FlashReport

Aversive racism and medical interactions with Black patients: A field study

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A B S T R A C T

Medical interactions between Black patients and nonBlack physicians are usually less positive and productive than same-race interactions. We investigated the role that physician explicit and implicit biases play in shaping physician and patient reactions in racially discordant medical interactions. We hypothesized that whereas physicians' explicit bias would predict their own reactions, physicians' implicit bias, in combination with physician explicit (self-reported) bias, would predict patients' reactions. Specifically, we predicted that patients would react most negatively when their physician fit the profile of an aversive racist (i.e., low explicit–high implicit bias). The hypothesis about the effects of explicit bias on physicians' reactions was partially supported. The aversive racism hypothesis received support. Black patients had less positive reactions to medical interactions with physicians relatively low in explicit but relatively high in implicit bias than to interactions with physicians who were either: (a) low in both explicit and implicit bias, or (b) high in both explicit and implicit bias.

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Introduction

Although there has been dramatic improvement in the health of all people living in the United States over the past 50 years, the level of disparities between Black and White Americans for several key indicators of health remains essentially unchanged (National Center for Health Statistics, 2006). Among the suggested contributors to this disparity are health providers' racial prejudice and stereotypes (Institute of Medicine, 2003; van Ryn, Burgess, Malat, & Griffin, 2006). The potential impact of such provider bias on the health care that Black patients receive is substantial: Approximately 75% of all medical interactions for Black patients in the US are "racially discordant" – that is, they involve nonBlack health care providers (Penner, Albrecht, Coleman, & Norton, 2007). Moreover, relative to racially concordant medical interactions, racially discordant interactions are characterized by less patient trust (Cooper et al., 2003), less positive affect (Johnson, Roter, Powe, & Cooper, 2004), fewer attempts at relationship building (Simonoff, Graham, & Gordon, 2006), and less joint decision-making (Koerber, Gajendra, Fulford, BeGole, & Evans, 2004). Although provider bias

has been proposed as a contributor to such outcomes in racially discordant interactions, it has not, as far as we know, been directly investigated. Thus, the present research investigated the impact of physicians' explicit and implicit racial bias on medical encounters with Black patients.

Behavior toward Blacks is influenced by both explicit racial attitudes, traditionally assessed with self-reports, and by implicit attitudes, which are automatically activated typically without conscious awareness (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). Moreover, explicit and implicit measures of bias tend to predict different responses (Dovidio, Kawakami, Smoak, & Gaertner, 2009). Explicit measures predict blatant discrimination, whereas implicit measures predict more subtle expressions of discrimination that often occur unintentionally, such as nonverbal behavior and negative decisions in complex situations in which bias could be attributed to factors other than race (McConnell & Leibold, 2001; Son Hing, Chung-Yan, Hamilton, & Zanna, 2008). For instance, Green et al. (2008) found that when presented with vignettes about patients with symptoms of a myocardial infarction, physicians higher in implicit bias were less likely to recommend appropriate drugs for Black patients.

Whereas people are aware of their overt and deliberative (e.g., verbal) behaviors, which relate to explicit measures of their attitudes, they may be unaware of their subtly biased and spontaneous (e.g., nonverbal) behaviors, which relate to implicit measures

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(Dovidio, Kawakami, & Gaertner, 2002; McConnell & Leibold, 2001). As targets of these behaviors, however, Blacks and members of other disadvantaged groups attend closely to these subtly biased behaviors, which critically shape their impressions of intergroup interactions (Dovidio, Kawakami, & Gaertner, 2002). The inconsistency between positive overt expressions and negative subtle displays may be particularly problematic because this kind of mismatch is generally perceived to reflect deceitfulness (beyond even a mismatch between negative overt and positive subtle behaviors; Eskritt & Lee, 2003), which can be especially detrimental in interracial interactions that are often characterized by intergroup mistrust (Dovidio, Gaertner, Kawakami, & Hodson, 2002).

Indeed, Dovidio and Gaertner (2004; Gaertner & Dovidio, 1986) proposed that a subtle form of bias, "aversive racism," can have a particularly detrimental influence on interracial interactions. An aversive racist is a person who is low in explicit bias but who harbors implicit racial biases against Blacks. Aversive racism research has traditionally focused on Whites, but it also applies to the orientations of members of other groups (e.g., Asians; Kawakami, Dunn, Karmali, & Dovidio, 2009) toward Blacks. The mixed messages conveyed by aversive racists during interracial interactions can interfere with effective social coordination and jointly affect Blacks and nonBlacks' abilities to work together successfully. For example, dyads consisting of a Black participant and a White aversive racist performed less effectively than dyads involving Blacks with Whites who had consonant explicit and implicit attitudes and ironically, even those with high explicit and high implicit bias (Dovidio, 2001).

Recently laboratory work on implicit bias has been extended to health providers, but whereas prior studies of physician bias focused on treatment decisions using retrospective or vignette methodologies, we investigated the relationship of nonBlack (i.e., Asian and White) physicians' implicit and explicit racial bias to both physicians' and Black patients' responses to actual medical interactions in an inner-city primary care clinic. We predicted that physicians' perceptions of their own behavior (involving the patient in the treatment decision and feeling on the "same team") would relate primarily to physicians' explicit (self-reported) prejudice. By contrast, we hypothesized that patients' perceptions of the encounter would relate to physicians' implicit bias, unintended activation of biased attitudes measured using the Implicit Association Test (IAT; Greenwald, Nosek, & Banaji, 2003), in combination with their level of explicit prejudice. Drawing on previous work demonstrating that dyads involving Blacks with Whites who fit the aversive racism profile perform particularly poorly on a cooperative task (Dovidio, 2001), we predicted a physician implicit bias × physician explicit bias interaction for Black patients' perceptions of their involvement in the treatment decision as well as their personal responses to the medical encounter (perceptions of physician warmth and friendliness, feeling on the same team, and satisfaction with the visit). Patients' reactions were expected to be least positive when physicians were low in explicit prejudice and high in implicit bias.

Method

Participants

The patients were 150 Black patients (112 women, 38 men; average age, 43.63) at an inner-city primary care clinic in the Midwest. (There were no White patients at the clinic during 18 months of data collection.) Participants, who received $20.00 gift cards, were recruited consecutively. Seventy-three percent of the patients asked to participate agreed to do so; the sample closely matched the demographics of the clinic patient population.

The physicians, who received a $50.00 incentive for participating, were 15 (7 female, 8 male) residents in Family Medicine (average age = 30.87 years), representing 83% of those asked to participate. Three physicians self-identified as White and the remainder as Indian, Pakistani, or Asian. This high percentage of International Medical Graduates from Asia is typical of primary care clinics in low socioeconomic status urban neighborhoods (Mertz, Jain, Breckler, Chen, & Grumbach, 2007).

Procedure

Physicians completed a 25-item (1 = Strongly Disagree to 5 = Strongly Agree) explicit measure of racial prejudice (α = .89; M = 2.08; SD = .34; Brigham, 1993; McConahay, 1986) and a race IAT measure of implicit bias several weeks before the medical interactions. In the present study, the race concept was Blacks versus Whites and the attributes were Good (e.g., happy, loving) versus Bad (e.g., unpleasant, tragic). IAT responses were scored with the procedures recommended by Greenwald et al. (2003), producing a D measure. Overall, the physicians showed a slight, nonsignificant preference on the IAT for Blacks over Whites (D = .097, p = .138). Physicians' implicit and explicit prejudice scores were positively correlated, r(15) = .54, p = .029.

After each interaction, both physicians and patients privately completed two items that assessed feelings of being on the same team, which previous work has shown is associated with more positive intergroup relationships (Gaertner & Dovidio, 2000): (a) "The patient (doctor) and I worked together as a team to solve his/her (my) medical problems," and (b) "I felt like the patient (doctor) and I were members of the same team, trying to solve his/her (my) medical problems" (1 = Strongly Disagree to 5 = Strongly Agree). The items were positively correlated for physicians and for patients (r = .79, .70, respectively). Therefore, these two items were averaged to produce a single score for physicians (M = 4.16) and for patients (M = 4.37). A measure of physicians' and patients' perceptions of the extent to which the physician consulted the patient on the final treatment decision, Treatment Consultation, was adapted from Degner, Sloan, and Venkatesh's (1997) Control Preferences Scale: "I (the doctor) made the decision about which treatment the patient (I) would receive without really considering the patient's [my] opinion" (1 = Strongly Disagree to 5 = Strongly Agree: physician M = 3.92; patient M = 4.21).

Patients also responded to two items that measured physician warmth and physician friendliness (r = .58) (1 = not at all to 4 = completely), which were aggregated and averaged to produce a single score (M = 3.73). Lastly, patients completed a 14-item

Table 1
Correlations among ratings of interactions by physicians and patients.[a]

	Patient team	Warmth/ Friendliness (by patients)	Patient Satisfaction	Physician Treatment Consultation	Physician team
Patient Treatment Consultation	.25**	.26**	.28**	.05	.19**
Patient team		.45**	.60**	.07	.06
Warmth/ Friendliness (by patients)			.61**	.12	.15
Patient Satisfaction				.17*	.11
Physician Treatment Consultation					.25**

* p < .05.
** p < .01.
[a] There were 15 physicians and 150 patients in the sample. However, for all correlations the n is the number of interactions (150) that were rated by the physicians and the patients.

Table 2
Tests of the effects (standardized coefficients) of physician explicit bias, implicit bias and their interaction on physician and patient ratings of interactions.

	Effect											
	Physician explicit bias				Physician implicit bias				Interaction			
	β	(std. error)	Waldχ^2(1)	p	β	(std. error)	Waldχ^2(1)	p	β	(std. error)	Waldχ^2(1)	p
Physician ratings												
Team	.039	(.284)	018	.892	−.279	(.151)	3.40	.065	.265	(.167)	2.50	.114
Treatment Consultation	−.310	(.163)	3.60	.058	.022	(.098)	0.05	.824	.088	(.125)	0.50	.480
Patient ratings												
Composite	.203	(.143)	2.00	.157	−.258	(.137)	3.51	.061	.260	(.104)	6.28	.012
Team	.194	(.187)	1.08	.299	−.180	(.168)	1.14	.286	.335	(.133)	6.33	.012
Treatment Consultation	−.106	(.147)	.52	.471	−.080	(.131)	0.38	.538	.078	(.075)	1.09	.297
Physician Warmth/Friendliness	.255	(.153)	2.76	.097	−.285	(.121)	5.55	.018	.239	(.103)	5.37	.020
Satisfaction	.116	(.183)	0.40	.529	−.305	(.233)	1.72	.189	.206	(.116)	3.13	.077

measure of Patient Satisfaction (PCC; Stewart et al., 2000), plus one additional item that directly asked patients how satisfied they were with the interaction (1 = *not at all* to 4 = *completely*; α = .93, *M* = 3.66). PCC scores are significantly associated with health outcomes and efficient use of health services (Stewart et al., 2000).

Results

Because physicians interacted with more than one patient (i.e., patients are nested within physicians), to control for non-independence we used the General Estimating Equation (GEE) procedure, a form of multilevel modeling (Hanley, Negassa, Edwardes, & Forrester, 2003; Hardin & Hilbe, 2003). We included implicit bias and explicit prejudice as main effects and their interaction in all equations. Also, all the measures in the equations were standardized by converting them to *z* scores; thus, the parameter estimates (β) indicate effect size. Physician gender, patient gender, and physician race were not included in the main analyses because they did not moderate any of the effects reported. The correlations among all the outcome measures are presented in Table 1.

Table 2 presents the relationships between the bias measures and the outcome measures. For physician responses, greater explicit prejudice tended to predict less physician involvement in of the patient in decision making (β = −.31, *p* = .058), and greater implicit bias tended to predict lower team ratings (β = −.28, *p* = .065).

Because of the relatively high intercorrelations (between .45 and .61; Table 1) among the patients' ratings of physician Warmth/Friendliness, team, and satisfaction, we created a composite measure that was the standardized aggregated score for the three measures. The Chronbach's alpha for the composite measure was .79. Treatment Consultation, which correlated less than .30 with the other measures, was analyzed separately.

There were no significant effects for Treatment Consultation (see Table 2). However, as predicted, the physician implicit × explicit bias interaction for the composite measure was significant, Waldχ^2(1) = 6.28, β = .26, *p* = .012[1] (see Fig. 1). Because the implicit and explicit bias measures are continuous, the plots in Fig. 1 represent *predicted estimates* (the predicted means of patients' responses to physicians relatively high or low in implicit and explicit bias) rather than actual group means (see Aiken & West, 1991).

In further analyses, we examined the extent to which patients had more negative reactions, based on the composite measure, to physicians with the aversive racism profile (low explicit–high implicit bias) than to physicians either: (a) low in both explicit and implicit bias, or (b) high in both explicit and implicit bias. Consistent with our predictions, when physician explicit bias was rela-

tively low (i.e., 1 SD below the mean), greater physician implicit bias predicted less positive patient responses, Waldχ^2(1) = 6.57, β = −.52, *p* = .010.[2] That is, patients responded more negatively to aversive racists than to physicians low in both explicit and implicit bias. Also consistent with predictions, when physician implicit bias was high (i.e., 1 SD above the mean), greater explicit bias predicted patients' *more positive* perceptions of physicians, Waldχ^2(1) = 3.70, β = .46, *p* = .054.[3] Patients responded generally more negatively to physicians low in explicit bias but high in implicit bias (aversive racists) than even to physicians high in explicit and high in implicit bias. Parallel analysis for physicians high in explicit bias (i.e., 1 SD above the mean) showed no effect for implicit bias on the composite (*p* = .99).

Discussion

Provider bias has been suggested as a contributor to health care interactions (Institute of Medicine, 2003), but there is only limited, indirect evidence for this hypothesis. In addition, although there is some evidence that physicians' implicit bias predicts physician treatment decisions for Black patients (Green et al., 2008), no previously published research to our knowledge has directly linked physicians' racial bias to reactions of both doctors and patients following medical interactions. The present research found that Black patients responded particularly negatively to medical encounters with physicians relatively high in implicit bias and relatively low in explicit prejudice – the profile of an aversive racist – relative to all other combinations of implicit bias and explicit prejudice. Thus, whereas most previous research on implicit bias has attempted to link it to an individual's particular actions, our research demonstrates, in a very consequential setting, the hypothesized significant *interpersonal* impact implicit bias, especially the impact of aversive racism.

We note, however, the unexpected finding that, in contrast to other results with general populations (Nosek, Banaji, & Greenwald, 2002) and other studies with physicians (Green et al., 2008; Sabin, Rivara, & Greenwald, 2008), overall, the nonBlack physicians in the present study did not display implicit racial bias. One possible explanation for these different findings involves the context in which we conducted our study, an inner-city clinic, and the related nature of our sample of physicians. Physicians who choose to practice in such settings may be those who have low levels of bias, implicit as well as explicit. In addition, a large portion of physicians in our sample were born outside of the US

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[1] When patients' perception of Treatment Consultation was added to the composite measure, the interaction was similar, Waldχ^2(1) = 5.13, β = .22, *p* = .024.

[2] Effects for individual components were: (a) team: Waldχ^2(1) = 3.96, β = −.53, *p* = .047; (b) Warmth/Friendliness: Waldχ^2(1) = 8.12, β = −.54, *p* = .004 and (c) Patient Satisfaction: Waldχ^2(1) = 2.93, β = −.52, *p* = .087.

[3] Effects for individual components were: (a) team: Waldχ^2 (1) = 2.87, β = .54, *p* = .091; (b) Warmth/Friendliness: Waldχ^2(1) = 4.15, β = .50, *p* = .042 and (c) satisfaction: Waldχ^2(1) = 1.22, β = .32, *p* = .27.
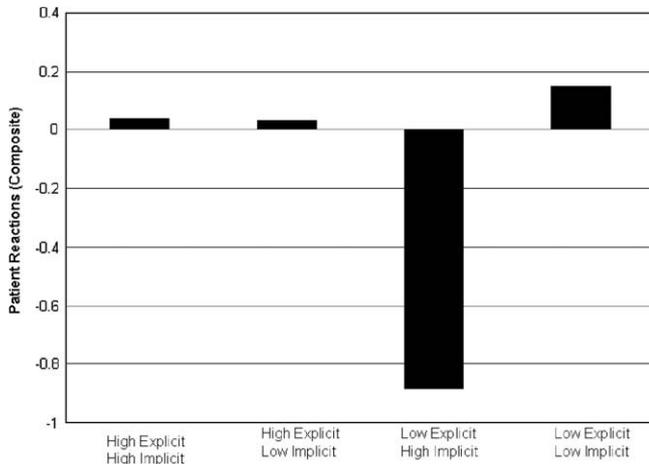
Fig. 1. Predicted mean composite patient reactions to four groups of physicians: high explicit–high implicit, high explicit–low implicit, low explicit–high implicit (aversive racist profile) and low explicit–low implicit.

and may not have been exposed to the same degree to the socialization influences that create implicit bias (Rudman, 2004) or that suppress correlations between implicit and explicit measures (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005). The absence of moderation by physician race/ethnicity for our effects, which would argue against this interpretation, might be attributable in part to the small proportion of White physicians. Future research might pursue these self-selection and cultural socialization explanations. Nevertheless, the findings from this sample have direct practical relevance. Asian physicians represent a substantial portion of primary care physicians practicing in the US and are especially common in clinics that serve inner-city low-income minorities (Mertz et al., 2007).

The findings from the present research can help guide the development of practical interventions designed to reduce bias in medical encounters. In response to 2003 IOM report on "Unequal Treatment", many physicians argued that overt racism is relatively rare among people who choose a career in health care (e.g., Epstein, 2005). However, it seems that the potential role of implicit bias is largely unrecognized among providers (Lurie et al., 2005). Thus, as Burgess, van Ryn, Dovidio, and Saha (2007) suggested, interventions directed at physicians may be especially productive if they address the subtle, often unintentional, nature of racial bias. Specifically, research suggests that making physicians aware of how implicit bias can influence outcomes of medical encounters and sensitizing them to their own potential for bias can help them "correct" for potential bias in the short-term (Dovidio & Gaertner, 2004) and motivate them to engage in self-regulatory process that can inhibit even subtle expression of bias in the longer term (see Monteith, Arthur, & Flynn, in press).

Acknowledgments

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