perceived differences in White participants' responses to Black and White partners.

We hypothesized that in these interracial interactions White participants would rely on their explicit, self-reported racial attitudes to shape deliberative behaviors such as their friendliness of verbal behavior toward Black relative to White partners. Explicit racial attitudes and participants' verbal behavior, in turn, were expected to predict Whites' impressions of how friendly they behaved in interactions with the Black relative to the White partner. Implicit racial attitudes, measured with response latencies, and racial bias in White participants' nonverbal behaviors were not expected to predict these impressions because they are not easily monitored by the participants.

We also anticipated, on the basis of our previous research, that White participants' implicit racial attitudes would predict biases in their nonverbal friendliness. We further hypothesized that for Black and White partners and independent observers, who could monitor both the White participants' deliberative actions (verbal behaviors) and more spontaneous and subtle behaviors (nonverbal behaviors), perceptions of bias in participants' friendliness would relate significantly to perceptions of bias in participants' nonverbal behaviors and to participants' implicit attitudes. Finally, as a consequence of their different perspectives and their reliance on different cues, we also

expected that participants' perceptions of their own racial biases and their partners' perceptions would be only weakly related.

Method

Participants

Fifteen male and 25 female White undergraduates from a northeastern liberal arts college participated to fulfill one option of a course requirement. Participants were selected randomly from the pool of 143 potential participants to be invited to be in the study. These participants completed Brigham's (1993) 20-item Attitudes Toward Blacks Scale at the beginning of the semester. Item responses were assessed on a 5-point (1 = *agree strongly* to 5 = *disagree strongly*) scale. Cronbach's alpha was .83, and the mean was 46.2.

Procedure

Participants were informed that they would be in two different experiments that were being conducted sequentially to save time. The "first study," which was described as a decision task, assessed implicit racial attitudes. The "second study," which was introduced as an investigation of the acquaintance process, examined Whites' behaviors and Whites' and Blacks' impressions in interracial interaction.

Decision task and implicit attitudes. To measure implicit prejudice, we used a decision task in which participants were first presented with priming stimuli and then asked to make a decision about a word that followed (Dovidio et al., 1997). Test stimuli for the task included schematic faces of two Black and two White men and women constructed with Mac-a-Mug (Shaherazam, 1985) software and positive (i.e., good, kind, and trustworthy) and negative (i.e., bad, cruel, and untrustworthy) nonstereotypic characteristics. The 2.00 × 1.75 in. (10.16 × 4.45 cm) facial primes in the present study were presented subliminally on a Macintosh Power PC for 22.5 ms and then immediately masked by geometrical figures that fully covered the area of the screen occupied by the facial and control primes. Specifically, a *P* within an oval, signifying a person, or an *H* within a rectangle, representing a house, appeared on the screen for 250 ms. The test word (a positive or negative word or one of the six words that do not normally describe persons) was then presented until the participant pressed the decision key or for up to 750 ms. Participants were to decide whether the test word could ever describe a person (when a *P* appeared) or a house (when an *H* appeared). There was a 1.5-s interval between trials.

Consistent with the Dovidio et al. (1997) study, the experiment consisted of 120 trials. The 60 trials of theoretical interest included six person-descriptive words paired with a White female face, Black female face, White male face, Black male face, and control (i.e., *X*) prime presented once to the left of the fixation point and once to the right of the fixation point. Six house descriptors (i.e., *drafty*, *furnished*, *leaky*, *roomy*, *thatch*, *wooden*) paired with the person and control primes were used for the 60 distractor trials. Two orders of the stimuli (one the reverse of the other) and the locations of the *yes* and *no* keys (*Z* and *M* on the keyboard) were counterbalanced across participants. Debriefing revealed that all participants were unaware of the facial primes.

The primary dependent measure was the response latency of each prime category–test word combination. An error was scored if, following the person-category cue, the participant gave no response or indicated that the person-descriptive test word could not describe a person. Response latencies that were three or more standard deviations beyond each participant's mean were identified as outliers and excluded from the analysis. The error and outlier rates were low (2.8%) and unrelated to the experimental conditions. The remaining response times were subjected to a logarithmic transformation, as in Dovidio et al. (1997), to reduce the influence of extreme values. The primary measure of implicit prejudice represented the degree to which participants responded faster to negative words following the Black prime (i.e., Black male or female schematic face) than the White prime (i.e., White male or female schematic face), combined with the degree to which participants responded faster to positive words following the White prime than the Black prime (i.e., the weighted combination: 1, −1, −1, 1). As in Dovidio et al. (1997), we excluded from our analyses the conditions in which the *X* prime and the house descriptors were presented to participants. Although the analyses were conducted on the transformed data, the untransformed means are reported in the text.

Interracial interaction. After completing the first phase, participants were met by another experimenter, escorted to a different room, and told that they would be interacting sequentially with two other students in a "round-robin" set of conversations in an unrelated acquaintance process study. The room contained two chairs separated by a 3-ft. (0.91-m) square table, one for the participant and one for the first confederate, who was ostensibly another participant in the study. The experimenter explained that the study explored how people interact with other students and that the session would be videotaped for later evaluation. One camera was situated behind the participant's chair and directed toward the confederate's chair. Another camera was located behind the confederate's chair and directed toward the participant's chair. Directional microphones on the table recorded the conversation on separate tracks of a stereo audiorecorder.

Because of the limited availability of Black students in the participant pool (less than 4%), nine confederates, four (two male and two female) Black and five (two male and three female) White students, were employed in the study as interaction partners. All confederates received practice to respond comparably but not in a rigidly scripted way during the interaction. These students were unaware of the hypotheses of the study and the level of the participant's implicit and explicit prejudice.

After the experimenter left the room, a buzzer signaled for the first conversation to begin. The topic for both of the confederates was as follows: "Dating in the current era has some advantages and disadvantages to dating in earlier periods. Please consider and discuss what you personally feel are these advantages and disadvantages." This issue was pretested to be race and gender neutral. After 3 min, another buzzer signaled the end of the conversation, and the experimenter reentered the room. The confederate was escorted to another room, and both students were asked separately to complete an impression questionnaire. This questionnaire required respondents to describe on scales ranging from 1 (*not at all*) to 7 (*extremely*) their impressions of how they behaved during the interaction and how the other person behaved.

Five items used by Dovidio et al. (1997) and designed to assess perceived friendliness were of primary interest. These items (i.e., "pleasant" and the reverse-coded scales of "cruel," "unfriendly," "unlikable," and "cold") showed a high degree of internal consistency for the participant's ratings of his or her own behavior with the White confederate (α = .94) and with the Black confederate (α = .92) and for the participant's ratings of the behavior of the White confederate (α = .91) and of the Black confederate (α = .88). The White and Black confederates rated their impressions of the participant on the same five scales (αs = .90 and .89, respectively). Because each confederate participated in multiple sessions, we computed *z* scores on the ratings of and by each confederate.

After collecting the questionnaire, the experimenter left the room and returned with a second confederate for another 3-min conversation and impression ratings. In each session, the confederates were of the same sex but one confederate was Black and the other was White. The order of confederate race was counterbalanced across sessions.

At the conclusion of the study, two White female coders (observers) rated the participants' nonverbal behaviors from audiotapes and verbal behaviors from silent videotapes on which only the participant, not the confederate, was visible. The responses to the same five items of friendliness were averaged for each coder, and reliability between coders was assessed with the intraclass correlation coefficient. For the nonverbal coding, the intraclass correlation was .72 for interactions with White confederates and .66 for interactions with Black confederates. For the verbal coding, the intraclass correlation was .87 for interactions with White

confederates and .90 for interactions with Black confederates. We averaged together the ratings of the two coders to obtain measures of nonverbal and verbal friendliness for each conversation.

Two White male coders (observers) who viewed the full videotapes of the participant that included both verbal and nonverbal information judged the overall friendliness of the participants on the same five scales for each of the conversations. The intraclass correlation between these observers in ratings of friendliness was .86 for interactions with White confederates and .84 for interactions with Black confederates. We averaged these observer ratings to form measures of overall friendliness.

As in earlier research by Dovidio et al. (1997), the responses toward and by the White confederate were used as baseline scores to assess racial bias in responding. That is, racial bias in nonverbal friendliness was computed as the extent to which participants were judged to exhibit more friendliness nonverbally with the White than with the Black partner; racial bias in verbal friendliness was calculated as the extent to which participants were rated as showing more friendliness verbally with the White than with the Black partner. Analogously, perceived bias in friendliness by the White participant was computed as the extent to which self-reported friendliness with the White partner was greater than self-reported friendliness with the Black partner. Perceived bias in friendliness by the confederates and by independent observers was the difference between the ratings of the participant's friendliness with the White confederate and the ratings of the participant's friendliness with the Black confederate.

Results

No differences were obtained as a function of sex of participant, sex of confederate, whether participants were of the same or of a different sex than the confederates, or the order in which participants interacted with Black and White confederates. Thus, these variables were excluded from subsequent analyses.

Analyses of the response-latency measure of implicit prejudice replicated previous research (Dovidio et al., 1997, 2001) demonstrating an overall bias against Blacks by Whites. The mean response latency (raw score $M = 84.62$ ms, $SD = 75.47$) differed significantly from zero, $t(39) = 5.24$, $p < .001$. These effects for race of the stimulus person were consistent across sex of participant and sex of the stimulus face: An analysis of variance revealed no significant effects associated with sex. Furthermore, this measure of implicit prejudice was essentially dissociated from Brigham's (1993) explicit prejudice scale, $r(38) = -.09$, $p = .58$ (see also Blair, 2001; Dovidio et al., 2001).

Because the main focus of this study is on perceptions of the participants' behaviors by the participants themselves, by Black and White confederates, and by White observers, we attempted to keep the behaviors of White and Black confederate interaction partners similar. To achieve this goal, we instructed the confederates to respond in similar ways across the interactions. We therefore did not expect the participants' perceptions of the White relative to the Black confederate's friendliness to relate to any of the other measures in the study. Preliminary analyses of participants' ratings of the Black confederate's friendliness relative to the White confederate's friendliness were not significantly related to the participants' Attitudes Toward Blacks score, $r(38) = -.02$, $p < .89$; response latency score, $r(38) = .11$, $p < .49$; bias in verbal behavior, $r(38) = .06$, $p < .69$; bias in nonverbal behavior, $r(38) = -.07$, $p < .69$; bias in self-perceived friendliness, $r(38) = .10$, $p < .52$; or bias in friendliness as perceived by the confederates, $r(38) = -.06$, $p < .72$. Data were thus collapsed across confederates for the subsequent analyses. The correlations among the main measures in the study are summarized in Table 1.

Table 1
Correlations Among Explicit and Implicit Prejudice, Verbal and Nonverbal Behavior, and Bias in Self- and Others' Perceptions of Participant's Friendliness

Variable	2	3	4	5	6	Observer perceptions
1. Explicit prejudice	−.09	.40*	.02	.33*	−.14	−.12
2. Implicit prejudice		.04	.41*	.05	.40*	.43*
3. Verbal behavior			.08	.36*	−.17	−.15
4. Nonverbal behavior				−.07	.34*	.32*
5. Self-perceptions					.11	.12
6. Confederate perceptions						.52*

* $p < .05$.

Does Explicit Prejudice Primarily Predict Verbal Friendliness?

As expected, White participants' scores on the Attitudes Toward Blacks Scale, a measure of explicit prejudice, were related to the ratings of participants' racial bias in verbal friendliness made from the videotapes, $r(38) = .40$, $p < .01$, but not the ratings of their bias in nonverbal friendliness, $r(38) = .02$, $p < .90$. This predicted relationship between explicit prejudice and observer ratings of participants' bias in verbal friendliness was significant above bias in nonverbal behavior, partial $r(37) = .40$, $p < .01$.

Does Implicit Prejudice Primarily Predict Nonverbal Friendliness?

Also consistent with predictions, the response-latency measure of implicit prejudice related to White participants' racial bias in nonverbal friendliness, $r(38) = .41$, $p < .01$, but not to their verbal friendliness, $r(38) = .04$, $p < .79$. This relationship between implicit attitudes and nonverbal friendliness was also significant when we controlled for bias in verbal behavior, partial $r(37) = .41$, $p < .01$.

Do Whites' Self-Perceptions of Their Friendliness Relate Primarily to Explicit Attitudes and Verbal Behavior?

The results concerning participants' self-perceived bias in friendliness and their explicit attitudes and verbal behavior are also consistent with the predictions. As anticipated, participants' bias in self-perceived friendliness was related to their explicit prejudice, $r(38) = .33$, $p < .04$, but not to their implicit prejudice, $r(38) = .05$, $p < .76$. A hierarchical regression in which Whites' self-perceptions of friendliness were predicted first from explicit prejudice and implicit prejudice and then from the interaction of the two revealed only a significant effect for explicit prejudice, $\beta = .33$, $t(36) = 2.14$, $p < .04$. Also as anticipated, bias in self-perceived friendliness was related to participants' verbal behavior, $r(38) = .36$, $p < .02$, but not to their nonverbal behavior, $r(38) = -.07$, $p < .69$. In another hierarchical regression, in which verbal

friendliness, nonverbal friendliness, and their interaction were the predictors, only verbal behavior significantly related to participants' self-perceptions of friendliness, $\beta = .36$, $t(36) = 2.37$, $p < .03$. Thus, as hypothesized, Whites' self-perceived racial bias in the interactions was related primarily to their explicit attitudes and their verbal behavior.

Although it is not a focus of the present research, we further explored whether observer ratings of participants' bias in verbal behavior mediated the relationship between explicit prejudice and participants' bias in self-perceived friendliness (Baron & Kenny, 1986). Consistent with mediation, scores on the Attitudes Toward Blacks Scale independently predicted bias in participants' self-perceived friendliness, $\beta = .33$, $t(38) = 2.12$, $p < .04$, and in participants' verbal friendliness, $\beta = .40$, $t(38) = 2.67$, $p < .01$. However, unsupportive of mediation, the relationship between attitudes toward blacks and bias in self-perceived friendliness was not significantly reduced, Sobel test $z = 1.41$, $p < .16$, when observer ratings of verbal friendliness were considered simultaneously.

Do Confederates' Perceptions of Bias Relate Primarily to Implicit Attitudes and Nonverbal Behavior?

As predicted, confederate partners' perceptions of racial bias in the friendliness of the participants were related to participants' response latency score, $r(38) = .40$, $p < .01$, but not to their Attitudes Toward Blacks score, $r(38) = -.14$, $p < .40$. When explicit prejudice, implicit prejudice, and their interaction were considered as predictors in a hierarchical regression, only the response latency measure of implicit prejudice was significantly associated with confederate partners' perceptions of bias, $\beta = .39$, $t(36) = 2.63$, $p < .02$. In addition, the bias perceived by confederates during the interaction was related to observer ratings of participants' nonverbal friendliness, $r(38) = .34$, $p < .03$, but not to ratings of participants' verbal friendliness, $r(38) = -.17$, $p < .30$. In the hierarchical regression including verbal friendliness, nonverbal friendliness, and their interaction, only nonverbal friendliness significantly predicted the bias perceived by confederates, $\beta = .36$, $t(36) = 2.37$, $p < .03$. As anticipated, therefore, confederates' perceptions of bias did relate primarily to participants' implicit attitudes and their nonverbal friendliness.

Inconsistent with mediation, however, supplementary analyses demonstrated that although implicit prejudice separately predicted bias in friendliness from the confederates' perspective, $\beta = .40$, $t(38) = 2.73$, $p < .01$, and in observer ratings of participants' nonverbal behavior, $\beta = .41$, $t(38) = 2.79$, $p < .01$, the relationship between implicit prejudice and perceived bias by confederates was not significantly reduced, $z = 1.20$, $p < .25$, when observer ratings of participants' nonverbal behavior were considered simultaneously.

Do Participants' Impressions of Their Own Bias and Others' Impressions Relate?

Finally, because participants and their partners have different perspectives, have access to different information, and weigh that information differently, we expected that the relationship between participants' perceptions of their own racial biases and their partners' perceptions of the participants' bias would be weakly related. As predicted, the correlation between these two measures was nonsignificant, $r(38) = .11$, $p < .50$. In addition, we found that independent observers who viewed the full videotapes of participants from the visual perspective of the confederate partners formed impressions similar to those of the partners (see Table 1). The correlation between the impressions of these observers and of the confederate partners was significant, $r(38) = .52$, $p < .001$, and observer impressions of participants' friendliness and participants' self-impressions of friendliness were unrelated, $r(38) = .12$, $p < .47$. Thus, consistent with our hypothesis of the importance of perspective and its effect on how people weigh information, participants and others formed largely unrelated impressions of how biased participants behaved.

Discussion

The present research extends previous research on Whites' racial attitudes, different types of bias toward Blacks (Dovidio et al., 1997), and priming effects on social interaction processes (Chen & Bargh, 1997) by examining how implicit and explicit attitudes relate to different perceptions of Whites and Blacks in actual interracial interactions. In particular, whereas previous work has helped to identify the relation between activation of implicit attitudes and nonverbal behavior, our research demonstrates how implicit and explicit attitudes can systematically influence nonverbal and verbal behaviors in interactions and how these attitudes can lead to different perceptions by White and Black interactants. In our study, White participants and their partners relied on different information and formed different impressions of their interaction. These findings support earlier arguments that understanding the nature of interracial interaction is critical to understanding race relations (Devine & Vasquez, 1998).

The present research also contributes to the emerging literature on the predictive validity of implicit measures (Fazio et al., 1995; McConnell & Leibold, 2001) and helps to identify when and how implicit measures relate to behavior. In general, the pattern of results we observed was consistent with our hypotheses that explicit attitudes would primarily predict deliberative behaviors and implicit attitudes would mainly predict spontaneous behaviors (Fazio, 1990; Wilson et al., 2000). Specifically, we found that Whites' explicit racial attitudes were reflected in the bias of their verbal behaviors toward Black relative to White confederates and their perception of their own friendliness toward White in comparison with Black partners. In contrast, Whites' implicit evaluative associations significantly predicted their nonverbal friendliness and confederates' and observers' perceived bias in the participants' friendliness. As a consequence of their different perspectives and reliance on different cues, participants' perceptions of their own racial biases and their partners' perceptions of the participants' biases were only weakly related. Observers who shared the confederates' visual perspective, however, had similar impressions.

Despite this support for our theorizing, we acknowledge both practical and conceptual limitations. In particular, there is not an established taxonomy that identifies deliberative from spontaneous behaviors. As noted earlier, although nonverbal behaviors are relatively more spontaneous than are verbal behaviors, nonverbal behaviors are controllable to some extent, and many verbal behaviors, particularly in on-line speech, can have significant implicit

influences (DePaulo & Friedman, 1998). Moreover, some forms of nonverbal behavior may be less spontaneous than others (e.g., leaning forward vs. eye contact), whereas some aspects of verbal behavior are less controllable than others (e.g., speech errors vs. specific content). Depending on a person's awareness of the purpose of a task, its relevance to one's attitudes (e.g., descriptions of a fictitious person named Donald; see Devine, 1989), and the immediate demands on the person (Fazio, 1990), many overt forms of evaluation may also reflect implicit more than explicit influences. Thus, future research might productively consider a more fine-grained analysis of verbal and nonverbal behavior (McConnell & Leibold, 2001) that considers the specific parameters of the behavior and conditions under which it is elicited to determine whether it is primarily spontaneous or deliberative. In addition, further research may consider how the specific expectations, motivations, and sensitivities of participants in interracial interactions (Vorauer & Kumhyr, 2001) influence how interactants weigh the various aspects of their partner's behavior.

The pattern of relationships we obtained in which self-report and response-latency measures uniquely predicted a specific set of responses offers further insight into the operation of explicit and implicit attitudes. The particular finding that explicit racial prejudice predicted relatively overt biases in verbal behavior but not more subtle biases in nonverbal behavior may appear, at first glance, counterintuitive. Empirically, however, this pattern of results is consistent with previous work. Both Dovidio et al. (1997) and Fazio et al. (1995) found that self-reported prejudice predicted deliberative bias such as evaluation of Black relative to White interviewers or assessments of the legitimacy of the Rodney King verdict but did not predict biases in nonverbal behavior or perceptions of friendliness by participants when interacting with a Black confederate. Theoretically, these patterns of results suggest that implicit and explicit attitudes do not simply reflect a continuum on which the former is a less virulent version of the other but rather that these attitudes may be separate systems with independent consequences (Greenwald & Banaji, 1995) and different components in a system of dual attitudes (Wilson et al., 2000).

The exact process by which White participants and their partners developed divergent assessments of the participant's racial biases is not yet entirely clear, however. It likely involves more than differential reliance on biases in verbal and nonverbal behavior. Our analyses indicate that bias in verbal behavior did not fully mediate the relationship between participants' self-reported prejudice and their impressions of their bias in friendliness, nor did bias in nonverbal behavior mediate the relationship between implicit (response latency) prejudice and partners' or observers' impressions of racial bias in friendliness. These appeared to be contributing rather than mediating factors.

One reason for this lack of mediation may be the fact that whereas the independent and dependent variables (e.g., self-reported attitudes toward Blacks and participants' self-perceived bias) were based on measures taken directly from the participants themselves, the mediating variable was based on others' judgments of the participant (e.g., observers ratings of the participants' verbal friendliness). Using measures of mediating variables from the source (e.g., participants' perceptions of their own verbal friendliness) might offer a more sensitive test of mediation. Another possible explanation for the absence of mediation is that the measures of verbal and nonverbal racial biases were based on ratings of friendliness by judges who were focused on isolated elements of the interaction. Because people involved directly in the interaction (i.e., the confederates) and those who shared the partner's visual perspective (i.e., observers) were exposed to a wider range of cues, they had the freedom to weigh aspects of the conversations and the nonverbal behaviors in different ways. Thus, actual interaction partners and people who viewed the full interaction may have used a broader range of codes beyond the isolated factors to which our judges were exposed to decipher the underlying intentions of participants.

In addition, the effects of implicit attitudes can influence the nature of interracial interactions in ways that go beyond the scope of the present research. For instance, under some conditions, the activation of Whites' implicit negative associations may initiate processes that produce a self-fulfilling prophecy in interracial interactions (Chen & Bargh, 1997; see also Bargh, 1999). In our research, the confederates maintained, as instructed, a supportive and friendly demeanor throughout the study. Indeed, our analyses reveal that our confederates performed in comparable ways that did not systematically relate to any of the variables of interest. In contrast, under less constrained and more naturalistic conditions, the effects of Whites' implicit racial attitudes, stereotypes, and nonverbal behaviors can produce systematic changes in the behavior of Black partners that could elicit self-fulfilling prophecy effects (Word, Zanna, & Cooper, 1974). For example, Chen and Bargh (1997) demonstrated that subliminal presentation of Black faces to Whites produced greater hostility in their White interaction partners, presumably due to the activation of Black stereotypes. Furthermore, research by Vorauer and Kumhyr (2001) showed that Aboriginal Canadians appeared to personalize the perceived negative behavior of White Canadians during their interaction and experience discomfort and self-directed negative affect (e.g., self-critical, guilty). In addition, our findings suggest that under more naturalistic conditions, Blacks may attribute the behaviors of Whites to explicit rather than implicit prejudice, thereby assuming that Whites' negative behavior is intentional, and Whites may respond with confusion or with their own attributions of the racial biases of Blacks. As a consequence of escalating negative feedback from both interaction partners (Chen & Bargh, 1997), further race-based negative interaction may result.

Our present study thus complements previous research on implicit influences by examining in detail how implicit racial attitudes can lead to divergent impressions formed by White and Black interactants, which in turn can represent the initial, critical steps in the development of interracial self-fulfilling prophecies. This more comprehensive view of how the prejudices of Whites shape interpersonal and intergroup processes can help inform Whites and Blacks of the existence of their different perspectives and lead them to appreciate the ways unintentional biases can influence race relations.

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