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## The Real Barriers for Women in Science

Women are seriously underrepresented on academic science and engineering faculties because of a mix of “unintentional” biases and outdated institutional policies and structures, a National Academies committee said in a report Monday.

The report, the latest in a recent drumbeat of studies and papers documenting perceived problems and advocating aggressive steps to fix them, puts it to colleges, higher education groups, scholarly societies, federal agencies and others to alter their policies to help improve the climate for women in academic science.

“[Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering.](#)” was prepared by the academies’ [Committee on Maximizing the Potential of Women in Academic Science and Engineering](#), which is made up of college presidents and provosts, professors, scientists and policy makers and headed by Donna E. Shalala, president of the University of Miami and former U.S. secretary of health and human services.

The report lays out a series of findings that rebut the notion — offered most famously of late in [a controversial speech](#) by Lawrence H. Summers early last year — that a lack of talent and/or motivation play a large role in explaining the relative underrepresentation of women in science and engineering fields.

Among the panel’s findings:

- A series of cognitive and other studies “have not found any significant biological differences between men and women in performing science and mathematics that can account for the lower representation of women in academic faculty and scientific leadership positions in these fields.”
- Although women fall out of academic science at nearly every stage of the pipeline, women are underrepresented on faculties even in fields in which they have reached relative parity. They make up only 15.4 percent of full professors in the social and behavioral sciences and 14.8 percent in the life sciences, despite having earned more than 30 percent and 20 percent of the doctorates in those fields, respectively, over more than 30 years.
- Women are “very likely” to face discrimination — sometimes deliberately but often inadvertently — in “every field of science and engineering. (Minority women, the panel notes throughout the report, often face a double whammy.) The discrimination results from a combination of built-in biases that make them less likely to hire a woman than a man with identical accomplishments, of evaluation criteria that “contain arbitrary and subjective components that disadvantage women.” For instance, “characteristics that are often selected for and believed ... to relate to scientific creativity — namely assertiveness and single-mindedness —” are both given greater weight in hiring and promotion than traits such as flexibility, diplomacy and curiosity, and “stereotyped as socially unacceptable traits for women.”

“The United States can no longer afford the underperformance of our academic institutions in attracting the best and brightest minds to the science and engineering enterprise,” the panel says in its report. “Nor can it afford to devalue the contributions of some members of that workforce through gender inequalities and discrimination.”

The committee asks a wide range of players in and around higher education to do their part to in its “large scale and interdependent” set of recommendations. It asks:

- Trustees and presidents to “provide clear leadership in changing the culture and structure of their institutions to recruit,

retain and promote women,” including setting goals for hiring and promotion requiring “evidence of a fair, broad and aggressive search before approving appointments,” and holding departments “accountable for the equity of their search process and outcomes.”

- Deans, department chairs and tenured faculty to undertake a full discussion of “climate issues,” and to adopt policies that “take into account the flexibility that faculty need across the life course and do not sacrifice quality in the process of meeting rigid timelines.”
- Higher education groups to “consider forming an inter-institution monitoring organization” that would set norms, collect data, and track compliance and accountability in hiring.
- Scholarly societies to adopt guidelines aimed at ensuring reasonable representation of women on journal editorial boards and among invited speakers at their events.
- Federal agencies and foundations to ensure that their standards and rules “support the full participation of women and do not reinforce a culture that fundamentally discriminates” against them.
- Congress to ensure adequate enforcement of antidiscrimination laws.

“The fact that women are capable of contributing to the nation’s scientific and engineering enterprise but are impeded in doing so because of gender and racial/ethnic bias and outmoded ‘rules’ governing academic success is deeply troubling and embarrassing,” the report concludes. “It is also a call to action.”

— [Doug Lederman](#)

*The original story and user comments can be viewed online at <http://insidehighered.com/news/2006/09/19/women>.*

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