Implicit Bias in Pediatric Academic Medicine

Tiffani J. Johnson, M.D., M.Sc., Angela M. Ellison, M.D., M.Sc., George Dalembert, M.D., Jessica Fowler, M.D., M.P.H., Menaka Dhingra, B.A., Kathy Shaw, M.D., M.S.C.E., Said Ibrahim, M.D., M.P.H.

Abstract: Objective: Despite known benefits of diversity, certain racial/ethnic groups remain underrepresented in academic pediatrics. Little research exists regarding unconscious racial attitudes among pediatric faculty responsible for decisions on workforce recruitment and retention in academia. This study sought to describe levels of unconscious racial bias and perceived barriers to minority recruitment and retention among academic pediatric faculty leaders.

Methods: Authors measured unconscious racial bias in a sample of pediatric faculty attending diversity workshops conducted at local and national meetings in 2015. A paper version of the validated Implicit Association Test (IAT) measured unconscious racial bias. Subjects also reported perceptions about minority recruitment and retention.

Results: Of 68 eligible subjects approached, 58 (85%) consented and completed the survey with IAT. Of participants, 83% had leadership roles and 93% were involved in recruitment. Participants had slight pro-white/anti-black bias on the IAT (M = 0.28, SD = 0.49). There were similar IAT scores among participants in leadership roles (M = 0.33, SD = 0.47) and involved in recruitment (M = 0.28, SD = 0.43). Results did not differ when comparing participants in local workshops to the national workshop (n = 36, M = 0.29, SD = 0.40 and n = 22, M = 0.27, SD = 0.49 respectively; p = 0.88). Perceived barriers to minority recruitment and retention included lack of minority mentors, poor recruitment efforts, and lack of qualified candidates.

Conclusions: Unconscious pro-white/anti-black racial bias was identified in this sample of academic pediatric faculty and leaders. Further research is needed to examine how unconscious bias impacts decisions in academic pediatric workforce recruitment. Addressing unconscious bias and perceived barriers to minority recruitment and retention represent opportunities to improve diversity efforts.

Keywords: Diversity ■ Racial bias ■ Implicit bias

Author affiliations: Tiffani J. Johnson, Division of Emergency Medicine and PolicyLab, Children's Hospital of Philadelphia, USA; Department of Pediatrics, University of Pennsylvania School of Medicine, 2716 South Street, Philadelphia, PA 19146, USA; Angela M. Ellison, Division of Emergency Medicine, Children's Hospital of Philadelphia, USA; Department of Pediatrics, University of Pennsylvania School of Medicine, 3401 Civic Center Boulevard, Philadelphia, PA 19104, USA; George Dalembert, Department of Pediatrics, Children's Hospital of Philadelphia, 3401 Civic Center Boulevard, Philadelphia, PA 19104, USA; Jessica Fowler, Division of Pediatric Critical Care Medicine, Children's Hospital of Philadelphia, 3401 Civic Center Boulevard, Philadelphia, PA 19104, USA; Menaka Dhingra, Division of Hematology, Children's Hospital of Philadelphia, 3501 Civic Center Boulevard, Philadelphia, PA 19104, USA; Kathy Shaw, Division of Emergency Medicine, Children's Hospital of Philadelphia, USA; Department of Pediatrics, University of Pennsylvania Perelman School of Medicine, 3401 Civic Center Boulevard, Philadelphia, PA 19104, USA; Said Ibrahim, Division of General Internal Medicine, University of Pennsylvania Perelman School of Medicine, USA; Philadelphia VA Center for Health Equity Research & Promotion, 3900 Woodland Avenue, Philadelphia, PA 19104, USA

Correspondence: Tiffani J. Johnson, M.D., M.Sc., Children's Hospital of Philadelphia PolicyLab, Roberts Center for Pediatric Research, 2716 South Street, Philadelphia, PA 19146, USA. Fax: +1 215 426 0380., email: johnsont6@email.chop.edu

INTRODUCTION

Workforce diversity is an important strategy to address racial and ethnic disparities in healthcare.[1–3] While evidence exists that minority physicians are more likely to work in underserved areas, serve largely minority populations, and improve the health outcomes of minority populations,[4,5] the benefits of diversity are understood to reach beyond these positive effects. Diversity adds value to every aspect of medicine including patient care, education, research and public policy.[6–8] Effective training of healthcare providers in the practice of culturally competent clinical care is best accomplished by creating an environment that resembles the diverse society that health care providers are called upon to serve. An environment enriched with diverse faculty provides the needed support for faculty and trainees at all levels in the form of role models, educators, and mentors.

In research, a more diverse workforce leads to greater diversity of medical investigations aimed at improving the health and delivery of healthcare services to populations of racial, ethnic, and cultural minorities.[9] Medically trained health care policymakers who accurately reflect the diversity of the American public can have a substantial influence on the future of healthcare policy for all Americans. Despite these known benefits of physician workforce diversity and research demonstrating the need for such diversity, enhancing the racial, ethnic, and cultural diversity of the healthcare workforce remains a significant challenge.[9–11]

The Implicit Association Test (IAT) is a validated tool that has been used extensively to examine unconscious racial attitudes. Previous research using the IAT has demonstrated that most healthcare providers hold implicit pro-white/anti-black racial bias.[12–23] What is less well-understood is the prevalence of implicit pro-white/anti-Black bias among a sub-set of health care providers, namely academic faculty and leaders who are in a position to influence decisions on recruitment and retention. Understanding levels of implicit bias among faculty in academic medicine may prove useful in developing strategies to increase workforce diversity.

The primary objective of this study was to describe levels of implicit racial bias among pediatric faculty involved in recruiting and retaining residents, fellows, and faculty at academic institutions. We hypothesized that

implicit pro-white/anti-black racial bias exists among pediatric faculty involved in recruitment and retention. The secondary objective was to identify barriers, facilitators, and perceptions regarding the recruitment and retention of minorities in academic pediatrics from the perspective of those in leadership and recruitment roles. To achieve these objectives and to test our hypothesis, we performed a cross sectional survey of pediatric faculty from various academic institutions. The survey instrument included a paper version of the IAT and questions pertaining to faculty demographics, job descriptions, and perceptions of recruitment at academic institutions.

METHODS

Study design and setting

The data for this analysis were collected as part of a series of workshops on the recruitment and retention of minorities in academic pediatrics in April, May, and September 2015. These workshops were conducted at a large academic children's hospital and at a national academic meeting. We excluded participants who were in residency or fellowship training programs. This study was determined exempt by the Children's Hospital of Philadelphia's Committees for the Protection of Human Subjects.

Methods and measurements

Our primary outcome was participant implicit racial bias, which was measured using a paper format of the IAT. The paper IAT is a timed categorization task that consists of two randomized blocks of trials. Each block has two columns of stimuli (e.g., "Black-Pleasant," "White-Unpleasant," Fig. 1). For each block, participants were given 20 s to categorize names that would more stereotypically represent black or white names, with words that represent pleasant or unpleasant. The IAT measures the relative strength of association using the number of correct categorizations in one condition compared to the other. Participants who find it easier to associate white names with pleasant (and black with unpleasant) have an implicit pro-white/anti-black bias. The paper format of IAT with verbal stimuli has shown comparable patterns of pro-white/anti-black attitudes as the computerized IAT.[24,25] Both the paper and computerized instruments also have similar psychometric properties.[25]

Following completion of the paper IAT, participants were asked to report their demographic characteristics (ethnicity, race, gender, age, geographic region of the country), job description and work responsibilities (clinical practice setting; academic rank; specialty; percentage of work that is clinical, research, teaching, and service/administration/other; leadership roles; involvement

Fig. 1. Sample Blocks of Trials for the Paper Implicit Association Test. Participants were administered the paper Implicit Association Test (IAT), a timed categorization task that consists of two randomized blocks of trials. For each block, participants were given 20 s to categorize names that would more stereotypically represent black or white names, with words that represent pleasant or unpleasant. The paper IAT measures the relative strength of association using the number of correct categorizations in one condition compared to the other.

in recruitment efforts) and perceptions about minority recruitment and retention at their institution.

Statistical analyses

We used descriptive statistics to summarize participant demographic characteristics, job description and work responsibilities, and perceptions about minority recruitment and retention at their institution. The IAT was scored using the product:square root of difference scoring procedure. Similar to the D algorithm used for the electronic IAT, this scoring method has shown the best performance in reducing the unwanted influence of individual response speed on IAT scores for analyzing paper IAT data.[25] IATs scores were then grouped into standard categories, with values ranging from −0.15 to 0.15 indicating no racial bias; 0.16−0.35, slight pro-white bias; 0.36−0.65, moderate pro-white bias; and >0.65, strong pro-white bias.[26] Negative scores of similar magnitudes indicate pro-black bias.

We performed sub-analyses of IAT scores among participants who reported having leadership roles and involvement in recruitment at their institution and stratified analyses of IAT scores by demographic characteristics. To maintain confidentiality of participants' results,