

THE CHRONICLE OF HIGHER EDUCATION

The Faculty

<http://chronicle.com/weekly/v51/i21/21a01201.htm>

From the issue dated January 28, 2005

Harvard's President Wonders Aloud About Women in Science and Math

By PIPER FOGG

The president of Harvard University, Lawrence H. Summers, suggested at a scholarly meeting this month that one reason fewer women make it to the top in mathematics and science may be because of innate differences of ability from men. That proposition has landed him in hot water with scholars who are berating him for advancing a dangerous and untrue stereotype.

But some researchers say that perhaps he has a point: that differences in performance between the sexes may be partly attributed to biological factors. Still other social scientists say that while the suggestion is fair, the proof just isn't there.

About 50 people attended the conference in Cambridge, Mass., sponsored by the National Bureau of Economic Research and titled "Diversifying the Science and Engineering Workforce: Women, Underrepresented Minorities, and Their S&E Careers." Mr. Summers gave a luncheon talk suggesting possible hypotheses for why fewer women than men are in the top ranks in science and math at elite universities.

He discussed the theory that women with children are reluctant to work the long hours required to succeed in those fields and also the possibility that men and women may have different innate abilities, which were previously attributed mostly to socialization.

When Nancy Hopkins, a professor of biology at the Massachusetts Institute of Technology, heard that, she walked out. "I was profoundly upset," she says. "That kind of discrimination holds people back."

No 'Stereotyping'

Mr. Summers says his comments at the meeting have been misconstrued. "Nothing I said or believe provides any basis for either stereotyping women or for fatalism about our ability to draw more women into scientific careers," he says.

He adds that he did intend to challenge an audience of social scientists to understand the factors that have led to the underrepresentation of women in science and engineering, and he notes that more study on the issue is needed

Doreen Kimura is one woman who thinks Harvard's president may not be so off target. "I think Summers has more courage than any university administrator I have encountered," writes the professor of psychology at Simon Fraser University, in British Columbia, in an e-mail message.

In a 2002 paper in *Scientific American*, "Sex Differences in the Brain," she argued that while it has been fashionable to contend that social factors, especially those present around the time of adolescence, do

much to explain performance differences between men and woman, evidence suggests that boys and girls have "differently wired brains." She explains, that, for example, researchers have found that 3- and 4-year-old boys are better than their female counterparts at mentally rotating figures within a clock face.

Ms. Kimura also points to the work of Camilla P. Benbow, a professor of psychology and human development at Vanderbilt University, who she says suggests that mathematical ability has a significant biological determinant.

But not all researchers agree that biology or genetics plays such a role. Yu Xie, a sociologist at the University of Michigan at Ann Arbor, whose work Mr. Summers cited in his speech and who was present at the meeting, says he challenged Mr. Summers's proposition.

Mr. Xie's work with Kimberlee A. Shauman, a sociologist at the University of California at Davis, shows that more boys scored at the very top and the very bottom of math achievement tests than girls did. The reasons are still not known, he says in an interview: "To say they are due to nature or biology is a little premature." Most genetic tests of ability, which are performed on identical twins who are of the same sex, do not take gender into account, he says. "The evidence is not there on innate ability."

The sociologist says Mr. Summers made an illogical leap at the meeting by inferring that the underrepresentation of women in the top ranks of science and math could be due to differences in ability. "He made a simple analogy that high achievement means participation in math and science careers," Mr. Xie says. But research, he adds, shows that at the highest levels of mathematical achievement, women are still less likely to pursue math and science careers.

He also notes that over the past few decades there has been a steady increase in women's participation in the sciences and engineering, but that the genetic pool has not changed. Therefore, he says, one can conclude that genetic factors cannot account for that change; other factors, like improved educational conditions for women, are likelier explanations, he says.

Sending Mixed Signals?

Michele M.M. Mazzocco, director of the Math Skills Development Project at the Kennedy Krieger Institute, in Baltimore, says her own research shows "minimal if any sex differences in math and spatial skills." Ms. Mazzocco, who studies children in kindergarten through fifth grade, looks for evidence of pronounced or persistent differences in those skills. "The bottom line," she says, "is we're not finding anything."

Mr. Summers's remarks have dominated dinner-table discussion in her home, she says. She thinks that because he is president of Harvard, his comments were "irresponsible" and an "overgeneralization."

Other academics have condemned Mr. Summers more formally. Ms. Hopkins, who led a 1999 panel on the status of women at MIT, appeared on NBC's *Today Show* to criticize the president, and members of a Harvard faculty committee who last fall complained about the declining number of women tenured at the university sent him a letter faulting him for sending "mixed signals" to high-achieving female students.

Another letter, signed by dozens of male and female scientists and engineers, stressed the need to continue to focus on the ways in which women are discouraged from pursuing interest in scientific and technical fields.

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