Academically talented girls in the United States surpass boys in language performance and are narrowing the gap with their male counterparts in math achievement, according to new research from the Duke University Talent Identification Program (TIP).

Among similarly talented youth in India, the gaps are wider, with boys holding an overwhelming advantage in math performance, while girls hold a similar advantage in language.

In both the U.S. and India, academically talented boys perform better than girls in science.

"In places where there are significant disparities in performance by males and females, we have to ask ourselves whether we are fully developing the talent of all our students," said Matthew Makel, Ph.D., director of research at Duke TIP and lead author of the study. "The U.S. has made great strides since the 1980s in preparing girls to perform at the highest levels in math, and there may be things that have been done in the U.S. that could help inform education practices in India."

The findings are among the results of a study of 320,554 gifted seventh graders in the U.S. and 7,119 gifted seventh standard students in India who participated in the Duke TIP talent search between 2011 and 2015. The talent search identifies academically talented 12- and 13-year-olds and offers them above-level testing, using a standardized test geared toward older students: the SAT or ACT in the U.S., and the ASSET test in India.
The study of gender differences, published this week in the journal *Intelligence*, focused on talent search participants scoring at the very highest levels on the above grade-level tests, putting them in the top 0.01 percent of students their age.

"We don't see differences between boys and girls in youth in terms of average performance, but large and meaningful differences between males and females in performance appear at the extreme high end," Makel said. "The differences between males and females are most striking among the top 1 in 10,000 youth who perform at the very highest levels on above grade-level tests."

In the U.S., girls accounted for 28 percent of top-level scores (SAT 700 and above before turning 13) on the math portion of the talent search test. This is a significant change from the early 1980s, when girls accounted for just 7 percent of scores at that level.

In India, girls accounted for only 11 percent of top-level scores (35 and above) on the math portion of the ASSET test.

On the language tests, U.S. girls have gradually surpassed boys as the leading performers. In the early 1980s, girls and boys were equally represented among top performers in language, however girls now account for 60 percent of top SAT language scores. In India, girls earned 62 percent of top scores on the language portion of the ASSET test despite the fact that fewer girls participated overall in India.

The researchers noted that girls were significantly underrepresented in the talent search pool in India, making up only 36 percent of participants in the Duke TIP talent search. "We don't know whether that is because they aren't performing as well as boys, or if there isn't sufficient support either in the school or at home for them to pursue enrichment opportunities," Makel said.
"One of our top concerns is that exceptionally talented young people are either not being identified, or are not having their talents nurtured in a way that will allow them to reach their full capacity," Makel said.

Boys in the U.S. and India make up 75 percent and 82 percent, respectively, of the top scoring students on the science portion of the ACT and ASSET tests.

"These young people are important because they have the best chances of going on to extraordinary achievement and solving the big problems that face the world such as poverty, cancer, and climate change," he said. "If we're not cultivating the talents of all of the world's top talent, then we're holding ourselves back as a society. In order to solve the world's biggest problems, we need to help these kids excel to their full potential."


Provided by Duke University

Citation: Academic 'gender gap' similar in US, India (2016, October 12) retrieved 1 November 2023 from https://phys.org/news/2016-10-academic-gender-gap-similar-india.html

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