Unconscious Racial Bias in Healthcare and Medical School Admissions:
An Invisible Social Determinant of Health

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Two patients, same dx, same sx, same hx, same objective findings …

The White patient is likely to receive a higher quality of patient-centered care …
Definitions

- **Implicit bias**: A positive or negative mental attitude towards a person, thing, or group that a person holds at an unconscious level (outside of conscious control)

- **Explicit bias**: A positive or negative mental attitude towards a person, thing, or group that a person is aware of and is under conscious control

- **“White Preference” on the Race IAT**: negative attitude towards Blacks and preference for White. Association of the image of a Black person with negative feelings and the image of a white person with positive feelings
Implicit White Race Preference ≠ Racism
 Implicit Racial Bias: What it Is and Is Not

**Racism:**

A conscious decision to attribute negative features to a racial or ethnic group (e.g., “I don’t like being around Black people because they are dangerous”)

**Implicit (Unconscious) Racial Bias:**

An unconscious coupling of a Black face with “DANGER”
Origins of Our Associations

When concepts are frequently paired together, your brain becomes conditioned to see them as connected, thus causing you to form an association between the concepts.

Association Formation

Unbiased Perceptions and Associations
Association Formation
Racial Bias in Judgments of Physical Size and Formidability: From Size to Threat

John Paul Wilson
Montclair State University

Kurt Hugenberg
Miami University

Nicholas O. Rule
University of Toronto

© 2017 American Psychological Association 0022-3514/17/$12.00 http://dx.doi.org/10.1037/pspi0000092
On April 30th, 2014, an unarmed Black man named Dontre Hamilton was shot 14 times and killed by a White police officer in Milwaukee, Wisconsin. The officer later testified that Hamilton had a “muscular build” and “most definitely would have overpowered . . . me or pretty much any officer I can think of, to tell you the truth. He was just that big, that muscular” (Hayes, 2014). This account is contradicted by the autopsy, in which the medical examiner reported that Hamilton was 5’7” and 169 pounds.
Size/Formidability Bias

Found wearing a bullet-proof vest and carrying a loaded handgun in crowded Chicago Union Station. The police approached and arrested him without incident.

Police responding to a call of vandalism. Found in his grandmother’s backyard. Police yelled, he turned around with a cell phone in his hand. Police fired 20 shots. 8 hit him; 6 were in the back.
Physicians’ Implicit and Explicit Attitudes About Race by MD Race, Ethnicity, and Gender

Sabin, Nosek, Greenwald, Rivara

“... Implicit preference for White Americans was strong among all MD groups except for African American MDs”

“White MDs showed the strongest implicit preference for Whites”

“African American MDs, on average, did not show an implicit preference for either White Americans or Black Americans”
Biases in Medical Professionals

- Like all people, physicians and other medical providers possess implicit biases.
  
  - Pediatricians (Sabin et al., 2008)
  - Residents (Penner et al., 2010)
  - Medical doctors (Sabin et al., 2009)
  - Primary care providers (Blair et al., 2013a)
  - Primary care clinicians (Blair et al., 2013b; Cooper et al., 2012)
  - Medical, pharmacy, and nursing students (White-Means et al., 2009)
How Biases May Manifest – Medical Context

- **Verbal dominance** - “indicator of the level of participation of the clinician relative to the patient in the dialogue”

  - Cooper et al., 2012
  - Hagiwara et al., 2013
  - Johnson et al., 2004
  - Penner et al., 2010

The Effects of Oncologist Implicit Racial Bias in Racially Discordant Oncology Interactions

- 18 Oncologists (non-Black) took the Black-White IAT
- Treatment of 112 Black pts several weeks later
- Office visits were recorded and “graded” by neutral observers
- Oncologists higher in implicit racial bias had shorter interactions
- Patients and observers rated these oncologists’ communication as less patient-centered

Penner. Journal of Clinical Oncology 34, no. 24 (August 2016)
The Effect of Race and Sex on Physicians' Recommendations for Cardiac Catheterization

“Men and whites were significantly more likely to be referred than women and blacks.”

Kevin Schulman, MD, et. al, NEJM, February, 1999
Implicit Racial Bias in Medical School Admissions?
Implicit Bias and Admissions Decision Making

- Physicians demonstrate the same levels of implicit White preference as do individuals in other professions.
- Medical school admissions committees are composed largely of physicians.
- If implicit white preference is present on admissions committees to a significant degree, it could disadvantage Black/African American applicants.
- Little is known about implicit racial bias amongst medical school admissions committee members.
Overview

7,199 Applications

SCREENERS
4244 applications

Superior
(Interview Early)

Strong
(Interview)

Acceptable
(Deferral List)

Do Not Interview

INTERVIEWED BY ADMISSIONS COMMITTEE
657 Interviews

Accept
Defer
Reject
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Confirmation Bias

22 errors inserted

Thomas Meyer
African American Male
3rd Year Associate
NYU Law School

“needs lots of work”
“can’t believe he went to NYU”
“average at best”

15 errors found

Thomas Meyer
Caucasian Male
3rd Year Associate
NYU Law School

“generally good writer but needs to work on…”
“has potential”
“good analytical skills”

10 errors found

Reeves 2014 (link)
What’s In a Name?

- 4 fictional female job applicants, Khadija and Tameeka, Beth and Katie
  - 2 had criminal record, 2 had no criminal record. Applications/CVs otherwise identical
  - All 4 applicants applied to 64 jobs in “Want Ads”
  - Primary Outcome: (% of 64 jobs that called applicants back)

Douthwright. U of Toronto. TheStar.com/12/26/17
% Of Applicants Receiving “Call Backs” from Potential Employers

- White Job Applicant: 31.30%
- Black Job Applicant: 18.80%
  - No Criminal Record: 10.90%
  - Criminal Record: 1.60%

Douthwright. U of Toronto. TheStar.com/12/26/17
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Reject
The Mark of a Criminal Record

Devah Pager
Northwestern University

White                  Black

C               N                  C               N

150 audits        200 audits

AJS Volume 108 Number 5 (March 2003): 937–75
Fig. 6.—The effect of a criminal record for black and white job applicants. The main effects of race and criminal record are statically significant ($P < .01$). The interaction between the two is not significant in the full sample. Black bars represent criminal record; striped bars represent no criminal record.
Implicit (Unconscious) Bias in Medical School Admissions

**Methods**

- In August 2012, all 140 members of The Ohio State University College of Medicine Admissions took the Implicit Association Test (IAT) in 3 areas

- Black-White IAT
- Male-Career/Female-Home and Family Stereotype IAT
- Heterosexual-Homosexual IAT
Implicit (Unconscious) Bias in Medical School Admissions

Methods

- Prior to beginning the 2012-2013 cycle, aggregate results of the IAT and strategies to reduce implicit bias were presented and discussed with the committee.

- At the end of the 2012-2013 cycle, all committee members were sent an anonymous survey to record their impressions of the IAT exercise and its impact on the admissions cycle.
Black-White IAT

First question (explicit preference):

“What best describes you?
1. I prefer White Americans to Black Americans
2. I like White Americans and Black Americans equally
3. I prefer Black Americans to White Americans”

Then the IAT begins to test implicit bias
Implicit Bias Testing: White Preference
OSU COM Admissions Committee 2012

"White Preference" displayed on Implicit Bias Testing
Implicit White Race Preference Measure (Cohen's d)

Cohen's d: 0.2 = small effect, 0.5 = medium, 0.8 = large effect

- Women: 0.32
- Men: 0.7
- Students: 0.38
- Faculty: 0.82

Questions about IAT Results:

- How Do Admissions Committee members feel about their individual results?

- Will it have a measurable impact?
Survey Results

• 100 of 140 (71%) completed the survey

• **67%**: “Taking the IAT will reduce bias in admissions”

• **48%**: “I was conscious of my individual IAT results when interviewing candidates in the next cycle”

• **21%**: “Knowledge of my IAT results impacted my admissions decisions in the subsequent cycle”
Anonymous comments from committee members*:

- “I don’t believe the results of this “test”.
- “There are lots of older faculty on the committee that I assume would have these old-fashioned opinions”
- “I am insulted by this test. It states that I have a bias against Blacks, women, and homosexuals. I have many colleagues that fit these descriptions that I am very close to. I, myself, am a brown person. Rubbish!”
- “…My IAT said I prefer blacks over whites, yet I feel it would be inappropriate for me to try to compensate for that …”

*OSUCOM Annual Survey, 2012-2013 Cycle
After the IAT exercise …

• The next class admitted to OSUCOM was the most diverse in the school’s history

• What happened?
# Admissions Statistics

<table>
<thead>
<tr>
<th>Admissions Cycle</th>
<th>Total URM Applicants</th>
<th>Total # URMs interviewed</th>
<th># URMS offered acceptance</th>
<th>New URM enrollees</th>
<th>Yield (Enrollees/Offers x 100)</th>
<th>% URMS in entering class</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012</td>
<td>876</td>
<td>173 (20%)</td>
<td>56 (32%)</td>
<td>24</td>
<td>43%</td>
<td>17%</td>
</tr>
<tr>
<td>2012-2013</td>
<td>1,038</td>
<td>200 (19%)</td>
<td>57 (29%)</td>
<td>30</td>
<td>53%</td>
<td>20%</td>
</tr>
</tbody>
</table>
Hypothesis …

2011-2012
- Implicit Bias Present but Unrecognized
- URMs interviewed
- URMs perceive mediocre climate
- 43% of URMs matriculate

2012-2013
- Implicit Bias Revealed
- Committee sensitized to IB--go into “recruitment mode”
- URMs perceive inclusive climate
- 53% of URMs matriculate
How Biases May Manifest

Higher levels of implicit bias against a group have been associated with:

- Less positive interactions
- Allowing less speaking time
- Less smiling
- Fewer impromptu social comments
- Less visual contact
- More speech errors
- More speech hesitations
- More blinking

How Do Patients Rate Their Interactions with Physicians with Implicit Bias?

Figure 1. Predicted ratings of clinicians as a function of their implicit bias (IAT) score and their patients’ ethnicity/race. White patients always served as the reference group (data not shown).

Ann Fam Med. 2013 Jan-Feb;11(1):43-52
Did URM interviewees perceive a different climate after committee members shown their IAT scores?

- Comments from committee members after the IAT exercise (before the 2012-2013 cycle):
  - “Made me more cognizant of my prejudices entering the interview season”
  - “It allows us to consciously be careful not to execute those underlying biases”
Implicit Racial Bias in Medical School Admissions

Quinn Capers IV, MD, Daniel Clinchot, MD, Leon McDougle, MD, and Anthony G. Greenwald, PhD

Abstract

Problem
Implicit white race preference has been associated with discrimination in the education, criminal justice, and health care systems and could impede the entry of African Americans into the medical profession, where they and other minorities remain underrepresented. Little is known about implicit racial bias in medical school admissions committees.

Approach
To measure implicit racial bias, all 140 members of the Ohio State University College of Medicine (OSUCOM) admissions committee took the black-white implicit association test (IAT) prior to the 2012–2013 cycle. Results were collated by gender and student versus faculty status. To record their impressions of the impact of the IAT on the admissions process, members took a survey at the end of the cycle, which 100 (71%) completed.

Outcomes
All groups (men, women, students, faculty) displayed significant levels of implicit white preference; men ($d = 0.697$) and faculty ($d = 0.820$) had the largest bias measures ($P < .001$). Most survey respondents (67%) thought the IAT might be helpful in reducing bias, 48% were conscious of their individual results when interviewing candidates in the next cycle, and 21% reported knowledge of their IAT results impacted their admissions decisions in the subsequent cycle. The class that matriculated following the IAT exercise was the most diverse in OSUCOM’s history at that time.

Next Steps
Future directions include preceding and following the IAT with more robust reflection and education on unconscious bias. The authors join others in calling for an examination of bias at all levels of academic medicine.
Implicit Bias in Medical School Admissions

Conscious Mind:
“I will Review
Objective Measures”
Experiences
References
Personal Essay
Academic Record
Implicit Bias in Medical School Admissions

Unconscious Mind:

“Black Face =
• Danger
• Violence
• Misery
• Fear
• Non-compliance”
Summary

- Implicit Racial Bias can “Hijack Good Intentions” of Physicians and Healthcare Professionals

- Research Suggests that Implicit Racial Bias of Physicians is A Component of Healthcare Disparities

- Implicit Racial Bias is Present in (and Might Influence) Medical School (Higher Ed?) Admissions

- Implicit Biases or their Impact Can Be Reduced
Everyday Bias for Healthcare Professionals

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Associate Professor of Medicine (Cardiovascular Medicine)
Strategies to Reduce/Neutralize Implicit Bias

1. Common identity formation. Ask interviewee questions about interests and activities that you share in common (Focus on a shared, common identity between YOU and the interviewee)

2. Perspective taking. (Take the perspective of a member of the group against which you have the unconscious bias)

3. “Consider the opposite”. (When data seem to point to one conclusion, briefly look for data supporting the opposite conclusion before making a final decision.)

4. Counter-stereotypical exemplars. (Spend time with or focus on individuals you admire from groups against which you have a bias.)

Anonymous Pledges by Workshop Participants

• I will be working the night shift this weekend in the ED. When a pt comes in at 2 AM for a laceration. Instead of assuming they were “up to no good” I will “consider the opposite.”

• Since my team is very diverse I have been confronted with (and had to deal with) getting used to working with a large number of Muslims. I’m not used to or comfortable with their culture because of all the bad news around the world, so I think using this common identity formation strategy will help in this area.
Anonymous Pledges by Workshop Participants

• I’m fine at work, but in my neighborhood I have a harder time with black single males when I am out walking. I am going to try to assume positive intent and say “Hello” and not assume they may accost me. I will think of positive exemplars I know that are black males.

• On my next shift, I will most definitely see a pt dressed “like a thug.” I will take the perspective of the patient and try to imagine their life and background.