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## Stubborn Equation Keeps Women on the Minus Side

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*By Phoebe Nobles  
WEnews correspondent*

*After 30 years of activism in science, women who crack genetic codes and create information technology have yet to solve the gender equation.*

NEW YORK (WOMENSENEWS)--Despite significant advances, women in science have cause for frustration to equal their pride.

A new report by the National Council for Research on Women says the gender gap in science and math performance is narrowing in elementary and high schools. The report also shows, however, that women are still underrepresented in top positions in academia and business, where much of the power to change American science lies.



Nancy Hopkins

That concern was foremost in the minds of scientists and educators who gathered at a conference at Barnard College on Thursday. Most present had hoped that the passage of Title IX of the Education Amendments Act of 1972, which banned gender discrimination at institutions that receive federal funding, would open the doors wide for women in science.

Thirty years later, much remains to be done.

"All you have to do is go into a science building and look for women's bathrooms," said Barbara Lazarus, Carnegie Mellon associate provost for academic affairs. An appreciative mutter of recognition arose from the crowd, though none had to search far at Barnard, a women's college.

The council's report tempers each celebratory statistic with a bleaker one. Using the most recent data, the report said women are still in a significant minority among those gaining physics and engineering degrees. In physics, women took just 19 percent of degrees in 1996 and a mere 18 percent of engineering degrees. In contrast, women earned half of all undergraduate degrees in biology in 1995, compared with only 29 percent in 1979. And, while the ranks of undergraduate women in biology have swelled, their numbers drop off in the corresponding graduate and doctoral programs.

Computer science, a field that at its inception attracted women to procure 37 percent of its undergraduate degrees in 1984, has steadily lost women. In 1999, women received less than 20 percent of computer science degrees.

In addition, though women have earned a quarter of all science doctorates since the 1970s and female associate professors have almost quadrupled in number, women have made little progress in securing full professorships. In 1973, only 3 percent of women instructors had attained that level. By 1995, the figure had not reached 10 percent, according to the report.

Women's absence from scientific leadership positions not only leaves them out of decision-making, but exacerbates the lack of role models vital for younger women scientists, conference attendees concluded, and a lack of visibility at the top perpetuates itself by allowing women without mentors to slip through the cracks.

### **The More Things Change, the More They Stay the Same**

Of special concern to those at the conference was why girls and women drop out of each stage of scientific pursuit at higher rates than men.

The reasons cited ranged from cultural influences to lack of teachers to bias.

Lazarus said one explanation for the attrition of girls and women in science programs may be a particularly American notion about natural ability.

"In Japan, hard work is considered positive, not an indication that you're not really good" at math or science, Lazarus said. Americans, she argued, are less likely to encourage students to persevere at something they don't pick up immediately.

New York City Public Schools Chancellor Harold Levy said, "The shortage of math and science teachers is pernicious." He vowed to concentrate on professional development (over 30 percent of math and science teachers in New York are uncertified to teach their disciplines), and voiced hope that the new administration would be receptive to the effort.

Citing young women's lack of interest in science because they correlate it with death, war, or the military, Sue Rosser, Dean of Georgia Tech's Ivan Allen College, maintained, "When girls see its social usefulness, they are interested in science."

At Carnegie Mellon, aggressive outreach has brought the incoming computer science class from 7 percent women in 1995 to 40 percent in 2000. Lazarus recommended the restructuring of college entrance requirements to allow young women to explore areas of study in which they might not have previous experience or may not have received a high score on the aptitude tests commonly used to determine course placement.

But further along in the pipeline, women tend to drop out of science because of family commitments--a factor Rosser cited as the primary concern among women scientists.

However, Evelyn Hammonds, director of the Center for the Study of Diversity in Science, Technology, and Medicine at MIT and an associate professor of the history of science, said that "what is coming out from minority women is that discrimination issues rank equally to work and family concerns."

*Phoebe Nobles is a freelance writer in Brooklyn, N.Y.*

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**For more information:**

National Council for Research on Women:

<http://www.ncrw.org/>

National Science Foundation:

<http://www.nsf.gov/>

Clare Booth Luce Program:

<http://www.hluce.org/3cblfm.html>

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