RACIAL BIAS IN THE ASSESSMENT OF PAIN AMONG HBCU TRAINEES

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IMPLICIT BIAS

- Defined as the evaluation of an individual based on a person's race, gender, sexual orientation, or religion, appearance, disability or socio-economic status
- Most often is outside of conscious awareness (we don't know what we don't know)
- Most biases are due to personal beliefs or societal norms and exposures

ADDS TO THE GAP IN HEALTH CARE DISPARITIES

- Access to care
- Patient ay not feel comfortable seeing a physician
- May not feel heard or understood
- Pain may not get treated under care of professional
- Pain may be undertreated
- May lead to self medicating addiction, misdiagnoses and mistrust

LONG-STANDING MISTRUST IN THE MEDICAL SYSTEM

- Performance of painful procedures without anesthesia on enslaved Black women by J. Marion Sims in the 1840s
- The Tuskegee study that intentionally withheld effective treatment from Black men with syphilis in the 1930s through the 1970s
- Sterilization procedures performed without consent ("Mississippi appendectomy") on Black men and women as recently as the 1970s.

RACIAL BIAS IN THE ASSESSMENT IN PAIN

CrossMark

Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites

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Black Americans are systematically undertreated for pain relative to white Americans. We examine whether this racial bias is related to false beliefs about biological differences between blacks and whites (e.g., "black people's skin is thicker than white people's skin"). Study 1 documented these beliefs among white laypersons and revealed that participants who more strongly endorsed false beliefs about biological differences reported lower pain ratings for a black (vs. white) target. Study 2 extended these findings to the medical context and found that half of a sample of white medical students and residents endorsed these beliefs. Moreover, participants who endorsed these beliefs rated the black (vs. white) patient's pain as lower and made less accurate treatment recommendations. Participants who did not endorse these beliefs rated the black (vs. white) patient's pain as higher, but showed no bias in treatment recommendations. These findings suggest that individuals with at least some medical training hold and may use false beliefs about biological differences between blacks and whites to inform medical judgments, which may contribute to racial disparities in pain assessment and treatment.

racial bias | pain perception | health care disparities | pain treatment

A young man goes to the doctor complaining of severe pain in his back. He expects and trusts that a medical expert, his physician, will assess his pain and prescribe the appropriate treatment to reduce his suffering. After all, a primary goal of health care is to reduce pain and suffering. Whether he receives the standard of care that he expects, however, is likely contingent on his race/ethnicity. Prior research suggests that if he is black, then his pain will likely be underestimated and undertreated compared with if he is white (1–10). The present work investigates one potential factor associated with this racial bias. Specifically, in the present research, we provide evidence that white laypeople and medical students and residents believe that the black body is biologically different—and in many cases, stronger—than the white body. Moreover, we provide evidence that these beliefs are associated with racial bias in perceptions of others' pain, which in turn predict accuracy in pain treatment recommendations. The current work, then, addresses an important social factor that may contribute to racial bias in health and health care.

Extant research has shown that, relative to white patients, black patients are less likely to be given pain medications and, if given pain medications, they receive lower quantities (1–10). For example, in a retrospective study, Todd et al. (10) found that black patients were significantly less likely than white patients to receive analgesics for extremity fractures in the emergency room (57% vs. 74%), despite having similar self-reports of pain. This disparity in pain treatment is true even among young children. For instance, a study of nearly one million children diagnosed with appendicitis revealed that, relative to white patients, black patients were less likely to receive any pain medication for moderate pain and were less likely to receive opioids—the appropriate treatment—for severe pain (6).

These disparities in pain treatment could reflect an overprescription of medications for white patients, underprescription of medications for black patients, or, more likely, both. Indeed, there is evidence that overprescription is an issue, but there is also clear evidence that the underprescription of pain medications for black patients is a real, documented phenomenon (1, 4). For example, a study examining pain management among patients with metastatic or recurrent cancer found that only 35% of racial minority patients received the appropriate prescriptions—as established by the World Health Organization guidelines—compared with 50% of nonminority patients (4).

Broadly speaking, there are two potential ways by which racial disparities in pain management could arise. The first possibility is that physicians recognize black patients' pain, but do not to treat it, perhaps due to concerns about noncompliance or access to health care (7, 8). The second possibility is that physicians do not recognize black patients' pain in the first place, and thus cannot treat it. In fact, recent work suggests that racial bias in pain treatment may stem, in part, from racial bias in perceptions of others' pain. This research has shown that people assume a priori that blacks feel less pain than do whites (11–17). In a study by Staton et al. (14), for instance, patients were asked to report how much pain they were experiencing, and physicians were asked to rate how much pain they thought the patients were experiencing. Physicians were more likely to underestimate the pain of black patients (47%) relative to nonblack patients (33.5%). Of note,

Significance

The present work examines beliefs associated with racial bias in pain management, a critical health care domain with well-documented racial disparities. Specifically, this work reveals that a substantial number of white laypeople and medical students and residents hold false beliefs about biological differences between blacks and whites and demonstrates that these beliefs predict racial bias in pain perception and treatment recommendation accuracy. It also provides the first evidence that racial bias in pain perception is associated with racial bias in pain treatment recommendations. Taken together, this work provides evidence that false beliefs about biological differences between blacks and whites continue to shape the way we perceive and treat black people—they are associated with racial disparities in pain assessment and treatment recommendations.

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Significance

- This study examined beliefs associated with racial bias in pain management.
- Study was done at UVA in 2016 and revealed a substantial number of white laypeople and medical students and residents held false beliefs about biological differences between blacks and whites.
- These false beliefs predicted racial bias in pain perception and treatment recommendation accuracy.
- Taken together, this work provides evidence that false beliefs about biological differences between blacks and whites continue to shape the way we perceive and treat black people—they are associated with racial disparities in pain assessment and treatment recommendations.

OBJECTIVE OF OUR STUDY

- Assess whether U.S. medical students and resident physicians (collectively referred to as trainees) at HBCUs– particularly Howard University College of Medicine and Howard University Hospital – displayed any racial bias in the assessment of pain or treatment recommendations;
- If they held any false beliefs about biological differences between Black and White people;
- If any of their existing biases and/or beliefs were the same as those found in their counterparts at a predominantly white institution (PWI); and if they were equally, more, or less accurate in their treatment recommendations for pain in Black vs White patients as a result of their beliefs and/or biases.

HOWARD UNIVERSITY COLLEGE OF MEDICINE

- "HBCU" Historically Black College or University
- Howard University College of Medicine Established in 1868
  - One of four HBCU medical schools in the country
  - Roughly 70 percent of students are under represented minorities
  - Majority of faculty are people of color
  - Mission to serve the underserved community

HOWARD UNIVERSITY COLLEGE OF MEDICINE

Mission

- Howard University College of Medicine provides students of high academic potential with a medical education of exceptional quality and prepares physicians and other health care professionals to serve the underserved. Particular focus is on the education of disadvantaged students for careers in medicine. Emphasis is placed on developing skills and habits of life-long learning and producing world leaders in medicine. **Special attention is directed to teaching and research activities that address health care disparities.** The College also seeks to improve the health of Americans and the global community through public health training programs and initiatives. Our mission also includes the discovery of new knowledge through research. Lastly, the College supports the education and training of postgraduate physicians, other health care providers, and graduate students in the biomedical sciences.

Vision

- The goal of the Howard University College of Medicine is to enhance our global recognition as a medical school of the first rank, known for the excellence of our teaching, research and service. We will continue to be a world leader in the training of competent, compassionate physicians and other health professionals for medically underserved communities and populations. **In addition, the College envisions that it will be an exemplar in eliminating health disparities and in finding solutions through research and public health programs for medical problems disproportionately found in disadvantaged communities, both in this nation and abroad.**

Goals and objectives

- **Develop sensitivity toward the need to address and resolve health disparities at all levels.**

METHODS

- Survey Type: Descriptive Cross-Sectional Study
- Distribution Medium: Digital / Online
- # of Respondents: 96
- Content:
  - Demographic Survey
  - 2 gender-matched mock medical cases
  - 15-question survey on biological differences

SURVEY QUESTIONS

1. On average, Blacks age more slowly than Whites.
2. Black people's nerve-endings are less sensitive than White people's nerve-endings.
3. Black people's blood coagulates more quickly--because of that, Blacks have a lower rate of hemophilia than Whites.
4. Whites, on average, have larger brains than Blacks.
5. **Whites are less susceptible to heart disease like hypertension than Blacks.**

- *Of note, respondents were asked to answer using a Likert scale: definitely untrue, probably untrue, possibly untrue, possibly true, probably true, definitely untrue. False beliefs are listed as items 1, 2, 3, 4, 7, 8, 10, 11, 12, 14, and 15.*

SURVEY QUESTIONS

1. **Blacks are less likely to contract spinal cord diseases like multiple sclerosis.**
2. Whites have a better sense of hearing compared to Blacks.
3. Black people's skin has more collagen (i.e., it's thicker) than White people's skin.
4. **Blacks, on average, have denser, stronger bones than Whites.**
5. Blacks have a more sensitive sense of smell than Whites; they can differentiate odors and detect faint smells better than Whites.

SURVEY QUESTIONS

1. Whites have more efficient respiratory systems than Blacks
2. Black couples are significantly more fertile than White couples.
3. **Whites are less likely to have a stroke than Blacks.**
4. Blacks are better at detecting movement than Whites.
5. Blacks have stronger immune systems than Whites and are less likely to contract colds

RESULTS

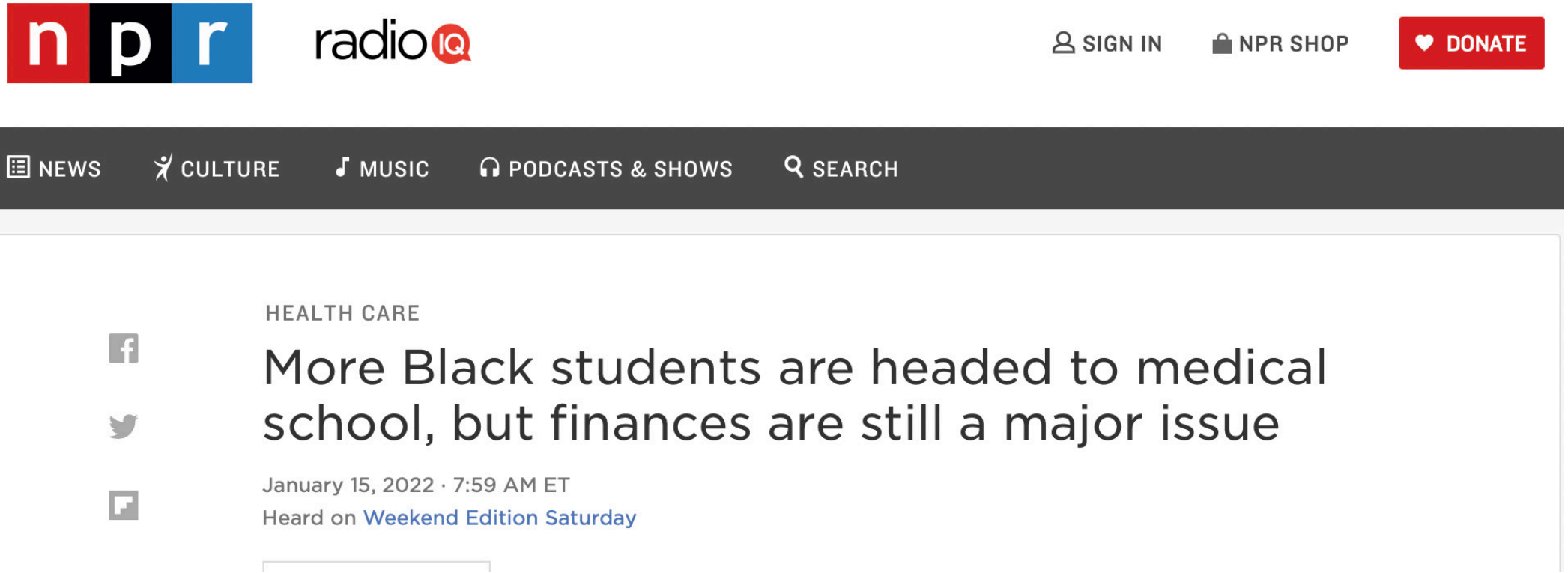
- Less HBCU-affiliated trainees held any false beliefs about biological differences between Blacks and Whites;
- Their false beliefs (if any) did not impact the treatment of the sample patients, and their assessment of pain was not impacted by the patient's race.
- Interestingly, the White respondents at Howard also did not exhibit any racial bias in pain assessment or treatment recommendations, indicating that perhaps active teaching and implicit bias training by HBCUs counteracts racial bias in these individuals.

WHAT NOW?

Overdue Medical Education Reformation

- Studies like the one at UVA expose a deep-rooted bias that even mainstream medical education has been unable to correct.
- A top-down approach of refining who we recruit, retain, and how we train medical trainees is long overdue: this includes implicit bias training, medical history education, and community involvement.

A GOOD START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More Black students are headed to medical school, but finances are still a major issue
January 15, 2022 · 7:59 AM ET
Heard on Weekend Edition Saturday

THINGS TO CONSIDER

Wholistic Medicine

- A more comprehensive, primary care focused approach should be taken towards patient care that involved religious beliefs, race, culture, and disability in order to effectively treat and manage pain.
- "When Black physicians, male physicians are working with Black male patients, we see better outcomes in preventative care, cardiac care. We've also seen that in terms of infant mortality as well." (Norma Poll-Hunter who leads workforce diversity efforts at the AAMC)

CONCLUSION AND FINAL THOUGHTS

- These findings strongly support the need for pipeline programs to improve exposure, recruitment, and retention of Black students in medicine.
- They also support continued backing and promotion of HBCU medical schools.
- The psychology of cultural humility and implicit bias as they relate to the practice of medicine are significant factors that we can no longer afford to ignore, especially as we have continued to struggle to close the gap in health disparities between races in this country.