

The women issue

Some problems are so intractable and resistant to solutions that they constantly remain on the agenda of things that need fixing. The situation of women in academic research is one such problem that has been festering for too long, as two articles in this month's issue of *EMBO reports* highlight.

The two studies that we publish this month—like many others preceding them—show once again that there are great inequalities in the career prospects of men and women in science. However, although gender inequality seems to be an intractable problem, it cannot just be ignored. Many studies and analyses from the USA and the EU stress the increasing demand for scientists and engineers to support high-tech industries in advanced economies. Losing women from academia represents not only a waste of talent, but also a significant waste of the money invested in training them.

Yet, it is not cold economic reasoning that dominates the discussions about women in science; it is the blatant unfairness of the fact that, although an identical number of men and women get a PhD in the life sciences, only 15–20% of tenured positions are secured by women. Put another way, it means that men are almost three times more 'successful' than their erstwhile female colleagues.

The two papers in this issue bring some new and uncomfortable facts to the discussion. The first inconvenient finding is that a gender-blinded selection process for EMBO's postdoctoral fellowship scheme did not improve the outcome for female applicants; men were still more likely to be selected than women (Ledin *et al*, this issue). This result speaks against a subconscious bias: if the panel did not know the sex of the applicant they were scoring, it is hard to see how they could be biased against women. The study also shows that the perceived quality of the applicants—their research output at the time of application—was

essentially identical for men and women. Obviously, other subtle factors must play a role for the consistent lower success rate of female applicants.

The second inconvenient finding of the Ledin *et al* paper is that, with time, men perform better in terms of publications than women. The article also confirms a predicted explanation for this increasing performance gap between men and women: human biology. During the early years of founding a family, the careers of women inevitably stall. Once women rejoin the academic workforce, most of them work shorter hours than men, generate less family income and, in general, their careers take second place. Interestingly, the reverse is true for men, who appear to benefit from support given by their partners.

Even more worrying is the article by Martinez *et al*, which shows that many female postdocs at the US National Institutes of Health have already lowered their career ambitions. Prophecies, such as "women don't perform as well as men", have a habit of fulfilling themselves when they are repeated often enough; indeed, the study shows that women are less likely to persevere on the academic career ladder, thus further diminishing the pool of women from which to draw principle investigators and role models for the next generation of researchers.

The historical analysis by Ledin *et al* and the forward-looking survey by Martinez *et al* send messages of gloom; worse, they could be used to justify inaction. But there are other ways to look at the data. It is obvious—and beneficial for society—that most women put more emphasis on children and family than men. It is also clear that, despite the efforts and time-management skills of working mothers, their research output during the early years of raising children is less than that of working fathers. However, once this critical—and ill-timed—phase is over, nothing in the data indicates that women who rejoin the workforce cannot perform at the top level.

Martinez *et al* make some proposals for how academic institutions could help women cope with the dual load of research and family duties. Beyond that, however, selection committees should also consider that the task of caring for small children falls predominantly on the mother and occupies them for several years, and that the grace period frequently given for formal maternity leave should be extended when performance is considered.

But this does not yet explain why applications from women for an EMBO fellowship appear weaker to the selection committee. The reasons are surely not linked to family duties because less than 15% of female applicants had children when they applied. It must therefore be a gender difference related to how applicants described what they have achieved and what they hope to achieve in the next research project. The lesson to draw from this finding is that there should be more awareness, mentoring and training for applicants, especially women, and more attention paid to the applications from women—perversely, the exact opposite of gender blinding.

The last solution to achieve greater equality would be the introduction of quotas. Given the limited space of an editorial, I cannot discuss this in more detail; suffice to say that I am concerned about the consequences of such measures. However, it is likely that we will see this debate in the near future, simply because the topic of how to achieve better chances for women in academic research will not just go away—it will stay to haunt us until the inequality is gone.

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This Editorial represents the personal views of Frank Gannon and not those of Science Foundation Ireland or the European Molecular Biology Organization.

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