Virginia Commonwealth University
VCU Scholars Compass

Auctus: The Journal of Undergraduate Research and Creative Scholarship

2020

Implicit Racial Bias in Physicians: Racial Disparity in Opioid Prescriptions in United States Emergency Departments

Anjali Ta
Virginia Commowealth University

Follow this and additional works at: https://scholarscompass.vcu.edu/auctus

 Part of the Quality Improvement Commons

© The Author(s)

Downloaded from
https://scholarscompass.vcu.edu/auctus/79

This Social Sciences is brought to you for free and open access by VCU Scholars Compass. It has been accepted for inclusion in Auctus: The Journal of Undergraduate Research and Creative Scholarship by an authorized administrator of VCU Scholars Compass. For more information, please contact libcompass@vcu.edu.

VIRGINIA COMMONWEALTH UNIVERSITY

Implicit Racial Bias in Physicians: Racial Disparity in Opioid Prescriptions in United States Emergency Departments

Anjali Ta, Professor Mary C. Boyes
Honors College, Virginia Commonwealth University

Introduction

Over the last 30 years, a documented racial disparity in opioid prescriptions in U.S. emergency care departments has persisted despite overall prescription trends fluctuating throughout the rise and fall of the early 2000's opioid epidemic. Consistently, African Americans and other minorities receive lower levels of opioid analgesics when presenting with conditions or characterizing pain levels similar to Caucasian patients (Pletcher et al. 73).

Researchers have recently identified implicit bias as a possible origin of disparities across numerous healthcare disciplines. Implicit racial bias can be defined as subconscious prejudices or beliefs held by an individual that affects their actions without the individual's conscious knowledge (Sabin et al. 912).

Methods

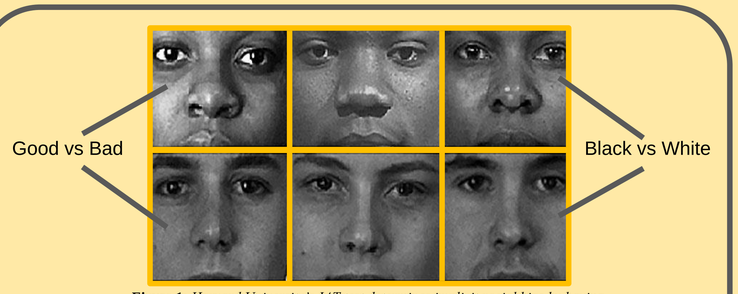

Figure 1: *Harvard University's IAT test determines implicit racial bias by having participants associate words with positive or negative connotations with Black or White faces as pictured above*

This study focuses on identifying the mechanisms of implicit racial bias, quantified by scores on the Implicit Bias Association Test (IAT) (Greenwald et al. 1472), that influences physicians' abilities to equitably assess and treat pain of racially diverse patient populations. I explored scholarly articles regarding: IAT studies of individuals with a medical degree (MD), various National Hospital Ambulatory Medical Care Survey (NHAMCS) data analyses from 1992-2011, an electroencephalographic (EEG) study monitoring event-related brain potentials (ERPs) that suggest racial bias in empathy, and social cognitive psychology articles delineating methods for decreasing implicit racial bias.

Results

1. Racial disparities in opioid prescriptions are highest amongst "non-definitive" conditions with little objective findings (such as **migraines** or **back pain**) rather than "definitive" conditions (such as **long bone fractures**) (Tamayo-Sarver et al. 2072).

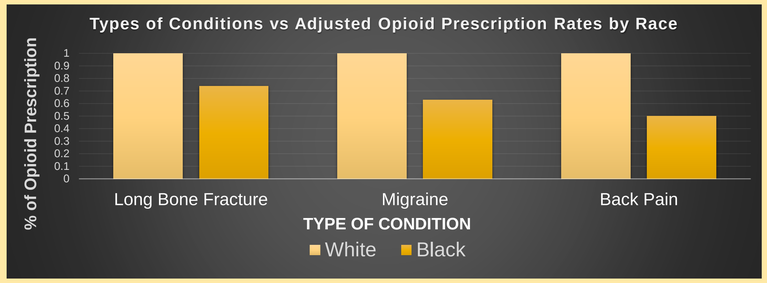

Figure 2: *Types of Conditions vs Adjusted Opioid Prescription Rates by Race adapted from data collected by Tamayo-Sarver et al. (2009)*

2. Via IAT testing, individuals with an M.D were found to likely hold an **implicit bias favoring Whites over Blacks** except in the case of Black MDs. These results conflict with the individuals' self-reported explicit racial attitudes, indicating that physicians with egalitarian views may unconsciously hold racial biases (Sabin et al. 910).

3. There is a significant (P=0.04) correlation between physicians with IAT scores indicating an **implicit preference for Whites over Blacks** and **lower Primary Care Assessment Survey scores** from their black patients (Blair et al. 51). Individuals with higher IAT scores, indicating a stronger preference for Whites, displayed **bias in their ability to empathize with other races in painful situations** (Fabi and Leuthold 153).

Proposal

Initial IAT Testing in Medical School → Social Cognitive Psychology Intervention Training → Annual, Anonymous IAT Testing as Part of a CE Implicit Bias Curriculum

Implicit bias intervention training consisting of **social cognitive psychological strategies** can have longitudinal effects on reducing implicit bias and increasing concern about bias tendencies over time (Devine et al. 1276). Various forms of racial implicit bias training should be implemented into **medical school curriculums** as well as **continuing education (CE) programs**.

Conclusion

Unknowingly, implicit racial bias can affect a physician's ability to equitably assess and treat a diverse patient population, especially within the context of patient-physician communication and pain empathy. Although subconscious stereotyping is a natural byproduct of the brain's categorization process, implicit bias can be reduced if conscious efforts are taken. Some of the main concerns often raised about implicit bias training are that results can be difficult to measure quantitatively and that there is little research on the longitudinal effectiveness of a one-time intervention. A proposal was devised to continually expose physicians to training techniques and their own private IAT results. Implicit bias training protocols utilizing social cognitive psychology theories, such as individuation exercises, and intermittent, anonymous IAT testing should be integrated into multiple levels of the medical education process in order to help reduce implicit racial bias amongst practicing physicians.

References

Blair, Irene V. et al. "Clinicians' Implicit Ethnic/Racial Bias and Perceptions of Care among Black and Latino Patients." *Annals of Family Medicine* 11.1 (2013): 43-52. Web.

Devine, P. G., P. S. Forscher, A. J. Austin, and W. T. Cox. "Long-Term Reduction in Implicit Race bias: A Prejudice Habit-Breaking Intervention." *Journal of Experimental Social Psychology* 48.6 (2012): 1267-1278. Web.

Fabi, S., and H. Leuthold. "Racial Bias in Empathy: Do We Process Dark- and Fair-Colored Hands in Pain Differently? An EEG Study." *Neuropsychologia* 114 (2018): 143-157. Web.

Greenwald, A. G., D. E. McGhee, and J. L. K. Schwartz. "Measuring Individual Differences in Implicit Cognition: The Implicit Association Test." *Journal of Personality and Social Psychology* 74.6 (1998): 1464-1480. Web.

Pletcher, M. J., S. G. Kertesz, M. A. Kohn, and R. Gonzales. "Trends in Opioid Prescribing by Race/Ethnicity for Patients Seeking Care in US Emergency Departments." *JAMA* 299 (2008): 70-78. Web.

Sabin, J. A., B. A. Nosek, A. G. Greenwald, and F. P. Rivara. "Physicians' Implicit and Explicit Attitudes about Race by MD Race, Ethnicity, and Gender." *Journal of Health Care for the Poor and Underserved* 20.3 (2009): 896-913. Web.

Tamayo-Sarver, J. H., S. W. Hinze, R. K. Cydulka, and D. W. Baker. "Racial and Ethnic Disparities in Emergency Department Analgesic Prescription." *American Journal of Public Health* 93.12 (2003): 2067-2073. Web.

Acknowledgments

A special thanks to Professor Mary Boyes and the Honors College Writing Program for their invaluable guidance and resources.