



## **Girls = Boys at Math**

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Zip. Zilch. Nada. There's no real difference between the scores of U.S. boys and girls on common math tests, according to a massive new study. Educators hope the finding will finally dispel lingering perceptions that girls don't measure up to boys when it comes to crunching numbers.

"This shows there's no issue of intellectual ability--and that's a message we still need to get out to some of our parents and teachers," says Henry "Hank" Kepner, president of the National Council of Teachers of Mathematics in Reston, Virginia.

It won't be a new message. Nearly 20 years ago, a large-scale study led by psychologist Janet Hyde of the University of Wisconsin, Madison, found a "trivial" gap in math test scores between boys and girls in elementary and middle school. But it did suggest that boys were better at solving more complex problems by the time they got to high school.

Now, even that small gap has disappeared, Hyde reports in tomorrow's issue of *Science*. Her team sifted through scores from standardized tests taken in 2005, 2006, and 2007 by nearly 7 million students in 10 states. Overall, the researchers found "no gender difference" in scores among children in grades two through 11. Among students with the highest test scores, the team did find that white boys outnumbered white girls by about two to one. Among Asians, however, that result was nearly reversed. Hyde says that suggests that cultural and social factors, not gender alone, influence how well students perform on tests.

Another portion of the study did confirm that boys still tend to outscore girls on the mathematics section of the SAT test taken by 1.5 million students interested in attending college. In 2007, for instance, boys' scores were about 7% higher on average than girls'. But Hyde's team argues that the gap is a statistical illusion, created by the fact that more girls take the test. "You're dipping farther down into the distribution of female talent, which brings down the score," Hyde says. It's not clear that statisticians at the College Board, which produces the SAT, will agree

with that explanation. But Hyde says it's good news, because it means the test isn't biased against girls.

The study's most disturbing finding, the authors say, is that neither boys nor girls get many tough math questions on state tests now required to measure a school district's progress under the 2002 federal No Child Left Behind law. Using a four-level rating scale, with level one being easiest, the authors said that they found no challenging level-three or -four questions on most state tests. The authors worry that means that teachers may start dropping harder math from their curriculums, because "more teachers are gearing their instruction to the test."

The results "essentially confirm" earlier studies--and they should finally put to rest the idea that girls aren't going into technical fields because they can't do the math, says Ann Gallagher, a psychologist who studies testing at the Law School Admission Council in Newtown, Pennsylvania. But she still thinks there may be cultural or psychological reasons for why girls still tend to lag behind boys on high-stakes tests such as the SAT. Among students she's observed, she says "the boys tend to be a little more idiosyncratic in solving problems, the girls more conservative in following what they've been taught."

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