



Commentary

Data on Scientists Hushes Media Echo Chamber

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By Barnett and Rivers
WeNews commentators

A conference on women and science earlier this week caught our commentators by surprise. Despite a media soundtrack saying "Larry Summers was right," they found a sophisticated discussion that helped dispel ideas of male intellectual superiority.

Editor's Note: The following is a commentary. The opinions expressed are those of the author and not necessarily the views of Women's eNews.

(WOMENSENEWS)--Kathleen Parker thinks Larry Summers was right.

"Never mind that scientific evidence suggests as much," she wrote in a recent column distributed by the Washington Post about the former Harvard president who was driven out of his post in 2005 for suggesting that gender differences might account for an under-representation of women in science, math and engineering.



Caryl Rivers



Rosalind Chait Barnett

Parker neglected to mention that Summers himself admitted that he got the science wrong.

Instead she beat the same drum carried by other pundits such as syndicated columnist George Will, who in 2005 wrote that the vast study on possible gender differences in cognition means "only hysterics denounce interest in these possible differences."

But never mind the media. All too often it seems stuck on the "Larry Summers was right" soundtrack.

The good news is that the "biology is destiny" argument against women in math and science is fading in other arenas.

This was apparent Monday at a conference on women and science in Washington, D.C., convened by the right-of-center American Enterprise Institute.

Christina Hoff Sommers, author of "The War Against Boys," was the conference moderator. Given her fears about feminist teachers

destroying boys, we in turn feared the event might amount to an unreasoned assault on women's left brains.

Indeed, Charles Murray, co-author of the notorious "The Bell Curve," which argues that blacks are inferior in intelligence to whites, was there to express doubt about there being any discrimination against women in math and science.

But the conference in general provided a forum for recent research and challenges of conventional wisdom.

Checking S.A.T. Scores

Take, for instance, the fact that males are overrepresented at the upper tail of the distribution of math aptitude scores. Some have used this to explain the preponderance of men in leadership positions in science and math.

One of the authors of this column--Roz Barnett, who was a presenter at the conference--questioned the notion that high SAT scores predict careers in math and science.

An exhaustive 2006 review of major studies, funded by the National Academy of Sciences, indicates no relationship between scoring in the upper tail of ability and eventual success in math-science careers. Of the college-educated professional work force in mathematics, science and engineering, fewer than one-third of the men had SAT-M (math) scores above 650, the lower end of the threshold typically presumed to be required for success in these fields.

Meanwhile, a 1990 major analysis of data on math aptitude scores of 4 million students, by the University of Wisconsin's Janet Hyde, found sex differences were tiny. In 2006, Hyde reported that a new analysis of about 7 million students found sex differences in math and science to be negligible.

And in a definitive overview of math and cognitive abilities that are supposed to show substantial sex differences, psychologist Diane Halpern of Claremont McKenna College in 2000 found them to be trivial. Overall, she says, while there are slight differences, boys and girls are far more alike than different.

Hormone Effect Treated

Some argue that the male hormones that kick in at puberty make men better at math.

If this were true, we should see a striking difference in math scores at this time. Instead, researchers Erin Leahey and Guang Gao at the University of North Carolina, Chapel Hill, followed 20,000 kids between the ages of 4 and 18 to track specific math abilities. They said that while they expected large gender differences to emerge as early as junior high school it didn't happen. Instead, in a 2001 study, they found the trajectories of male and female math scores were nearly identical across the age range.

In 2007, a group of children who scored in the upper 1 percent in mathematical reasoning ability at age 13 were assessed when they were 33 years of age. What did the researchers learn?

Those who pursued careers in science and mathematics took more

related coursework in high school, rated math and science as their favourite courses, and were interested in math and science. More of the highly gifted males than the females had these patterns of experiences and attitudes that were predictive of career choices in science and mathematics. When these variables were accounted for, only 1 percent of the difference in careers was due to sex.

High-ability males were found in one study to have unrealistically high self-competency beliefs; no such effect was found for females. In other words, boys think they're better than they actually are in math and science, which may boost their self-confidence.

As for the assertion that there is no discrimination against women in math and science, even studies in female-friendly Sweden rebut this.

Researchers, for instance, have found that the peer-review system of the Swedish Medical Research Council, one of the main funding agencies for biomedical research, does not evaluate women and men on an equal basis for their prestigious fellowships.

Instead, a female applicant had to be 2.5 times more productive than the average male applicant to receive the same scientific competence score.

The most productive group of female applicants (those with 100 points or more for publication, research and related categories) was the only group judged to be as competent as men. Even then, astonishingly, these female achievers were judged only as competent as the least productive group of male applicants (who had fewer than 20 points).

Hierarchy Skews the Scene

New research also shows that if you look only at universities as an indication of who is talented in math and science, you will get a skewed picture.

From atop the pyramid at Harvard, where Larry Summers stood the view may indeed have looked grim for women at elite colleges.

But women do spectacularly better in non-hierarchical workplaces, a 2005 study by researchers at Stanford and Boston University found.

For instance, female scientists in biotech firms were nearly eight times more likely to be in supervisory jobs than women in universities. In universities, meanwhile, women were 60 percent less likely to be supervising than men. In sharp contrast, there were no differences for men between academia and biotech.

MIT was a good example of the bias against women. A 1995 study found that through subtle and largely unconscious discrimination most of the senior female scientists had received lower salaries and fewer resources for research than their male counterparts and had been excluded from significant roles within their departments.

Dean Robert J. Birgeneau took prompt action to redress inequities. Today, MIT's Nancy Hopkins says female scientists at the university are thriving.

They, and others like them, are needed. Last March Microsoft's Bill Gates asked the U.S. Senate to allow more foreign scientists into the

country because of the country's "critical shortage of scientific talent."

With that in mind we should recognize that the country needs scientists and mathematicians and they come in all colors and both sexes. We need to nurture talent wherever we find it.

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Women in Math project, University of Oregon:
<http://darkwing.uoregon.edu/~wmnmath/>

"Women Vastly Underrepresented in Academia":
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