

# Studies investigate need for and impact of culturally aware mentorship training

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Higher education institutions frequently offer mentored research experiences to increase undergraduate student interest, motivation and preparedness for research careers in Science, Technology, Engineering,

Mathematic and Medicine (STEMM) fields.

However, for participating students from historically underrepresented groups, unaddressed [cultural factors](#) may hinder engagement and result in a less effective mentoring relationship.

Two recent studies led by University of Wisconsin–Madison researchers demonstrate the different ways mentors and mentees understand and experience race and ethnicity within the mentoring relationship, and how culturally aware mentoring (CAM) training may help improve mentoring efforts.

## **Recognizing and addressing racial and ethnic diversity**

In the first study, published in the *Journal of Diversity in Higher Education*, the team conducted a preliminary qualitative analysis of a sample of 38 mentors and mentees who had participated in a biology summer research opportunity program.

They found that while mentors and mentees recognized that racial and [ethnic diversity](#) may play a role in the mentoring relationship, some perceived it as not relevant to the lab environment or to being a proficient researcher.

"Some participants viewed race and ethnicity as separate realities outside of the mentoring relationship, reflecting a perception that 'science is beyond culture'," said lead author Angela Byars-Winston, Ph.D., professor of medicine and associate director of the Collaborative Center for Health Equity at the University of Wisconsin School of Medicine and Public Health. Byars-Winston also serves as director of research and evaluation in the UW Center for Women's Health Research and is an

investigator with the Wisconsin Center for Education Research's Center for the Improvement of Mentored Experiences in Research.

Mentors and mentees had differing beliefs about if and how racial and ethnic diversity in the mentoring relationship should be addressed, with some reporting that it should only be addressed if a "problem" or "issue" arose.

Notably, while several mentors felt that the responsibility for bringing up the topic should be on the mentee, only one mentee echoed this statement.

"This mismatch could become a source of discord in the research mentoring relationship," Byars-Winston noted.

Some participants suggested that discussions of race and ethnicity within mentoring relationships may introduce problems or discomfort, and others indicated difficulty managing those conversations sensitively.

## **The need for training**

Noting the overall "culture of silence" about the relevance of race and ethnicity in mentoring relationships, the authors advocated for further examination into the effects of "checking one's racial/ethnic identity at the laboratory door."

Previous studies from other experts affirm that mentees from historically underrepresented groups benefit from mentors who address race and ethnicity, acknowledge their unique needs and allow them to bring their identities into the academic and research environment.

Moreover, efforts to improve diversity in STEMM fields typically focus on increasing the numbers of historically underrepresented students and

faculty at educational institutions. But without also emphasizing inclusion—fostering environments in which people feel welcome, valued, and have a sense of belonging—these efforts may fall short.

"Other scholars have encouraged research mentor training that includes culturally sensitive practices," Byars-Winston said. "Our study suggests that mentor training should include content targeting different experiences with and perceptions about racial/ethnic diversity."

## **Preparing mentors to navigate cultural dynamics**

In a second study, recently published in *PLoS One*, Byars-Winston and a multidisciplinary research team from UW–Madison, Northwestern University and the University of Maryland showed how the lasting impact of culturally aware mentoring (CAM) training on academic administrators and faculty can help improve diversity efforts in STEM fields.

CAM training prepares faculty and staff who have existing mentorship roles to navigate the social and cultural dynamics that accompany a more diverse academic community.

By addressing the lived experiences and treatment of underrepresented individuals, this method can help counter biases and prejudices in the prevailing culture, and foster mentors who can effectively engage with and develop the talent of all individuals.

## **Emotional responses and self-awareness prompt change**

The team conducted follow-up interviews with a sample of 24 research mentors from three institutions who had participated in a day-long CAM

training session 18 to 24 months earlier.

The training focused on intrapersonal awareness, interpersonal awareness and interactions, and skill building for behavioral change, as described in a related article. Participants' immediate reactions to the training had previously been published in the *Journal of Clinical and Translational Science*.

In the follow-up, researchers found that participants most frequently remembered activities that were novel or that had elicited an emotional response. These included the culture box, in which participants shared items representing their cultural identity; role playing; and the video "A Tale of O," which highlights what it's like to be the only visibly identifiable member of a specific group.

Over the long term, CAM training increased participants' cultural awareness and deepened their understanding of cultural differences. This helped them better recognize and respect differences, make fewer assumptions about mentees and listen more closely to them.

In addition, participants said they were able to more effectively intervene when culturally insensitive comments arose, and in some cases, address broader dimensions of cultural diversity and inequalities in the training environment.

## **A scientific approach to elevate competency**

"Mentor training targeted to cultural awareness through the entry point of personal cultural [self-awareness](#) and introspection, coupled with sharing these insights in community, can be effective in prompting changes," the authors wrote.

These findings are consistent with neuroscience research showing that

self-reflection stimulates the same circuits that underlie compassion and sympathy.

"Cultural self-awareness facilitated through CAM training may increase [mentors'] ability to have empathy toward their historically underrepresented students and their attention to cultural dynamics in their mentoring relationships," the authors concluded.

"It's remarkable that 18 to 24 months after the training, participants were able to recall concrete takeaways and start to change their behavior with mentees and colleagues," reflects Byars-Winston.

In addition, because the original training and the current follow-up study are both grounded in scientific, validated approaches, the results provide evidence that CAM training can be incorporated into existing mentor training programs.

"Not all diversity and inclusion training uses a systematic approach," added Byars-Winston, whose work also includes leading the national committee that developed *The Science of Effective Mentorship in STEMM*, a 2019 report released by the National Academies of Sciences, Engineering, and Medicine.

"Our goal is to elevate competency-based, evidence-informed mentoring practice that's effective and that makes a difference in the success of trainees and early career professionals."

## **New collaboration will further measure impact of CAM training**

Byars-Winston and collaborator Richard McGee, Jr, Ph.D., associate dean for faculty recruitment and professional development and a



professor of medical education at Northwestern University's Feinberg School of Medicine, have recently joined with Sylvia Hurtado, Ph.D., a professor of education at the UCLA Graduate School of Education and Information Studies to lead a five-year, National Institutes of Health-funded project to further test the impact of the CAM training on individuals and institutions.

As part of Phase 2 of the NIH National Research Mentoring Network, the new study uses a randomized control design to investigate the impact of the length and dose effect of CAM training on faculty [mentors](#) in doctoral training programs in the biomedical sciences—and how that may spur institutional change.

"The long-term goal of this body of work is to further the science and practices of mentoring, thereby improving the [training](#) environment for students from underrepresented groups and ultimately, advancing their success," said Byars-Winston.

**More information:** Angela Byars-Winston et al. Race and ethnicity in biology research mentoring relationships., *Journal of Diversity in Higher Education* (2019). [DOI: 10.1037/dhe0000106](https://doi.org/10.1037/dhe0000106)

Angela Byars-Winston et al. Pilot study of an intervention to increase cultural awareness in research mentoring: Implications for diversifying the scientific workforce, *Journal of Clinical and Translational Science* (2018). [DOI: 10.1017/cts.2018.25](https://doi.org/10.1017/cts.2018.25)

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