Discussion Paper

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Two interesting papers examining not the "role" of women in statistics, but almost the "non-role." Each worries about the paucity of women in positions of authority in universities and in government. Neither says anything about the paucity in industry, a situation that also exists. Neither says anything about *why* it is important for women to be more visible in the profession.

Let's look at each paper in turn. Dennis Trewin says that unless women become more relevant in the field of statistics, statisticians' relevance becomes threatened. There is nothing to back that statement up. Why? Engineering is still mostly a male profession and it isn't threatened. I don't think the relevance of statistics is threatened by the low percentage of women in the field, but more by how it is viewed by other professions.

Let's talk about the four barriers to the increasing participation of women in statistics that Dennis Trewin cites. First, there are not enough women in the feeder groups. He refers to schools and universities where women are not taking mathematics and statistics. Wilson and Billard mention that in the U.S. the percentage of women earning bachelor's degrees in the mathematical sciences rose to 46% by 1985. In 1997 almost a quarter of all doctorates in the mathematical sciences went to women. So at least in the U.S. and also in some of the southern Mediterranean countries, the feeder groups are growing. That growth can be attributed to many factors, but in the U.S., I think one strong factor has been the work of the Quantitative Literacy people.

The second barrier mentioned is keeping women in statistics. Australian women cite lack of opportunities for promotion in government. Probably government is the one sector in the U.S. where women do have opportunities and have taken advantage of them. There are and have been many successful women statisticians in high profile positions in the U.S. government. Much of this barrier is really attitudes by the males in the hierarchy. I was very fortunate in my own career in government to work with giants, men who did not see me as a threat, and who took pride in my accomplishments. Ben Tepping, the most significant person in my career, was not only the most stimulating statistician to work with, but he never assumed that there was anything I couldn't do. When assignments came up to work in other countries, to consult with other agencies, to teach advanced statistics courses, he always discussed the opportunity with me and let me make the decision. He never said, "You have a young child at home, so I know you wouldn't be interested." Attitudes are the basic problem. It is very hard for a woman whose training may be more up to date than the males who are older and more advanced to be condescended to.

The third barrier is one that I have trouble with. I don't know these studies, and there are not citations, that on average women pay more attention to detail and are better communicators. I'd like to see the distributions for males and females on each of these characteristics. I imagine there would be a large overlap. I think it is much better to focus on the needs for a specific position, rather than staffing for characteristics that may or may not be associated with gender.

The fourth barrier of not having family friendly staffing policies is a problem. Many women make their own, expensive arrangements. Many companies, universities, and government organizations are gradually providing more help in this direction. Now that there is a shortage of workers in the U.S., this is one area that employers are using to attract staff. However, the entire burden should not fall on women; men in families need to take on more responsibility.

I thank Dennis Trewin for citing these barriers and hope that his citation encourages others to think about these areas.

Turning to the paper by Wilson and Billard, I found the comparison of men and women statisticians in the same generation interesting, but cannot be sure of the relevance. All of those described were exceptional people. What are we to learn from these comparisons?

More enlightening are the data presented on the increase in women in the mathematical sciences. The authors also discuss research on the hurdles in the workplace. In academe, women are still spending a longer time in rank before promotion, with still very few women achieving the rank of full professor. Certainly, that is the way women perceive the situation. At any meeting of the American Statistical Association, the network spreads the word about what women earned tenure, were promoted, what barriers existed, and so forth. Also, there are certain men who are known to stand in the way. Most of this is not brought out in the open, but these women do support each other and help each other to the extent possible. Again, a few men who are very influential, have helped.

What do we do about the paucity of women in the ISI? Trewin gives some good suggestions. Again, it may largely be a problem of "Whom do you know?" If increasing the number of women in ISI becomes a goal of our new President, then I'm sure that the percentage will increase in the years to come.

One question left unanswered by these papers is "Why does it matter if there are more women in the statistical professions?" One answer is that women should care about the use of statistics in public policy. Some of the data about women are obscured because they are not at the policy table. Our knowledge of the role of women in business and agriculture are obscured because of how we tabulate data. Women are vitally affected by how policy is informed by statistics and how policy is translated into action. So, though it may not be ennobling, self-interest is a powerful reason for women to be more visible.

Again, I thank the authors for two interesting, stimulating papers.