

SOCIOLOGY

The myth of meritocracy in scientific institutions

Inaccurate ideas about objectivity and merit perpetuate biases and inequality in academia

By **Leanne Son Hing**

Written by sociologists Mary Blair-Loy and Erin Cech, *Misconceiving Merit* investigates how STEM (science, technology, engineering, and math) faculty in the United States understand scientific merit and how these understandings can lead to subtle biases and perpetuations of inequality. The authors propose that cultural processes and beliefs concerning devotion to work and the independence of the scientific enterprise shape how STEM faculty view, treat, evaluate, and reward their peers. Critically, although STEM professionals define excellence as groundbreaking research conducted by means of objective methods, the pair find that faculty often fail to consider how their professional culture can lead to bias against certain groups, which can ultimately undermine knowledge production and its application.

Written for nonexperts, the book reports on a comprehensive study of STEM faculty at an anonymized US university that is large, prestigious, and research intensive. Complex phenomena are explained in an easy-to-grasp fashion, and rigorous data are used to provide evidence for the authors' assertions.

Researchers will likely see their own experiences in the book's rich descriptions of the priorities and pressures of a competitive academic environment. These descriptions, paired with ample quotes from interviewees, make for compelling reading, painting a portrait of STEM faculty who work all the time, are highly engaged with their work, struggle to balance personal and professional obligations, and feel that they are always behind and never enough.

"Most want objective, neutral STEM work without reference to the identities of individual scientists. But there's a catch," argue Blair-Loy and Cech. "Historically—and today—that unmarked, unobtrusive

identity of scientist can be embodied only by white, heterosexual men." The authors weave together a compelling case for this argument by drawing on findings from multiple sources of data, including university data (e.g., rank, pay, group memberships, research funding) for all 502 STEM faculty in their case university and indicators of performance (e.g., number of publications, citation counts). They match these data to survey responses from an impressive 53% of potential respondents, allowing them to make strong claims about generalizability.

Drawing on these data, the authors found, for instance, that, although STEM faculty believed that researchers who are mothers are



Bias against underrepresented groups, including mothers, hinders innovation.

not as devoted to their work as researchers who are fathers, the mothers they surveyed reported working as many hours per week as their male counterparts and performed at equal or higher levels (e.g., yearly publication rates), despite spending many more hours a week performing childcare than male researchers who were also parents. Nonetheless, female researchers who were mothers earned less than their peers.

The veracity of such findings might be called into question given the study's small sample size, low reliability of measures, and lack of evidence of validation of measures. However, any potential weaknesses are more than made up for by additional data sources, including survey findings from more than 7000 STEM faculty from universities across

Misconceiving Merit

Mary Blair-Loy and
Erin A. Cech
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the US and qualitative interviews with 85 STEM faculty from the authors' case university, which provide a rich sense of the meaning making in which STEM researchers engage in their efforts to understand merit.

One of the most compelling parts of the book details how the authors asked interviewees to reflect on a study published in *Science*, which found evidence of anti-Black bias in NIH funding rates, when controlling for key factors such as the applicants' previous funding and research productivity (1). The participants' responses revealed strong inclinations to reject this finding and to continue to justify the system as meritorious. Many called the study methodology into question and insisted that grant reviewers steadfastly ignore cues about applicants' identities. Such assertions stand in stark contrast with interviews conducted with researchers from marginalized groups that appear earlier in the book, in which they recount working to hide one's identity and feeling excluded at work, and with other interviews that appear throughout the book, in which straight white male researchers expressed discomfort with interacting with colleagues from marginalized groups.

I wish the authors had spent more time laying out avenues for change, as this book will likely be of interest to university administrators, professional associations, and STEM thought leaders. However, they do provide some clear observations that STEM faculty and their institutions must recognize to move forward, including the fact that bias exists in this setting, that collaborative work and mentorship of students and junior colleagues is essential, and that a healthier work-family culture can benefit all. ■

REFERENCES AND NOTES

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