

Response to Summers

Following much publicised comments in January 2005 by the President of Harvard on the relative success of women in science and mathematics, the Women in Mathematics Committee of the London Mathematical Society feels that it is useful to make the points below. We are busy professional mathematicians and we do not spend our lives on the minutiae of gender research, but we felt it worth spending a little time composing these notes.

- The statistical question as to whether the distribution of ability (innate or acquired) is the same in each gender is something of a red herring. The key issue is whether, given the same ability, a woman is as likely as a man to achieve success (however measured) in his or her field. There seems to be plenty of evidence to suggest that a woman of a given calibre will not succeed as well as a man.
- Assertions about 'innate abilities' or 'behavioural genetics' are hard to support, because social factors come into play from birth. There is an extensive literature on how the different treatment given to boy and girl babies right from birth has a significant effect on behaviour. 'Is it a boy or a girl' is the first question asked about a new baby, the differences go on from there.
- There is a large body of research in psychology showing the extent to which we all have unconscious bias, and that expectations have a significant effect on behaviour. There is also a great deal of evidence that people (male and female) consistently overrate men's abilities and underrate those of women. This nexus of psychological factors means that comments such as those by the President of Harvard can have a damaging back reaction.
- There is also the question of how success is measured, and what aspects of scientific activity gain the most recognition. In the man's world of science there is inevitably a slanting of regard towards aspects where men perform strongly.
- It is asserted that women do not do as well as men because childcare prevents them spending 80 hours per week in the lab. If the only way to success in science is by means of this sort of work load, then the standard arguments for a more equal role to be played by both parents comes into play. It may be a fact that women take on more than their share of these activities, but this does not seem to be an insuperable or intrinsic problem, it simply means that much talent is being wasted.
- Another practical issue with a bearing on the success of women is the 'two body problem'; geographical moves by a couple are much more often determined by a male than by a female. This can lead to women taking stopgap positions in less prestigious institutions and with a heavier non-research workload.
- Also one should not overlook the negative effect of consistently finding oneself in a very small minority. Some of these effects are obvious, others less so, for instance it has been observed that factors such as gender can enter spuriously into negative evaluations. "For example, in a group of eight men and two women faced with a technical problem, if one woman and four men have difficulty, casual observers will remember that 'the women had trouble'."¹

We hope that greater awareness of these issues will help counteract the unconscious negative bias which seems to affect everyone.

1. "Becoming Leaders: a handbook for women in science, engineering and technology" by F Mary Williams and Carolyn J Emerson