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AGEP-NC Research Spotlight

Understanding How Women Doctoral Students in STEM Experience Mentoring

Mentoring is an important factor contributing to the success of doctoral students in STEM. Research has found that women doctoral students differ from men in terms of their career goals and challenges (Cidlinská, 2019; Miller & Wai, 2015). However, there is a lack of literature around the mentoring experiences of women Ph.D. students in STEM. Researchers analyzed transcripts from four focus groups conducted with both women and men using IPA (interpretative phenomenological analysis) focusing on women's perspectives only. This analysis was conducted using the following research question: How do women students perceive their mentorship experience within a Ph.D. STEM program? The preliminary themes were: (a) mentors are viewed as a supporter, (b) mentorships can lead to emotional hardships, (c) responsive mentors, and (d) long-term expectations. Students desire a supportive mentor (i.e., someone who will be there for them through all challenges—including personal ones); a responsive mentor (i.e., mentees simply want their mentor to respond and communicate); and a long-term mentor (i.e., someone who will be with them through their program and career). However, some mentees are experiencing emotional hardships through their mentorships, such as experiencing conflict due to unwritten expectations or pressure from their mentor.

Presented by Marah Lambert, Dr. Edith Gnanadass, Dr. Cathy Howell, and Dr. Lisa Merriweather at the American Association for Adult and Continuing Education (AAACE) 2023 conference, Lexington, Kentucky.

The presentation led to great conversations about the textural description of the focus groups and what possible structural factors could be contributing to these themes. The researchers are charged with continuing this effort with the remaining focus group data (and beyond). Be on the lookout for this work being continued!

-- Marah Lambert

Examining the Scene: How Race Matters in STEM Doctoral Education at an HBCU

Historically Black Colleges and Universities (HBCUs) have with intentionality provided education for Black Americans for nearly 185 years. The majority of students, particularly at the undergraduate level across academic disciplines, are still domestic Black students, but at the doctoral level in STEM fields, they are not as well represented. The HBCU undergraduate experience has been well documented but fewer have explored the doctoral experience and even fewer have looked at the mentoring experiences of Black HBCU STEM doctoral students, a practice consistently cited as critical to the success of doctoral students across a range of disciplines. To explore this practice, the theoretical frameworks of anti-Black racism and Critical Capital Theory were used. A multiple-embedded mixed methods case study using semi-structured interviews and a quantitative survey was employed. The case of the HBCU institution is explored in this article. Survey data from the Mentoring Competency Assessment revealed that HBCU AGEP STEM doctoral student experiences differ from their International counterparts, a finding seen across each institution type. The qualitative interview data from HBCU STEM doctoral students and faculty highlighted five themes: deficit framing, conspicuous absence, mattering race, hegemonic science identity development, and invisibilized hypervisibility. These themes spoke to experience of racialization of Black students in HBCU STEM doctoral programs. Based on the findings, it recommended that the HBCU educational approach be incorporated as an integral facet of the STEM doctoral mentoring cultural ethos, demanding that faculty honor, support, and encourage the critical capital their Black STEM doctoral students possess as well as recognize the ways in which they may be consciously or unconsciously promoting anti-Blackness in their labs, classrooms, and mentorships. The findings from this study provide a clear picture that work still needs to be done to strengthen the skills, knowledge, and dispositions of faculty doctoral mentors who mentor Black STEM doctoral students regardless of institution type. The development of STEM faculty scholar-activists is the aspiration of more culturally liberative STEM doctoral mentorships which should become the gold standard for measuring quality in mentoring practice.

Lambert, M., Merriwather, L.R., and Gnanadass, E. 2023. *Journal of STEM Education: Innovations and Research*. 24(1).
https://jstem.org/jstem/index.php/JSTEM/article/view/2619

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