

# Study: Teachers unaware of growing gender gaps in classrooms

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A gap in reading and math scores still exists in lower grades, with boys continuing to outpace girls in math, and girls ahead of boys in reading, two University of Illinois education professors say.

Using national longitudinal data to perform their analysis, Joseph P. Robinson and Sarah Lubienski investigated male and female achievement in math and reading, looking for when gender gaps first appeared and where in the distribution the gaps were most prevalent.

Except for kindergarteners in the 99th percentile, [boys](#) and girls generally start out on equal footing in math competency. In elementary school, girls throughout the distribution lose ground to boys in math achievement before eventually regaining some ground in middle school, according to research published by the professors in the *American Educational Research Journal*.

"If you just look at the average gap, there is no gap in math between boys and girls when they start kindergarten," Robinson said. "But when you start to break it down throughout the distribution, taking a look at the low- and high-achieving girls and boys, that's where we see that there's a gap favoring boys at the upper-most extreme of the distribution. The 99th percentile of boys is outscoring the 99th percentile of girls."

Over time, as students progress through elementary school, the gap "begins to widen, favoring boys in the lower part of the distribution," Robinson said. "By third grade, you can see it throughout the whole

range of kids."

Robinson and Lubienski also compared teachers' assessments of boys and girls. They discovered that teachers seem to overestimate girls' mathematics achievement relative to boys, rating girls higher than boys in both subjects, even when cognitive assessments suggest that boys have a math advantage.

"Our results suggest that there is still a [gender gap](#), not only with achievement, but with teachers' perceptions," Lubienski said.

Based in part on other research, the professors suspect that teachers might be mistaking girls' compliance in the classroom for comprehension, a topic that the researchers are exploring in a forthcoming study.

"We thought that teachers might rate boys higher in math, but we found that even when boys are outscoring girls, the teachers think the girls are outscoring the boys," Lubienski said. "This might be because girls tend to be perceived as 'good girls' in the classroom, and then teachers assume that they understand the material because they complete their work and don't cause trouble."

The researchers say that there's also a gap in reading that favors girls. Although the gap favoring girls generally narrows over time, it also eventually widens among low-achieving girls and boys, who struggle to keep up with their classmates.

"Clearly, the boys start out behind the girls in reading achievement," Lubienski said. "In general, the mid-achieving boys eventually catch up, but the lowest-achieving boys don't. In other words, if you're a boy and you're really struggling to read, you most likely won't catch up with your peers. It's those boys at the bottom that teachers should be most

concerned about when it comes to reading."

The issue of gender gaps in math and reading in U. S. schools has been an ongoing one in education circles, with some researchers arguing that a gender gap doesn't exist in math anymore, something that was concluded from looking at test results from several states. "There have been debates about whether there really is a gender gap in math," Lubienski said.

"But our research looked at national data, and they show that there is indeed still a gender gap in math. It's small, but it's there, and it grows between kindergarten and fifth grade."

As a country, the U.S. seems to have more of a gender gap in early elementary education than in most countries, the researchers say. One hypothesis to explain the gap could be that the U.S. has first and second grade female teachers who are "math-anxious."

"I've seen a surprising number of teachers who want to teach in the lower grades because they're scared of math," Lubienski said. "Other research has shown a link between math-anxious teachers and girls' math performance, so that could also account for the early gender disparities that we found."

Instead of having one teacher for all of the subjects, Robinson and Lubienski believe that having math specialists teaching in the elementary grades, and not just generalists who teach every subject, could help to close the achievement gap.

"If you have a teacher who actually likes math, rather than one who just wants to get it over with, then I think it would be helpful, especially considering that we have these early gaps and other countries don't," Lubienski said. "There's some debate about whether kids need to stay with one teacher because it nurtures them. But from a math education

standpoint, having dedicated math specialists is certainly worth exploring."

For education policymakers, the professors say their research suggests that teachers need to intervene earlier when students struggle.

"We should target effective interventions for the content domains where we see gaps, and we must ensure that these interventions are in place by the grades in which we start to see gaps emerge, which our research suggests is earlier than previously thought," Robinson said.

"We can't just ignore the gender gap and think that it's done," Lubienski said. "There's been some concern about boys being short-changed in school, and our research supports that claim for boys who have difficulty with reading."

"But [teachers](#) might also underestimate the attention that young girls need in math," Lubienski said. "So we need to pay attention not only to the low-achieving boys who are struggling with reading, but also to the [girls](#) – both the high-achievers as well as the low-achievers – as they learn [math](#) in the early grades."

**More information:** The paper, "The Development of Gender Achievement Gaps in Mathematics and Reading During Elementary and Middle School: Examining Direct Cognitive Assessments and Teacher Ratings," is available online.

Provided by University of Illinois at Urbana-Champaign

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