

Biased Teachers and Gender Gap in Learning Outcomes: Evidence from India

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Background and motivation:

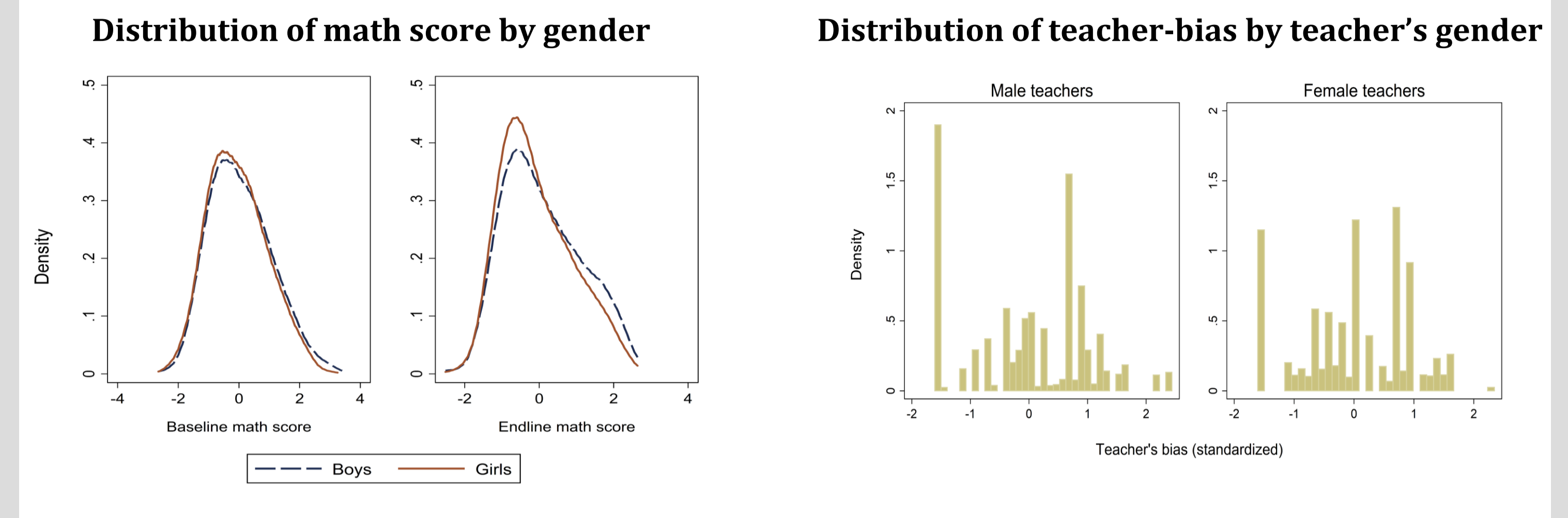
- School participation has increased, gender gap has reduced
- Gender gap in learning outcomes and STEM participation still persists
 - Girls under-perform in mathematics in many countries
 - Women are under-represented in STEM occupations
- Is there a role of teachers in causing the gender gap in mathematics?

Objective of this paper:

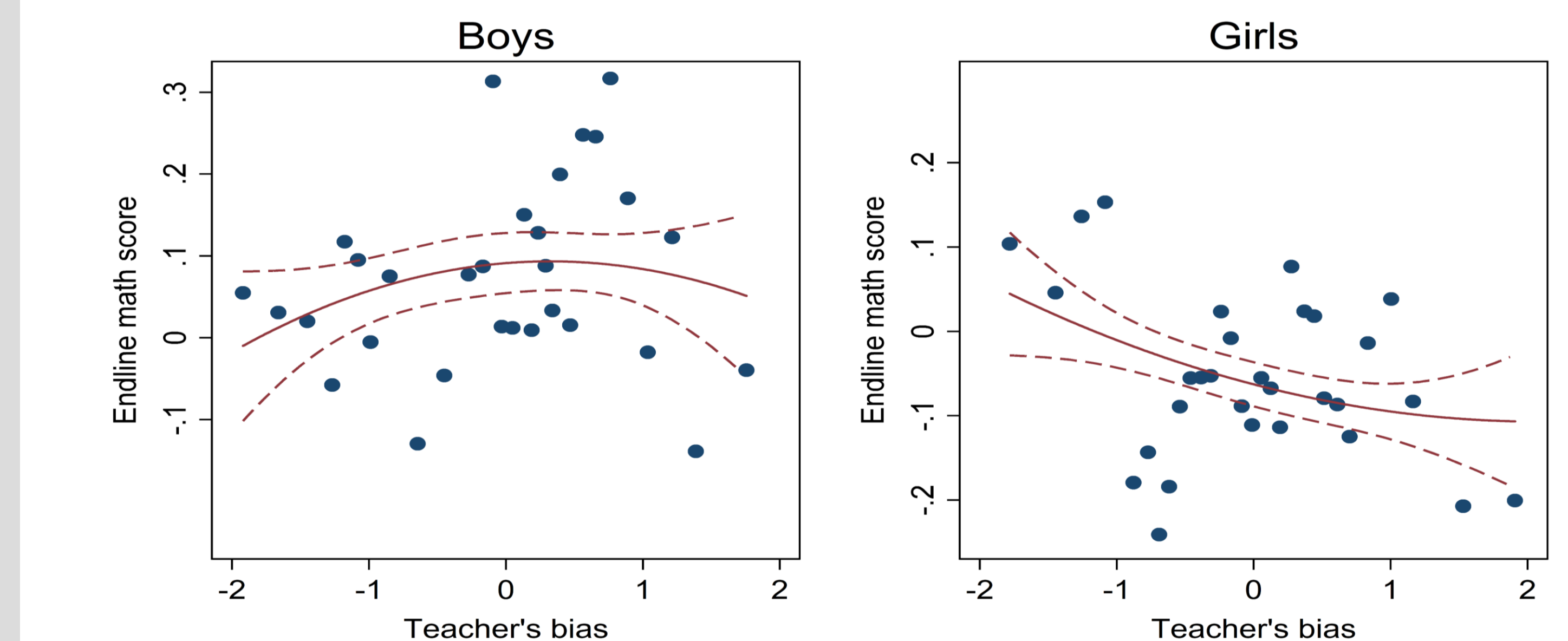
- We investigate the effect of teachers' gender-stereotype on math learning of students
 - Focus on the *gender gap* in math learning
 - Investigate whether teacher's gender matters
 - Mechanisms – students' attitude towards math

Data and measures:

- Young Lives school survey: Matched student-teacher level data on nearly 9000 students from 205 schools in India
- Test scores collected on the same 9th grade students twice: at the beginning and end of the school year
- *Teacher-bias index* derived from teachers' responses in Likert scale (strongly agree – strongly disagree):
 - “Gender can predict how well the student will fare”
 - “Boys are able to do better in studies than girls”
 - And similar questions on *caste* and *class*



Relation between teacher-bias and math score (value added)



Main findings:

- Biased teachers negatively affect girls – widens gender gap in math learning. Effect significant only for male teachers, among medium-performing students, and in male-dominated classes
- Mediation analysis: significant negative effect on girls' attitude towards math

See more in working paper: [GLO Discussion Paper No. 684](#)