

Gender Bias in Peer Review of Faculty

Notes for DACOPAT by Simon Peacock and Anne Condon, February 2009

We value the principle that merit, as revealed by the process of peer review, drives our tenure and promotion decisions. However, it is well documented that unconscious bias or assumptions regarding gender can negatively colour evaluation of scientific accomplishment [1-5]. Following are some points (adapted from Ref. 1) to keep in mind as we evaluate tenure and promotion cases and particularly letters of evaluation.

First, studies have shown that **letters of recommendation for women differ systematically from those for men**. For example, Trix and Psenka [2] examined over 300 letters of recommendation for medical faculty at a large American medical school in the mid-90's. Their analysis showed that, compared with letters for men, the letters for women were more likely to:

1. *be shorter*, yet contain more references to aspects of personal life;
2. *provide minimal assurance*, with comments on generalities but without specifics (15% of letters for females vs 6% for males);
3. *be doubt raisers*, by including hedges, potentially negative comments, unexplained comments, faint praise, or irrelevancies (24% vs 12%);
4. *use stereotypic attributes*, such as “compassionate” or “relates well” rather than “successful” or nouns such as “accomplishment” or “achievement”; and
5. *use grindstone adjectives*, such as “hardworking” or “conscientious” (34% vs 23%).

Additionally, letters for women had *less repetition of standout adjectives*, such as “outstanding”.

Second, **evaluations of academic CV's can be influenced by gender** [3]. Academics in Psychology in the U.S. were asked to evaluate a CV of a job applicant, with CV's being identical except that each was randomly assigned either a male or female name. Both men and women who evaluated the CV were significantly more likely to recommend hiring the “male” applicant than the “female” applicant.

Third, **perceptions of scientific productivity can be influenced by gender**. Wennerås and Wold [4] examined the peer-review scores of applicants for postdoctoral fellowships from the Swedish Medical Research Council in 1995. They correlated reviewers' “competence” scores of perceived scientific productivity with several measures of scientific impact, including total number of publications, total number of first-author publications, sum of impact factors of journal articles (“total impact”), sum of impact factors of first-author journal articles, sum of citations, and sum of first-author citations. They found that reviewers assigned lower competence scores to women than to men with the same measure of scientific impact. A multiple-regression analysis revealed that gender exerted more influence on assigned competence scores than other factors, such as scientific field or university affiliation.

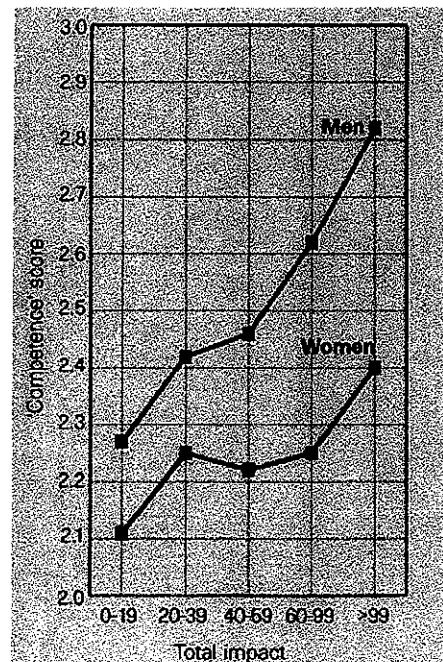


Figure 1 of Wennerås and Wold [4], showing mean competence score as a function of total impact, for men and women.

References

1. Reviewing Applicants: Research on Bias and Assumptions. Women in Science and Engineering Leadership Institute, U. Wisconsin-Madison, 2006.
2. Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty. F. Trix and C. Psenka, *Discourse and Society*, 2003.
3. The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and Tenure Candidates: A National Empirical Study. Steinpreis et al., *Sex Roles*, 1999.
4. Nepotism and Sexism in Peer Review. C. Wennerås and A. Wold, *Nature* 387, 1997
5. Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering. A report of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine of the National Academies, the National Academies Press, Washington, D.C., 2007.