

# Black Medical Students' Sense of Belonging and Confidence in Scholastic Abilities at Historically Black vs Predominantly White Medical Schools: a Prospective Study



Max Jordan Nguemeni Tiako, MD, MS<sup>1,2</sup>, James E. Wages III, PhD<sup>3</sup>, and Sylvia P. Perry, PhD<sup>4,5,6</sup>

<sup>1</sup>Department of Medicine, Brigham and Women's Hospital, Boston, MA, USA; <sup>2</sup>Harvard Medical School, Boston, MA, USA; <sup>3</sup>Department of Psychology and Counseling, University of Central Arkansas, Conway, AR, USA; <sup>4</sup>Department of Psychology, Northwestern University, Evanston, IL, USA; <sup>5</sup>Institute for Policy Research, Northwestern University, Evanston, IL, USA; <sup>6</sup>Department of Medical Social Sciences, Northwestern University, Chicago, IL, USA.

**KEY WORDS:** HBCU; PWI; medical education; medical school; belonging; physician workforce diversity.

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## BACKGROUND

Historically Black Colleges and Universities (HBCUs) are instrumental to the formation of Black physicians at the pre-medical and medical school levels. Studies show HBCUs are low-threat environments that facilitate Black students' success in Science, Technology, Engineering and Mathematics (STEM).<sup>1</sup> Whether HBCU medical schools' climate contributes to Black students' success and well-being has not been studied. In contrast, evidence shows Black medical students experience a great deal of discrimination at Predominantly White Institutions (PWIs), with material career implications.<sup>2</sup> We assessed differences in sense of belonging and confidence in scholastic abilities between Black medical students at HBCUs vs PWIs.

## METHODS

We conducted a secondary analysis of a prospective cohort<sup>3</sup> of second-year medical students at HBCUs and PWIs surveyed three times over one academic year (55% of students contacted participated in the study). Outcomes were sense of belonging and confidence in scholastic ability, measured by perceived competitiveness for residency and residency goal stability, as greater changes in achievement goals are associated with fear of failure.<sup>4</sup>

The belonging measure was adapted from the Situational Belonging scale,<sup>5</sup> including, "How much do you feel like you belong in medical school?" Perceived competitiveness was measured by asking "Thinking about the future, how likely are you to be accepted into a top-10 residency?" on a 7-point scale, from 1 (very unlikely) to 7 (very likely). Residency goal stability was assessed over the measurement period based on changes in specialty interest. This study took place during the pre-clerkship year, so we assumed that perceived competitiveness and residency stability would be related to curricular and extracurricular experiences, mentorship, or lack thereof. We utilized generalized linear methods and logistic regressions to determine associations between school type and outcomes, adjusting for age and sex.

## RESULTS

Our sample included 378 Black medical students. Women made up over two-thirds of Black participants (64.9%,  $N=246$ ), and most participants were at PWIs (see Table 1). Black HBCU students reported a higher sense of belonging ( $F(1, 312) = 5.87, p = 0.02$ ) and marginally higher perceived residency competitiveness ( $F(1, 313) = 3.51, p = 0.06$ ) than Black PWI students (see Fig. 1). Compared to Black PWI students, Black HBCU students changed their residency goals 48.7% less (95% CI [30.8%, 77.0%],  $p = 0.002$ ) from Waves 1 to 2 and 50.5% less (95% CI [32.9%, 77.6%],  $p = 0.002$ ) from Waves 2 to 3.

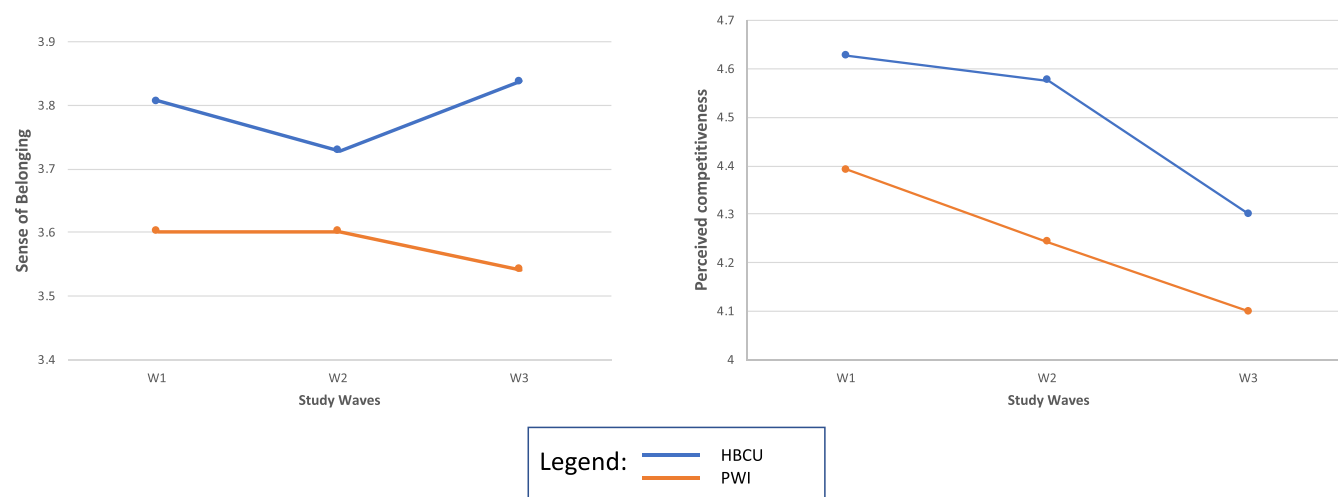
Table 1 Demographic Characteristics of Study Participants

| Demographic |            | HBCU | PWI | Total |
|-------------|------------|------|-----|-------|
| Age         | Ages 20–25 | 83   | 150 | 233   |
|             | Ages 26–30 | 51   | 64  | 115   |
|             | Ages 31+   | 11   | 19  | 30    |
|             | Total      | 145  | 233 | 378   |
| Sex         | Female     | 95   | 151 | 246   |
|             | Male       | 50   | 83  | 133   |

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**Figure 1** Sense of belonging and perceived competitiveness among Black medical students at HBCUs vs PWIs. HBCU, Historically Black College and University, PWI, Predominantly White Institution.

## DISCUSSION

Black HBCU students reported a greater sense of belonging and confidence in their scholastic abilities and goal stability than Black PWI students.

Our primary contribution is the exploration of students' experiences by school type. That Black students at HBCUs feel like they belong more than their PWI counterparts is intuitive. Research shows that Black STEM students at PWIs feel excluded and report struggles with creating an inclusive campus climate, whereas HBCU students perceive STEM disciplines to be diverse and view their institutions as supportive.<sup>1</sup>

Many structures and experiences at PWIs may alienate Black students: a 2021 analysis of medical education deemed medical schools to be racialized organizations, where seemingly race-neutral processes in conjunction with individuals' biases and interpersonal discrimination help reproduce and sustain racial inequality.<sup>2</sup> It is important to note that our findings are based on students' pre-clerkship experiences: we therefore posit that the identified disparities are most likely attributable to classroom experiences, extracurriculars, and access to mentors or lack thereof. These disparities may be exacerbated during the clerkship years, when students experience discrimination from supervisors, staff, and patients,<sup>6</sup> and exclusion from learning opportunities and rewards.<sup>2,7</sup> Our findings may be useful in fostering inter-institutional collaborations in designing best practices and raising awareness around efforts toward improving the experience of Black medical students. This means institutional commitment to increasing diversity among trainees and faculty, creating systems to identify and address bias and discrimination, making the reduction of bias and discrimination institutional priorities, and creating an institutional culture of respect, inclusion, and equity.<sup>8</sup> Concretely, this may include removing structural barriers to academic recognition, such as implementing holistic selection processes for honor society (such as Alpha

Omega Alpha) membership<sup>9</sup>—or altogether removing said honor societies<sup>10</sup>—and the establishment of institutionally supported mentorship programs focused on fostering community and academic development for participants.<sup>11</sup>

Our study is an introductory exploration of differences between HBCU and PWI medical schools. Future studies should explore translatable institutional factors that contribute to a better sense of belonging and self-confidence in scholastic abilities for Black medical students at HBCUs compared to PWIs.

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**Corresponding Author:** Max Jordan Nguemeni Tiako, MD, MS; Department of Medicine, Brigham and Women's Hospital, Boston, MA, USA (e-mail: mnguemenitiako@bwh.harvard.edu).

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## Declarations:

**Conflict of Interest:** The authors declare that they do not have a conflict of interest.

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