Mobility and careers: a never-ending training.

Daniela Corda
National Research Council,
Institute of Protein Biochemistry
Naples, Italy
Figure 1. The Gender Scissors

Actions taken by several European Organizations
Documents and actions produced by the EC and signed by member States
Understanding current causes of women’s underrepresentation in science

Stephen J. Ceci and Wendy M. Williams

Department of Human Development, Cornell University, Ithaca, NY 14853

Edited by Richard F. Thompson, University of Southern California, Los Angeles, CA, and approved December 6, 2010 (received for review October 6, 2010)

Explanations for women’s underrepresentation in math-intensive fields of science often focus on sex discrimination in grant and manuscript reviewing, interviewing, and hiring. Claims that women scientists suffer discrimination in these arenas rest on a set of studies undergirding policies and programs aimed at remediation. More recent and robust empiricism, however, fails to support assertions of discrimination in these domains. To better understand women’s underrepresentation in math-intensive fields and its causes, we reprise claims of discrimination and their evidentiary bases. Based on a review of the past 20 y of data, we suggest that some of these claims are no longer valid and, if uncritically accepted as current causes of women’s lack of progress, can delay or prevent understanding of contemporary determinants of women’s underrepresentation. We conclude that differential gendered outcomes in the real world result from differences in resources attributable to choices, whether free or constrained, and that such choices could be influenced and better informed through education if resources were so directed. Thus, the ongoing focus on sex discrimination in reviewing, interviewing, and hiring represents costly, misplaced effort: Society is engaged in the present in solving problems of the past, rather than in addressing meaningful limitations deterring women’s participation in science, technology, engineering, and mathematics careers today. Addressing today’s causes of underrepresentation requires focusing on education and policy changes that will make institutions responsive to differing biological realities of the sexes. Finally, we suggest potential avenues of intervention to increase gender fairness that accord with current, as opposed to historical, findings.

Claims of Discrimination Against Women Scientists

Recent scientific reports often assert that discrimination against female scientists in hiring, publishing, and funding is a cause of their underrepresentation:

“Substantial research shows that resumes and journal articles were rated lower by male and female reviewers when they were told the author was a woman; similarly, a study of postdoctoral fellowships awarded showed that female awardees needed substantially more publications to achieve the same competency rating as male awardees” (5, p. 1933).

“It is now recognized that biases function at many levels within science including funding allocation, employment, publication, and general research directions” (6, p. 1247).

“Research has pointed to bias in peer review and hiring. For example, Wennerás and Wold found that a female postdoctoral applicant had to... publish at least three more papers in a prestigious science journal or an additional 20 papers in lesser-known specialty journals to be judged as productive as a male applicant....The systematic underrating of female applicants could help explain the lower success rate of female scientists in achieving high academic ranks” (7, p. 24).

“An impressive body of controlled experimental [research]...shows that, on the average, people are less likely to hire a woman than a man with identical qualifications, are less likely to ascribe credit to a woman than to a man for identical accomplishments...” (8, p. S2).

Such claims of discrimination against women are consistent with claims of glass ceilings, reduction of authorship credit and pay for comparable work, smaller laboratory space, and fewer research resources (9–11). For example, economists analyzing auditions for orchestras found that switching to blind auditions in which juries could not see applicants reduced discrimination.
Give postdocs a career, not empty promises

To avoid throwing talent on the scrap heap and to boost prospects, a new type of scientific post for researchers is needed, says Jennifer Rohn.

- Post-doctorate as a “job” rather than ongoing training
- Plan number of competitive positions
- Do not waste experienced (old) post-docs
- Negative perception of head of laboratory (!)
BSc or MSc student

PhD student

PhD graduate

Post-doc

Researcher (Staff Scientist)

Assistant Professor (Senior Scientist)

Full Professor (Research Director)

Crucial step
Societal problems
security
Mobility and careers: a never-ending training.

--Promote awareness among young researchers

--Promote actions that will increase security of jobs

--Act at the Level of Member States

--More jobs, more women will apply

→ Europe competitiveness will increase