

Study suggests girls' advantage in reading explains gender gap in math fields

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A pair of researchers, one with the Paris School of Economics, the other with CNRS, UMR8545, Paris-Jourdan Sciences-Economiques, has found a possible reason for the gender gap in math fields—girls have an

advantage in reading. In their paper published in *Proceedings of the National Academy of Sciences*, Thomas Breda and Clotilde Napp describe their study of test score data from thousands of students across the globe and what they found.

In the U.S., there is a drive to reduce the gender gap in STEM fields of study—there are many more men than women in science, technology, engineering and [math](#) professions. And part of that effort is dedicated to better understanding why the gap exists. Prior research has suggested that [social factors](#) play a strong role, such as a perception of such work as non-feminine—including the views of women who may want to go into such a field, others in the field, and society at large. In this new effort, the researchers suggest that there may also be another reason—girls are better with reading and communication skills.

The study involved analyzing data from the Program of International Student Assessment (PISA), which is a series of tests given to students around the globe every three years. In their study, the researchers focused exclusively on students who were 15 years old—they suggest this age is when young people begin making serious plans for their future. In addition to testing students, the assessments also included questions about professional intentions. Prior research has shown that the fields that students report on the assessments tend to match up very closely with actual career choices.

The researchers report that the data showed that those students who listed math as a career field were more likely to be male. Also, male students scored slightly higher than female students in math, but not by a statistically significant amount. The researchers noted that there were no signs in test scores that could explain the [gender gap](#) that would occur later on—or the gap in students listing math as a preferred field of study. But the researchers did note that on average, girls excel at reading compared to math, while the opposite is true for boys. They suggest this

indicates that female students tend to lean toward reading and communications skills over math because they are better at it.

More information: Thomas Breda et al. Girls' comparative advantage in reading can largely explain the gender gap in math-related fields, *Proceedings of the National Academy of Sciences* (2019). [DOI: 10.1073/pnas.1905779116](https://doi.org/10.1073/pnas.1905779116)

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