

Acknowledging the Elephant in the Room

Maria Miriti's article in the March issue of *BioScience*, "The elephant in

the room: Race and STEM [science, technology, engineering, and math] diversity” (<https://doi.org/10.1093/biosci/biz167>) is certain to be welcome reading for scholars of color scattered across STEM departments of US majority academic institutions. As authors of a recent study in which we examined the severe and persistent underrepresentation of scholars of color in Miriti’s discipline of ecology and evolutionary biology (EEB; <https://doi.org/10.1007/s11218-019-09538-x>), we are especially gratified that Miriti has shed light on this as important topic.

The lack of racial diversity in STEM higher education does indeed require careful study and bold action by institutions. Scholars of color who have the good fortune to join STEM departments in research-intensive universities rarely have same-race colleagues with whom they can interact. They experience feelings of isolation and marginalization, which limits mentoring, hinders networking and collaboration opportunities with colleagues, and slows their rates of promotion and salary increases. Scholars of color are also more likely to accept responsibility for mentoring underrepresented minority (URM) students (critical to retention) and diversity-related committee assignments, service activities undervalued by tenure and promotion committees.

Remedying the problem of low diversity in STEM requires the acknowledgment that biases, whether conscious or implicit, exist, and the inequities felt by scholars of color on majority campuses are real. Also required are deliberate efforts to both change institutional culture and increase diversity, especially at the faculty level in STEM departments. The strategies employed

are likely to vary across STEM disciplines because of variability in representation of URM (e.g., Leslie et al. 2015, NSF and NCSES 2017) and unique disciplinary challenges.

Our study was motivated by frustrations one of us (HB, an African American EEB professional) experienced trying to attract other African Americans to careers in EEB during his decades-long involvement in STEM URM pipeline programs at Tulane. We developed a survey to assess the interest of college undergraduates in EEB graduate education, the critical juncture in the STEM pipeline at which students decide their disciplinary specialization and whether they will become academic professionals. We were particularly interested in identifying factors that contribute to the very low PhD completion rates of URM in EEB-related subdisciplines of biology (NSF and NCSES 2017). We found that, compared to white students, URM were more likely to experience challenges to inclusion in EEB—specifically, limited exposure to EEB, fewer same-race role models, discomfort in outdoor environments, and moral objections to evolution. These challenges were associated with a decreased sense of belonging in EEB, which was, in turn, associated with lower interest in pursuing EEB graduate education.

Interventions that addressed these challenges could increase interest of URM in graduate education and ultimately careers in EEB. For example, involving URM in outdoor activities, such as hiking and camping, could make them more comfortable in environments in which EEB professionals frequently work. Teaching evolution in the way that is sensitive to students’ cultural backgrounds and religious

beliefs could increase student openness and interest in learning about evolution.

Understanding the discipline-specific factors underlying low diversity should help other STEM fields to develop effective strategies for increasing URM participation. Achieving this acknowledges the elephant in the room.

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