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Executive Summary

Executive Summary by invitation of Congresswoman Christensen, RE: Sabin, J. A., Nosek, B. A., Greenwald, A. G., Rivara, F.P., *Comparing physician implicit and explicit attitudes about race by gender, race and ethnicity*. November, 2008

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Title: Physician Implicit and Explicit Attitudes about Race by Gender, Race and Ethnicity

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Introduction

Racial and ethnic health care disparities

Racial and ethnic health care disparities are well documented and persist.¹⁻⁹ The Institute of Medicine (IOM) report, *Unequal Treatment (2003)*, found evidence of poorer quality of care for minority patients in studies of cancer treatment, treatment of cardiovascular disease, rates of referral for clinical tests, access to a kidney transplant wait list, Black children's receipt of medication, diabetes management, pain management, and other areas of care.¹ Racial and ethnic disparities exist in physician communication behaviors and physician perceptions of patients.¹⁰⁻¹⁴ Johnson et al. (2004) documented physician behavior during real-world clinical interactions and found that physicians spent less time with African American patients, were more verbally dominant and had a less positive affect with African American patients compared to White patients.⁶

The IOM report found indirect but strong evidence of racial discrimination in all levels of health care, from policy level decisions to discrimination in interpersonal interactions.¹ Patient perceptions of racial and gender discrimination in health care affect health care quality and can delay seeking care, and affect adherence to treatment.^{15,16} The IOM defined *discrimination in health care* as, "differences in care that emerge from biases and prejudice, stereotyping, and uncertainty in communication and clinical decision-making."¹ (p. 160) A number of leaders in health care believe that future areas for health care disparities research must examine provider cognitive and affective processes such as implicit and explicit attitudes and stereotypes.^{1, 10, 12, 17-24}

The Seattle & King County, Washington, Department of Public Health conducted a small health care survey in 2001 to examine African American's perceptions of discrimination in their health care experiences over the past 10 years. (Racial and ethnic discrimination in healthcare settings, 2001) One third of participants reported perceptions of discrimination in their health care experiences and rated the severity of the discrimination event as an 8.2 on a scale of 1-10. The most frequent type of discrimination event reported was differential treatment that they believed was due to their race (64% of total events). The

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respondents reported that the discrimination event subsequently caused them to delay or avoid health care services.

Physician perceptions about how minorities are treated in the health care system vary by physician race/ethnicity and gender. The Kaiser Family Foundation (KFF) 2002 National Survey of Physicians found variations in physicians' report of attitudes about unfair treatment by physician race/ethnicity and gender.²⁵ Twenty-five percent of White physicians, compared to 52% of Latino physicians, 33% of Asian physicians and 77% of Black physicians thought that patients are treated unfairly due to their race or ethnicity "very or somewhat often." In the KFF report, 58% of female physicians responded that the health care system "rarely" or "never" treats people unfairly due to their race/ethnicity compared to 73% of male physicians.²⁵

Bias in medical decision-making

Research shows that generally, bias in medical decision-making is more likely to occur in conditions of clinical uncertainty, high workload, physician fatigue and other circumstances that lead to high levels of cognitive stress.²⁶⁻²⁸ Time pressure can influence the medical decision-making process by limiting the amount of attention given to retrieval of information from working memory.²⁹ It is possible that, unknowingly, clusters of implicit social attitudes and stereotypes stored in memory may be retrieved automatically and without awareness during medical decision-making and treatment recommendations.

Social Psychology

A large body of evidence in the field of social psychology shows that despite self-reports of egalitarian beliefs, individuals may show prejudiced behavior in situations that are ambiguous and uncertain or when under pressure of time and this behavior may occur automatically or unintentionally.³⁰⁻³⁴ A number of leaders in health care believe that future areas for health care disparities research must examine provider cognitive and affective processes such as implicit and explicit attitudes and stereotypes.^{1, 10, 12, 17-24, 35, 36} *Explicit* attitudes are beliefs that are known to the individual and can readily be expressed by self-report.^{30, 37} *Implicit* attitudes are beliefs that are not readily apparent to the individual and can be in opposition to a person's explicit and expressed beliefs.^{30, 33, 37-39} As a consequence, implicit prejudice, discrimination and bias can be observed in the absence of any intention to discriminate.^{30, 31, 37, 40, 41} Research on implicit social cognition finds that some degree of implicit racial bias is common in the general population.⁴² Thus, there is speculation that health care disparities may be the function of normal cognitive processes in which provider subtle or implicit attitudes and beliefs unintentionally affect physician behavior and quality of care.^{1, 17, 21, 43}

In the more affective dimensions of social interactions such as non-verbal behavior, implicit attitudes and beliefs appear to be a better predictor of behaviors such as discrimination than self-reported attitudes.⁴⁴ There is no reason to assume that MDs are immune to this phenomenon. In one study, the National AIDS Research Institute, Bhosari, India, (NARI, 2006) found implicit bias toward HIV patients among doctors and nurses who treat HIV patients, and that this implicit bias was related to discrimination.

Research on physician attitudes about race

A recently published study that was the first to examine physician implicit attitudes and stereotypes about race and their relation to quality of care, found that physicians hold strong pro-White implicit attitudes favoring White Americans relative to Black Americans.⁴⁵ Physicians with greater pro-White implicit bias were more likely to treat White than Black

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patients with thrombolysis for acute coronary symptoms.⁴⁵ The study found that physicians held an implicit association for Black patients vs. White patients as being “less cooperative.”⁴⁵ Those who held a strong association with Black patients as “less cooperative” were less likely to refer patients with acute coronary symptoms for thrombolysis.⁴⁵ Physician self-reported beliefs about unfair treatment due to race vary by physician gender and race/ethnicity, with non-White and female physicians more likely to agree that patients are treated unfairly due to race/ethnicity.²⁵ A similar study of pediatricians found less bias among this group of physicians compared to others in society and other MDs, an implicit association for White patients rather than Black patients as “compliant” and no relationship between implicit attitudes about race and medical care.⁴⁶

It is unknown whether physicians generally hold implicit attitudes about race similar to others in society, and whether physician implicit attitudes about race vary by race/ethnicity and gender. Our study is the first to measure physician implicit and explicit attitudes about race among a large sample of MDs compare these attitude measures by MD gender, race and ethnicity and to others in society.

Methods

This study measured implicit and explicit attitudes about race using the *Race Attitude Implicit Association Test* (IAT) for a large sample of test takers (N=404,277) and which included a sub-sample of self-identified MDs (n=2535). Subjects visited the *Project Implicit@* demonstration web site from January 12, 2004 through May 12, 2006. The Implicit Association Test (IAT) is an indirect measure of implicit social cognition developed by A. G. Greenwald and colleagues.³⁹ The IAT has become widely accepted as a measure of implicit social cognition because it achieves good reliability in comparison other implicit measures,⁴⁷⁻⁴⁹ is relatively robust with repeated assessment for pre-post evaluation,^{48, 50} captures evaluations that are related, but distinct from self-report,^{32, 38, 48} and has predictive validity.⁴⁴ An important limitation of this study is that the sample is not a random, representative sample of MDs. The sample means and distributions cannot be considered parameter estimates of MDs in general. It is possible that selection effects under - or overestimate the presence of implicit biases among MDs. Even so, that we included more than 2500 MDs suggests that these effects are widespread. Because IAT results for large samples of test takers are usually statistically significant, meaningful interpretation of IAT results often focuses on effect size, which is a standardized measure that allows for comparison among one another. Cohen's d' is interpreted as d' of 0.20 = small effect, d' of 0.5 = medium effect, and d' of 0.80 = large effect.⁵¹

Study Findings

Implicit Attitude Measure

The majority of test takers showed an implicit preference for White Americans compared to Black Americans. We found a strong implicit preference for White Americans relative to Black Americans among all test takers ($M= 0.35$, $SD= 0.42$, $d'= 0.81$) and for the MD sub-sample ($M= 0.39$, $SD= 0.47$, $d'= 0.89$). Other sub-groups with a doctoral education also showed an implicit preference for White Americans relative to Black Americans (JD, $M=0.32$, $SD= 0.43$, $d'= 0.68$, PhD, $M= 0.32$, $SD= 0.45$, $d'= 0.70$), which was substantial but less strong among the MD sub-sample. Strength of implicit bias was stronger than self-

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reported racial preferences. The MD sub-sample showed the strongest implicit race bias when compared to other sub-groups with doctoral education (MD, JD, PhD).

We examined these effects among White, African American, Hispanic and Asian MDs and found an implicit preference for White Americans among all MDs with the exception of African American MDs. African American MDs, on average, did not show an implicit preference for either White Americans or Black Americans ($M= 0.05$, $SD= 0.47$, $d'= 0.11$), though the standard deviation indicates that some held an implicit preference for Whites and others held an implicit preference for Blacks. The result for African American MDs is consistent with results for all African Americans who took the *Race Attitude IAT*.

Implicit Attitude Measure by MD Gender

When the MD sub-sample was disaggregated by MD race/ethnicity and gender, females MDs in all sub-groups showed weaker explicit attitudes favoring Whites compared to males. For the complete sample of test takers, implicit preference for White Americans was strong among males ($M= 0.39$, $SD= 0.43$, $d'= 0.91$) and weaker but still substantial among females ($M= 0.32$, $SD= 0.43$, $d'= 0.74$). Similarly, for the MD sub-sample, strength of implicit preference for White Americans was strong among males ($M= 0.45$, $SD= 0.43$, $d'= 1.05$) and weaker among females ($M= 0.30$, $SD= 0.45$, $d'= 0.67$). This gender pattern was found for JDs and PhDs (not shown). When the MD sub-sample was disaggregated by MD race/ethnicity and gender, females in all groups showed weaker implicit preference for White Americans vs. Black Americans than did males. Strength of implicit preference for White Americans was weak among male African American MDs ($M= 0.12$, $SD= 0.50$, $d'= 0.24$) and among female African American MDs implicit preference for either Whites or Blacks was absent ($M= 0$, $SD= 0.43$).

Self-Reported (explicit) Attitudes

Among all test takers, explicit attitudes favored White Americans with the exception of African American MDs. Effect sizes for the explicit attitude measure were approximately half as large as for the implicit measures. Hispanic MDs reported a relatively weak preference for White Americans vs. Black Americans, despite strong implicit attitudes that favored White Americans. For African American MDs the explicit measure was negative, showing a strong preference for African Americans relative to White Americans ($M= -0.75$, $SD= 0.82$, $d'= 0.91$). When the MD sub-sample was disaggregated by MD race/ethnicity and gender, females MDs in all sub-groups showed weaker explicit attitudes favoring Whites compared to males. Both female and male African American MDs reported explicit attitudes favoring Black Americans ($M= -0.87$, $SD= 0.77$, $d'= 1.12$ and $M= -0.63$, $SD= 0.85$, $d'= 0.42$), respectively. Among Hispanic MDs, females on average, reported no explicit race bias ($M=0$, $SD= 0.58$) although there was variation and males reported a moderate preference for White Americans vs. Black Americans ($M= 0.39$, $SD= 0.66$, $d'= 0.59$).

Conclusion

This research makes several important contributions to scientific knowledge. First, we found that MDs' implicit and explicit attitudes about race follow the same general pattern seen in the very large, heterogeneous public samples; the majority held implicit preferences for Whites compared to Blacks. Second, African American MDs, similar to large groups of

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African Americans who take the *Race Attitude IAT*⁴² show no implicit racial bias, on average, though individuals vary widely in showing pro-White or pro-Black implicit associations. Third, we found a difference in strength of implicit and explicit attitudes about race by gender, with males consistently showing stronger preferences for Whites on both the implicit and explicit measures. Fourth, for the MD subgroup, similar to others in society, implicit and explicit attitudes about race were modestly related. This weak relationship substantiates the supposition that one may explicitly hold egalitarian beliefs while simultaneously holding implicit attitudes that favor Whites relative to Blacks.

Our study is the first research to show patterns of variation in physician implicit attitudes about race by physician race and ethnicity. We do not yet know whether and under what circumstances these differences affect quality of care. The majority of *Race Attitude IAT* test takers, with the exception of African Americans, including a sub-sample of test takers who reported their highest level of education as MD and others with a doctoral degree, showed a strong implicit preference for White Americans relative to Black Americans. African American MDs showed no implicit preference for either Black Americans or White Americans but reported strong explicit preference for African Americans. Females show weaker implicit racial bias than males. Research shows that patient satisfaction is higher for patients of female physicians,⁵² and visits are rated as more participatory by patients of female physicians.⁵³ Our study provides new evidence for the importance of efforts to increase the number of African Americans and women in the field of medicine.

MDs showed strong levels of implicit racial preferences, similar to the diverse cross-section of society that participated. For all groups and subgroups, implicit and explicit attitudes about race differed. Our findings suggest that an important area for future research is to investigate the link between provider implicit attitudes about race, patient reports of discrimination and quality of care.

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