

# TEACHER-FACILITATOR MATERIALS FOR CORNELL INSTITUTE FOR WOMEN IN SCIENCE VIDEO SERIES FOSTERING INTEREST IN MATH AND SCIENCE, PART 2

In the video, it was noted that females are more likely to have perfect “double 800 SAT scores” (a perfect 800 in math and a perfect 800 in verbal) whereas males are more likely to have a single 800, in mathematics. The reason this is important is because it means that females with exceptional math talent are more likely than their male counterparts to also have exceptional verbal talent. So they can choose between careers that depend heavily on either type of talent. In contrast, males who score highly in math often do not have exceptional verbal ability, so for them the career decision is straight forward—be an engineer, physicist, computer scientist, or mathematician. Females have a wider range of choices, spanning the math fields as well as verbal fields such as law, literature, etc.

Perhaps this explains some of the underrepresentation of women in math-heavy careers; women who have the outstanding math talent sometimes opt for non-math careers because they are just as outstanding in these non-quantitative areas. Thus, while we find that 52% of current PhDs in biology are awarded to women, roughly 70% of PhDs in psychology go to women, and 75% of DVMs in veterinary medicine are awarded to women, fewer than 30% of PhDs in math-heavy fields go to women, and in some cases (e.g., electrical engineering) fewer than 10%. Although math is involved in fields like biology, psychology, and veterinary medicine, they are less math-intensive than fields such as engineering, physics, computer science, or mathematics.

As can be seen in the figure below, in 2002 women comprised roughly 31% of assistant professors in biology but only 12% of assistants in physics and 11% in computer science. (Women have made gains in all of these fields since 2002.) **Some Thought Questions:**

- Should society be concerned if females who are talented in math choose to pursue non-math careers such as biology, psychology, or law? Isn't it as valuable to, say, work on a cure for cancer as it is to develop a search algorithm for Google? So why worry about the underrepresentation of women in math-heavy fields if they are choosing to enter non-math fields they find more appealing?
- It almost seems as if having exceptional talent in multiple areas is a curse. Compared to someone who is exceptionally talented in only one area and

therefore knows exactly what they want to do with their lives, having multiple areas of talent can result in not being as committed to any of them. Do you think that parents and educators should focus children on a single area of talent rather than try to develop talent in several areas?

## Recommended Readings:

Burrelli, J. (2008). Thirty-three years of women in S&E faculty positions. *Science Resources Statistics*, National Science Foundation. 08-308.

Lubinski, D., Benbow, C., Shea, D., Eftekhari-Sanjani, H., Halvorson, B. (2001) Men and women at promise for scientific excellence: Similarity not dissimilarity. *Psychological Science*, 12, 309–317.

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