



# Mentorship: A Scientific Perspective #5

## Culturally Responsive Mentorship

### Part 1: Identity

Research shows that those who are most in need of mentorship often do not receive it or receive poor mentorship. This situation is part of the larger problem of historically underrepresented/minoritized groups within academia in general, and STEM fields in particular. In the case of biomedical research, this gap is quite literally a medical emergency. One of the ways we can intervene productively is to engage in culturally responsive mentorship. Part 1 will deal with **what** we mean by identity and **why** it matters before we dive more deeply in Part 2 into **how** to engage in culturally responsive mentorship practices.

## What Do We Mean by "Identity"?

Identity is complex and takes into account how we conceive of ourselves in a variety of spaces. In part, identity is something that persists across those different spaces, but it is also a concept that can vary and look very different from place to place. How we perceive ourselves has a great deal to do with where we see ourselves positioned within certain cultural and social categories and contexts. This, in turn, influences how we conceptualize our identities as a professionals.

## What Identity Categories "Count"?

While the following is not necessarily a complete list, it does represent the categories that have either been the subject of research in mentoring or have been identified as categories that need to be the subject of research. Part 2 will delve into more of these more deeply, so for now, here is a (probably incomplete) list of identity categories that are typically underrepresented in STEM contexts and/or represent a place for careful consideration with regard to culturally responsive mentoring:



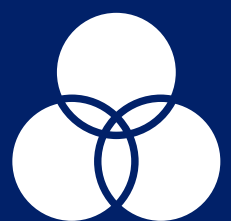
- Race/Ethnicity
- Gender/Sexuality
- Socioeconomic Status
- First Generation Status
- Neurodivergence
- Disability

## What Do We Mean by "Science Identity"?



Science identity is a complex interweaving of social and cultural identity constructions with professional and/or intellectual ones. Being able to envision oneself as a scientist (and embrace that vision as valid and real) is part of what we mean by science identity. Science identity is also tied to a sense of self-efficacy, which also leads to internalizing scientific values. Research shows that as one enters STEM contexts, even as young students, self-efficacy and developing a science identity contribute to persistence along the STEM pathway.

## Where do Science Identity and Other Identity Categories Intersect?



Some identity categories have more historically been scientists than others, both in the actual professional world and in popular representations thereof, which means that people in some identity categories have to make a stronger leap to embrace the vision that they, too, can be a scientist.

This information is adapted from chapter 3 of the following text:

Consensus Study Report [The Science of Effective Mentoring in STEM](#) (2019). The study was sponsored by the Howard Hughes Medical Institute, Alfred P. Sloan Foundation, Burroughs Wellcome Fund, and by a grant from the Gulf Research Program. Copies of the Consensus Study Report are available from the National Academies Press, (800) 624-6242; <http://www.nap.edu>. For the study's accompanying online guide see: [www.nationalacademies.org/MentorshipinSTEMM](http://www.nationalacademies.org/MentorshipinSTEMM).

Infographic created by Julie Hawk, PhD

# Identity Matters



## Why Does Identity Matter?



This section will briefly consider various reasons why identity matters in both STEM contexts/professions in general, and in mentoring relationships in particular.

## Tensions and Identity Interference



Social identities are created through interactions with other people. We are bound by our relations with other people in some of our most important identity formations. Because of this fact, those whose relationships have not validated aspects of their identity, particularly regarding science identity, might struggle to develop a fully formed science identity. Further, some people feel that certain of their identities interfere with other identities they claim. In other words, not only can they be a passive obstacle to science identity formation, they can actively interfere with it, causing cognitive dissonance and compartmentalized identities, which can lead to depression, fatigue, and a sense of isolation.

## Medical Emergency?

It might seem like hyperbole to characterize the historical and persistent underrepresentation of certain identities as a medical emergency, but the lack of researchers and clinicians among various demographics contributes to a lack of knowledge about certain diseases that disproportionately affect those underrepresented groups. Research bears this out in many ways; one example is the Ginther Gap, so named because of the 2011 article by Ginther et al that identified a startling racial gap in NIH funding, a gap that still remains over a decade later.



## Mentoring and Identity



According to recent research, most mentors fall into dominant identity categories, particularly racially/ethnically, and further, many espouse "colorblind" views of their mentees. "Colorblindness" as an ideology or methodology is, as we now know, not just limited, but actively harmful to minoritized people. The answer, then, is not merely to match identity categories, which is not always possible (and also not always helpful). Rather, a more strategic and justice-oriented approach is to learn culturally responsive practices, beginning with the simple acknowledgement that the variety of identity categories one claims has an active role in forming their science identity and, indeed, their experiences in STEM professions and contexts. The next installment of this series will explore the ways one might grow in this area.

## Questions to Consider



- Have you ever considered your own science identity? When did it start forming? Were you conscious of it? What other identity categories contributed to or proved an obstacle to the formation of your science identity?
- Have you ever felt something like identity interference or a tension among your various identities? If so, was that related to your science identity? If not, can you think of reasons why you may not have ever felt those things?
- Have you mentored or been mentored by someone who shared several identity categories with you? How about someone with whom you did not share many identity characteristics or who did not seem to really see you as a person with various identity categories? How did those experiences affect your comfort levels and/or engagement in the mentoring relationship?

This information is adapted from chapter 3 of the following text:

Consensus Study Report The Science of Effective Mentoring in STEM (2019). Information on the Ginther Gap was pulled from Ginther DK, Schaffer WT, Schnell J, Masimore B, Liu F, Haak LL, Kington R. Race, ethnicity, and NIH research awards. *Science*. 2011 Aug 19;333(6045):1015-9. doi: 10.1126/science.1196783. PMID: 21852498; PMCID: PMC3412416.