

STEMing the tide

Keeping Women in Science by Kate White.

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Reviewed by Carroll Graham

As a woman who started her professional career as an engineer, I was interested to see if this book could shed any new light on the issue of keeping women in science (and, by extension, engineering and other STEM disciplines). This is a complex and multi-faceted topic and, sensibly, this book focuses on one aspect: the career challenges that women working in research institutes face when building a research career. This book discusses a project that used case study methodology focusing on one Melbourne-based medical research institute. It employed qualitative and quantitative methods to examine the broad organisational culture of this institute, the internal and external barriers faced by women (particularly early-to-mid-career) working in clinical research, and gender-based career progression inequities. Initiatives to address these issues were also explored.

The book is written clearly and concisely, and follows an accessible structure. The first three chapters provide an introduction, literature review and research design. Seven subsequent chapters present the findings, followed by a discussion and conclusion in the final chapter.

The literature review comprehensively covers the now significant body of literature on career progression in science, particularly for women. Several key issues emerged for women developing a career in science. Firstly, there is the gendering of science from the doctoral level and beyond. Compounding this, are internal barriers (discrimination and lack of support) and external barriers (e.g. funding models). Additionally, there is the tension between work and other responsibilities, which affect mobility and the development of networks and collaborations — all of which impact negatively on career progression.

The methodology and methods used are clearly discussed in the research design chapter, and include statistical analysis of the gender breakdown of the workplace population, interviews with a purposive sample at the institute, and direct observations of the workplace. Included was a discussion of the purposive sampling used to select interview participants. Curiously, Research Assistants (RAs), who are predominantly women at the case study institute, were deliberately excluded from the interviews on the basis that RAs have different career paths to the scientists with whom they work. Yet it seems to me that at least some RAs would have chosen this path deliberately, when faced by the difficulties for women pursuing research careers. Perhaps this is an issue for another study?

Not surprisingly, the study found that while women at this research institute were over-represented at doctoral and lower research and management levels, they were under-represented at more senior levels. One of the strongest findings was that scientists, whether men or women, are passionate about doing science. This passion is, however, a double-edged sword: while it contributes greatly to job satisfaction, it also fuels the myth of the ideal monastic male scientist. It is little wonder that few women scientists make it to the top. Indeed, career progression for the women in this study was problematic, with junior researchers not having a clear idea of their future career development and senior women citing lack of transparency in promotion processes and lack of support for career development, as barriers. Integral to career development as a research scientist is the interrelationship of networks, mobility and mentoring. Australia's geographical isolation presents international networking and mobility issues for both men and women; however, traditional models for postdoctoral research are highly gendered as they assume that the junior researcher is not in a relationship, either with a partner or with children.

So what? Few women scientists would disagree with the findings and discussion presented

in this book, and few would disagree with the imperatives for keeping women in science, if for no other reason than economic competitiveness. What makes this book of particular value is the set of recommendations, framed by four categories: career development and mentoring, the under-representation of women at senior levels, generational change in the expectations of science researchers, and the support for flexible careers. Specific proposals for implementation are also listed and some have already been implemented at the institute. However, individual research institutes cannot address these recommendations alone. Funding models must change to accommodate more flexible work and career patterns. Perhaps the most striking conclusion is that the new generation of women and men scientists is rejecting the traditional male construct of science research, and changes designed to keep women in science will also benefit men.

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