# Detecting implicit racial bias in provider communication behaviors to reduce disparities in healthcare: Challenges, solutions, and future directions for provider communication training

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## Abstract

Since publication of *Unequal Treatment* by the Institute of Medicine in 2003, there has been a growing recognition of the role of provider implicit racial bias in patient care. Provider implicit racial bias has been consistently negatively associated with both care satisfaction and provider trust among racial/ethnic minority patients. This suggests provider implicit racial bias likely manifests through their communication behaviors, which in turn may offer a means of addressing racial disparities in healthcare and ultimately in health. However, identifying provider communication behaviors that mediate the links between provider implicit racial bias and patient outcomes is challenging. In this paper, we argue that identifying these provider communication behaviors requires (1) taking into account findings from social psychology research of implicit racial bias and (2) incorporating the perspectives of racial/ethnic minority patients into patient-provider communication research. We discuss the utility of mixed methods research designs as a framework for resolving this complex scientific question. Research that draws on social psychology research of implicit racial bias and incorporates the racial/ethnic minority patient perspectives can inform the development of communication skills training programs for students and residents in various healthcare fields. Such programs are one element of a broader effort to reduce racial/ethnic disparities in healthcare.

## Keywords

Implicit racial bias; Patient-provider communication; Patient satisfaction; Patient trust; Mixed methods research designs

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Since publication of "*Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*" by the Institute of Medicine in 2003 [1], there has been a growing recognition of the role of provider implicit racial bias (i.e., racial attitudes and stereotypes that are activated spontaneously [2,3]) in patient care [4–7]. One particularly well-documented finding is that provider implicit racial bias is negatively associated with care satisfaction and provider trust reported among racial/ethnic minority patients [6]. Satisfaction and trust, in turn, are well-established predictors of numerous patient outcomes including medication adherence, healthcare utilization, and overall health status [8–11]. Given that racial/ethnic minority patients tend to see providers from different racial/ethnic backgrounds than their own [12–15], provider implicit racial bias is considered one important factor contributing to the pervasive racial/ethnic disparities in healthcare access and quality, and ultimately in health status, in the U.S. [1]. In this paper, we highlight provider communication behaviors as one important intervention point in reducing racial disparities in healthcare. In doing so, we discuss the barriers to accurately assessing provider communication behaviors that reflect provider implicit racial bias. Finally, we propose a means of addressing these limitations and a path forward toward developing culturally-respectful provider communication training.

## 1. The role of provider communication behaviors in healthcare disparities

We feel it is critical to acknowledge that reducing provider implicit racial bias is an important goal that should be pursued in earnest. An increasing number of medical schools and other organizations have begun to teach about the role implicit racial bias can play in patient care [16], primarily around increasing awareness about this bias. Research has consistently shown that increasing awareness, in and of itself, does not result in substantive reduction in racial bias [17–19]. Changing fundamental attitudes, including implicit racial bias, is a challenge that requires a considerable investment of time and resources [19–22]. Thus, reducing implicit racial bias in providers is beyond the scope of most healthcare settings at the present time. In contrast, communication behaviors are relatively malleable and medical schools have existing structures that can be leveraged to improve instruction about patient-provider communication as a core component of medical training. Therefore, provider communication behaviors that mediate the link between provider implicit racial bias and patient healthcare experiences are an important starting point for addressing what is a larger, systemic issue–racial/ethnic disparities in healthcare. Taken together, our conceptual model (Fig. 1) presented below is not offered as an alternative to addressing systemic racism; rather, it is offered as a complement to those efforts.

Our conceptual model builds on multiple lines of research in applied health disparities as well as basic social psychology and illustrates the role provider communication behaviors, particularly those that link provider implicit racial bias and patient outcomes, play in reducing racial disparities in healthcare access and quality. Specifically, the model suggests that improvements of provider communication behaviors can disrupt the negative association between provider implicit racial bias and patient satisfaction and trust, resulting in improved patient satisfaction and trust. The resulting patient satisfaction and trust further improves patient subsequent health-related behaviors (e.g., adherence, healthcare utilization) and

clinical outcomes. The model also posits that improved provider communication behaviors can induce positive communication behaviors from racial/ethnic minority patients, facilitating smooth, pleasant racially discordant medical interactions, which may result in reduced provider implicit racial bias in the long run.

Path A in the figure is proposed based on findings from prior patient-provider communication research. The well-documented link between provider implicit racial bias and patient satisfaction and trust [6] suggests provider implicit racial bias manifests behaviorally during medical encounters. Path B illustrates the well-documented relationship between provider communication behaviors and patient satisfaction and trust, which in turn are associated with subsequent health-related behaviors and health (Path C) [8–11].

This model is among the first to integrate social psychology theories of *reciprocity norm* and the *contact hypothesis* to patient-provider communication research. The *reciprocity norm* is prevalent in many societies, including the U.S. [23–25]. This norm encourages people to respond to others favorably (unfavorably) when others treat them positively (negatively). The research on reciprocity norm posits that positive provider communication behaviors are likely to induce positive patient communication behaviors, while negative provider communication behaviors are likely to induce negative patient communication behaviors (Paths D and D'). "Positive" communication behaviors are any nonverbal (i.e., how providers use their body parts, such as hands, eyes, and posture), paraverbal (i.e., how providers deliver their speech, such as speed, pitch, and amount of talk time), and verbal (i.e., what providers actually say) behaviors that are significantly correlated with increased patient satisfaction or trust; "negative" communication behaviors are any behaviors that are significantly associated with decreased patient satisfaction or trust.

This model also incorporates notions from the *contact hypothesis*. Research has consistently shown that repeated positive contacts with outgroup members (e.g., individuals with a different social identity than one's own, such as race, gender, and sexual orientation) is associated with reduced stereotyping, prejudice, and discrimination [26–28]. The implication of this hypothesis is illustrated by Path E, which shows that repeated positive interactions with minority patients, triggered by their own positive communication behaviors, may reduce provider implicit racial bias over time.

We note that this conceptual model does not claim that any one effort, including improvements in patient-provider communication, will, in and of itself, eliminate the racial disparities in healthcare. We also acknowledge that there is variability in both the context for and the quality of patient-provider communication within racially discordant medical interactions. Our conceptual model helps reframe how scholars understand one important source of the persistent racial/ethnic disparities in healthcare.

## 2. Challenges in identifying provider communication behaviors that link provider implicit racial bias and patient outcomes

Identifying the specific provider communication behaviors that mediate provider implicit racial bias and the healthcare experiences of racial/ethnic minority patients is challenging.

We believe this challenge persists, in part, because existing patient-provider communication assessments do not (1) take into account findings from social psychology research on implicit racial bias or (2) incorporate the experiences of racial/ethnic minority patients.

## 2.1. Lack of considerations for social psychology research on implicit racial bias

Numerous systems for coding patient-provider communication have been developed over the last few decades [29,30]. However, the majority of these coding systems fail to account for *discrete nonverbal and paraverbal behaviors*. Social psychology research on implicit racial bias provides substantial evidence that people's implicit racial bias often manifests in their nonverbal and paraverbal behaviors, as opposed to verbal behaviors, during interracial interactions [31–33]. For example, in a study of White participants interacting with White and Black trained research assistants, participant implicit racial bias was negatively associated with nonverbal friendliness (i.e., assessed using silent video-recordings) towards the Black research assistant relative to the White research assistant; in contrast, there was no association between implicit racial bias and verbal friendliness (i.e., assessed using audio-recordings) [32]. These findings demonstrate the need to assess nonverbal and paraverbal behaviors to identify communication behaviors reflective of implicit racial bias.

Our recent review of existing patient-provider communication coding systems suggests that approximately half do not include any assessment of nonverbal or paraverbal behaviors [34]. Moreover, most systems that assess nonverbal and/or paraverbal behaviors rely on third-party observers' global ratings (e.g., how friendly, responsive, attentive providers appear), including the Roter Interaction Analysis System RIAS [35,36], Four Habits Coding Scheme [37], and Nonverbal Communication in Doctor-Elderly Patient Transactions [38]. Global ratings are informative when the goal is to garner an *overall assessment* of the quality of provider communication skills. However, they fall short when the goal is to *improve* provider communication behaviors. For example, imagine that someone told you that you "act unfriendly," but without telling you what specific mannerism or statement made you seem that way to them. Without understanding the specific communication behaviors that make one appear unfriendly, it will be difficult to modify one's behaviors effectively. Taken together, to identify specific provider communication behaviors that reflect provider implicit racial bias, it is essential that patient-provider communication coding systems account for discrete nonverbal and paraverbal behaviors.

## 2.2. Lack of considerations for racial/ethnic minority patient perspectives

Findings from prior research suggests integration of patient perspectives is important in any patient-provider communication research. For example, our work has shown that positive patient decisional (e.g., improved knowledge, reduced decisional regret), behavioral (e.g., adherence, treatment decision, health behaviors) and clinical outcomes (e.g., symptom reduction, quality of life) are better predicted by *patient reports* of patient-provider communication than by *observer-rated* patient-provider communication [39,40]. Specifically, "shared decision-making" is a communication behavior considered essential to patient-centered care [41]. However, our recent systematic review revealed that patient-reported use of shared decision-making was more often associated with positive patient outcomes than was observer-coded use of shared decision-making [42].

Findings from our qualitative interviews with patients further demonstrate that researchers and patients conceptualize "positive" provider communication behaviors differently [43]. The definition of shared decision-making most commonly used by researchers includes: (I) both provider and patient share information; (II) both parties are involved in all phases; (III) both parties express treatment preferences; and (IV) agreement is reached [44]. However, our interviews revealed that only one of these characteristics was identified as key to shared decision-making by patients: both provider and patient share information. Patients identified three alternative criteria: (I) both parties are open-minded and respectful; (II) patients advocate for themselves; and (III) providers personalize their recommendations. Our research also elucidated that decision-making needs to happen in the context of a trusting clinical relationship for patients to label the process as "shared."

These findings have direct implications for how to develop assessments of provider communication behaviors: to predict patient outcomes, including satisfaction and trust, researchers need to incorporate patient perceptions systematically and intentionally. However, existing patient-provider communication coding systems are generally not developed in a manner that incorporates the perspectives of racial/ethnic minority patients. The *development* of a coding system often starts with identifying as many potentially meaningful behaviors as possible. Because it is impossible to code every single communication behavior, researchers generally decide which behaviors may be potentially important at the initial formation of the need for a coding system. This initial step of selecting "potentially important behaviors" is often based on researchers' assumptions or hypotheses, which are informed by prior research or existing theories (i.e., a deductive approach) [34].

This deductive approach will not capture the full complement of communication behaviors relevant to racial/ethnic minority patients because their perspectives are not well-represented in either the theoretical or empirical literature that this approach relies on. The previous validation studies have been conducted generally with majority White patients (or patient race is unspecified) seeing White providers [36–38,45–50]. Thus, the provider communication behaviors most relevant to building (and eroding) satisfaction and trust in racially discordant medical interactions are under-studied. Such a void is likely problematic as communication behaviors that build/erode satisfaction and trust during racially discordant medical interactions may be different from those that have similar effects among racially concordant interactions.

Consistent with this argument, social psychology research on interracial interactions has demonstrated that the same behaviors can be viewed in different ways in racially concordant versus discordant interactions [51,52]. For example, a study of White college freshmen found that those who were randomly assigned to have a White roommate responded positively to their roommates who reported high levels anxiety. In contrast, those who were randomly assigned to have a racial/ethnic minority roommate responded negatively to their roommates who reported high levels of anxiety [52]. They interpreted these results in terms of attributions. Specifically, they argued that the White freshmen attributed their White roommate anxiety to factors that are outside of their relationship (e.g., "*She is anxious about her exams.*"); in contrast, they attributed the anxiety of their racial/ethnic minority roommate

to the relationship itself (e.g., "*She does not like me.*"). These findings illustrate the need to empirically test the content and construct validity of patient-provider communication coding systems among racial/ethnic minority patients.

## 3. Potential solution for detecting provider communication behaviors: a wicked problem needing mixed methods research

Incorporating (1) findings from social psychology research of implicit racial bias and (2) the perspectives of racial/ethnic minority patients in patient-provider communication research is necessary to identify provider communication behaviors that mediate the link between provider implicit racial bias and minority patient satisfaction and trust. How to do so, however, is complex. We argue that the challenge of identifying such provider communication behaviors represents a "wicked problem:" that is, a problem that cannot be resolved by traditional processes of analyzing vast amounts of qualitative data or of sophisticated quantitative analyses alone [53]. Mixed methods–the linking of epistemological frameworks and methodological tools from qualitative and quantitative traditions–is one approach for addressing such complexity. In the context of identifying key provider communication behaviors that are associated with both provider implicit racial bias and care satisfaction/provider trust reported among racial/ethnic minority patients, a mixed methods approach enables researchers to integrate complementary qualitative and quantitative approaches. Specifically, the qualitative approach obtains racial/ethnic minority patient narratives on provider communication behaviors, and the quantitative approach tests which of those provider communication behaviors discussed by patients are further associated with patient outcomes.

There are different ways to integrate implicit racial bias and minority patient perspectives into patient-provider communication research using mixed methods research designs [54,55]. For example, researchers can conduct validation studies of existing patient-provider communication coding systems in racial/ethnic minority patients. Findings discrepant from the previous validation studies using majority White patients can be followed-up by interviewing racial/ethnic minority patients to obtain their insights. Another potential approach is to start with obtaining narratives from racial/ethnic minority patients. Scholars can first ask racial/ethnic minority patients to talk about provider communication behaviors (all verbal, nonverbal, and paraverbal) that they perceive as positive and provider communication behaviors that they perceive as negative. Next, such information can be coded into discrete, quantifiable communication behaviors. Finally, researchers can validate the new coding system using video-recorded medical interactions involving racial/ethnic minority patients.

## 4. Future directions for reducing racial/ethnic disparities in healthcare

As suggested by our conceptual model discussed earlier, provider communication behaviors that mediate the association between provider implicit racial bias and patient healthcare experiences is one important intervention target in reducing the racial/ethnic disparities in healthcare. With the use of mixed methods research designs, researchers can begin to identify those key provider communication behaviors. Once researchers have successfully

identified the key provider communication behaviors, the next critical step in actually reducing disparities in healthcare is to develop culturally-respectful provider communication skills training programs. That is, researchers have to develop programs that effectively and efficiently target the key provider communication behaviors. It should be noted that we are not suggesting that providers must understand perspectives of all patients from diverse cultural backgrounds. However, we argue that it is critical to consider the cultural context in which patient-provider communication takes place in order to determine how narrowly/ broadly researchers should define meaningful social groups. For example, in the U.S., race/ ethnicity is one of the most prominent dimensions people use to categorize others [56–59], and evidence supporting racial/ethnic disparities in healthcare is overwhelming [1,60]. Thus, it is important to take into account the unique experiences of bias and healthcare disparities among racial/ethnic minority patients in the U.S. when designing culturally-respectful provider communication skills training programs. In contrast, race/ethnicity may not be adequate to capture patient experiences and perspectives meaningfully in Europe where there is a broader view on diversity. In such case, culturally-respectful communication may be understood within an intersectional framework. We also argue that learning about patient perspectives in one context (e.g., Black American patients) can inform us how to study and integrate patient perspectives in other contexts (e.g., immigrants), which in turn ultimately helps us identify behaviors that are perceived to be good (or bad, or neutral) involving patients from diverse backgrounds and provide us a fuller picture of overall patient-provider communication.

We also argue that identification of specific provider communication behaviors that reflect provider implicit racial bias can inform future research on how to assess provider implicit racial bias. Currently, the most common way to assess provider implicit bias is through administration of the Implicit Association Test (IAT). However, the IAT is neither without limitations [61–63] nor the only existing tool to assess implicit bias [64,65]. It is important for scholars to use multiple measures to assess implicit bias, so they can triangulate on what is, by definition, something that we cannot directly observe. We believe that the existing technology used in communication skills training can be used to assess provider implicit bias *indirectly* once scholars successfully identify provider communication behaviors that are reliably associated with provider implicit bias. For example, MPathic-VR is a computer-based system that enables providers to interact with virtual humans [66]. During the simulated interactions, MPathic-VR records, stores, and provides immediate feedback about providers' conversational choices and nonverbal behaviors. Researchers can program MPathic-VR to capture specific communication behaviors that are found to be associated with provider implicit racial bias.

In conclusion, only by taking into account findings from prior social psychology research of implicit racial bias and incorporating the perspectives of racial/ethnic minority patients into patient-provider communication research can we begin to gain a more comprehensive understanding of the role that provider communication behaviors during racially discordant medical interactions play in racial/ethnic minority patient outcomes. Developing culturally-respectful provider communication training is a complex process; it cannot be achieved with an inductive or deductive approach alone. Use of a mixed methods research design is one approach for addressing this complexity. With the identification of specific provider

communication behaviors that mediate the link between provider implicit racial bias and racial/ethnic minority patient outcomes, researchers can finally begin developing culturally-respectful and personally-tailored communication skills training and other interventions targeting patient-provider interactions to reduce racial/ethnic disparities in healthcare and health.

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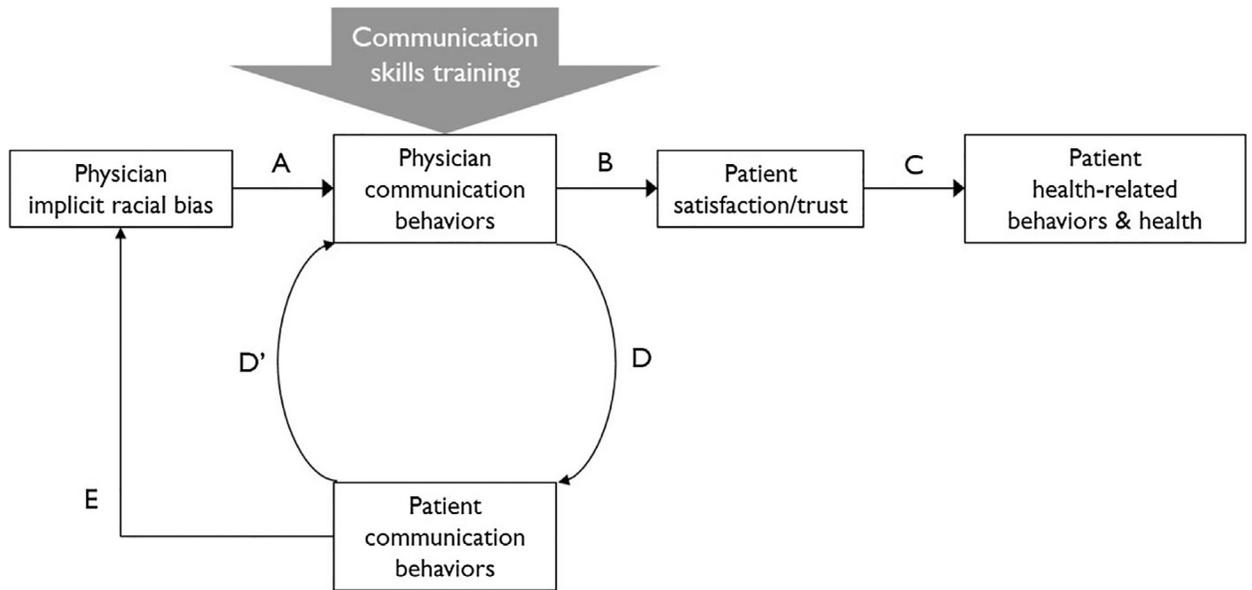
**Fig. 1.**

The conceptual model addressing the central role provider communication behaviors play in reducing racial disparities in healthcare and health.