GEORGIA POLICY LABS

POLICY BRIEF

Gender Differences in Remote Learning Amid COVID-19

There is emerging evidence of differences in achievement growth for male and female students during the pandemic, yet little is known about the causes of such gender differences and the implications for education policies. We focus on two potential mechanisms associated with the switch from in-person to remote learning: changes in the nature of peer interactions and differences in the level of self-control required to learn in a remote environment. We document gender differences in achievement growth during remote instruction and decompose the gender achievement gap into differences in the characteristics of boys and girls and differences in how those characteristics affect student success in remote learning.

What did we learn?

Prior to the pandemic, boys were more likely to exhibit disruptive behavior, and girls demonstrated greater self-control (measured by not rushing through prior exams). More disruptive peers and a lack of self-control are associated with lower achievement growth for boys in math and reading, respectively. However, we did not find negative effects for girls in either subject.

Remote learning during the pandemic substantially reduced achievement growth for boys but had only a relatively small effect for girls. More time spent in remote instruction tended to mitigate any negative effects of historically disruptive peers in math for girls but not for boys. Lack of self-control does not appear to have a substantial effect on learning gains in remote instruction for either boys or girls.

By far, the largest contributor to gender differences in achievement growth during the pandemic was the superior achievement growth of girls while in remote instruction. We find conflicting evidence for causes of girls' relative success in remote instruction. For students in math classes with a substantial share of historically disruptive students, the advantage of girls in remote learning was even higher, while having a history of rushing through exams lessened the learning advantage of girls in remote instruction. In reading, the effects of having disruptive peers and lack of self-control had the opposite effect on the relative performance of girls.

Researchers

Sungmee Kim
Tim R. Sass

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What are the policy implications?

Our findings suggest that there was considerable variation between girls and boys in their ability to successfully navigate remote learning. However, it does not appear that much of the difference can be explained by our (somewhat crude) measure of self-control, and a large proportion is unexplained by observable differences between boys and girls. At a minimum, this suggests that more work needs to be done to identify the factors that affect student success in remote learning, and schools should be careful in selecting which students will receive remote instruction.

What questions did we answer?

1. Did pandemic-era remote learning dampen any negative effects of having disruptive classmates?
2. To what extent did success in remote learning vary with student self-control?
3. How much of observed gender differences in student outcomes during remote learning can be explained by differences in self-control and exposure to historically disruptive peers?

What data did we use?

We used administrative data from a metro-Atlanta school district for students in Grades 1–8 from SY 2018–19 to SY 2020–21. The data include student characteristics and measures of exposure to remote learning. The outcome of interest—student achievement growth—is measured by the difference between a student's scale scores on fall and winter formative assessments in SY 2020–21 for both mathematics and reading. To account for differences in the timing of exam taking, we divide the change in scale scores by the number of instructional days between exams for each student.

Why is this issue important?

Some families continue to choose remote learning, and many districts use remote learning when educators are receiving professional development or they are unable to fill teaching positions. When there is flexibility in the application of remote instruction, knowledge of student differences in navigating remote learning can determine which students to assign to remotely-taught classes. Even when in-person learning is not an option, understanding the differential effects of remote learning can help guide how best to allocate supports for students.

Want to learn more?

A report is available at **gpl.gsu.edu/gpl-publications**

The **Metro Atlanta Policy Lab for Education (MAPLE)** is a component of the **Georgia Policy Labs (GPL)**, a research collaboration between Georgia State University and a variety of government agencies committed to leveraging the power of data to drive policy and programmatic decisions that lift children, students, and families—especially those experiencing vulnerabilities.

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