

# RESEARCH FINDINGS SUMMARY

## How Gender Inequality in Schools Relates to Student Health



# QUICK SUMMARY

This study focuses on how academic performance differences between boys and girls are related to students' health. We looked at the academic achievement gaps – the difference between how girls versus boys at a school performed on a standardized test - and examined the health of the students attending that school. We found that when schools have a bigger academic achievement gap between boys and girls, boys showed worse cardiovascular health and asthma.

## WHAT IS THE RESEARCH ABOUT?

Previous research has shown that girls are more likely to meet grade expectations academically than boys. Differences in academic performance between groups has been linked in previous research to outcomes such as academic motivation. This research explores whether a gap between boys' and girls' academic performances at school also relates to physical health outcomes in students.

## WHAT DID WE DO?

Health data was analyzed for two groups of students. The first group had healthy eighth graders (159 girls and 81 boys); we assessed indicators of cardiovascular health in this group. The other group had children with asthma (122 girls and 153 boys); we assessed inflammation and self-reported symptoms of asthma.

School data were examined to determine each school's overall percentage of boys and girls that met expectations for their grade level on standardized tests. These school data were linked to student health data.

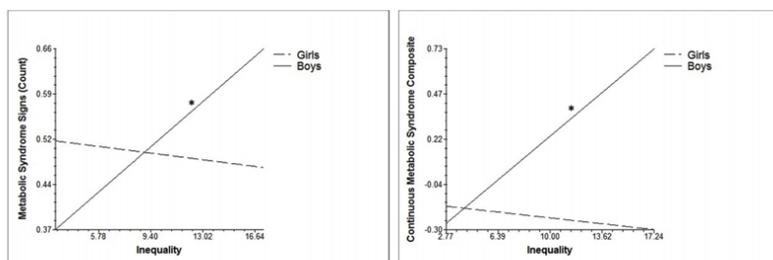
## WHAT DID WE FIND?

The greater the gap in a school in terms of the percentage of girls versus the percentage of boys who met expectations for their grade level on standardized tests, the worse boys' health was. Boys who attended schools with a bigger achievement gap had worse asthma symptoms, greater inflammation, and poorer cardiovascular health. When schools had a bigger achievement gap, it was typically in a direction where boys performed more poorly on standardized tests than girls.

## WHAT SHOULD YOU REMEMBER?

School environments are linked to the health of students. Boys are healthier in schools where girls and boys have similar academic performance levels, and have worse health in schools where boys' academic performance is worse than girls'.

Students with Asthma



Healthy Students

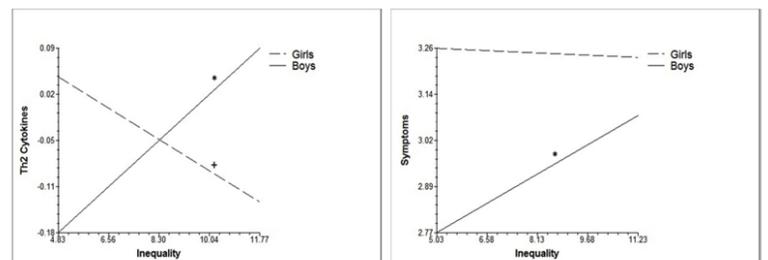


Fig. 1. Covariate adjusted estimates of metabolic syndrome signs (left panel) and continuous metabolic syndrome composite scores (right panel) among boys and girls as a function of the academic gender disparities in their schools in Study 1. \* $p \leq .05$ .

Fig. 2. Covariate adjusted estimates of Th2 cytokine production in response to stimulation of PBMCs with PMA/INO (left panel) and asthma symptoms (right panel) among boys and girls as a function of the academic gender disparities in their schools in Study 2. \* $p \leq .05$ , \*\* $p \leq .10$ .

## **PUBLICATIONS**

1. Levine, C. S., Miller, G. E., Shalowitz, M. U., Story, R. E., Manczak, E. M., Hayen, R., . . . Chen, E. (2019). Academic disparities and health: How gender-based disparities in schools relate to boys' and girls' health. *Social Science & Medicine*, 228, 126-134. doi:10.1016/j.socscimed.2019.02.036. <https://foundationsofhealth.org/wp-content/uploads/2020/04/19-SSM-gender-disparities-in-academics-and-health.pdf>.

## **ABOUT THIS SUMMARY**

This summary was prepared by Sarah Davis on behalf of the Foundations of Health Research Center at Northwestern University. You can access all of our research for free at our website, [www.foundationsofhealth.org/publications](http://www.foundationsofhealth.org/publications).