

The Influence of Teacher Gender on Student Human Capital Development: An Empirical Study Based on Data from China Education Panel Survey

Wenyan Liang,¹ Tao Li,² Qian He¹

1. Faculty of Education/Capital Institute for Economics of Education, Beijing Normal University, Beijing 100875, China.
2. Institute of Higher Education, Shanghai University of Finance and Economics, Shanghai 200433, China

Abstract: Based on data from China Education Panel Survey, this article examined the impact of teacher gender on student human capital development at the junior secondary education level. The research findings showed that female teachers were more capable of promoting cognitive and non-cognitive ability development of both girl and boy students than their male counterparts; and that student cognitive and non-cognitive performance was significantly and negatively related to the increase in the percentages of male teachers in the class and school.

Best Evidence in Chinese Education 2023; 13(2):1703-1707.

Doi: 10.15354/bece.23.ar036

How to Cite: Liang, W., Li, T., & He, Q. (2023). The influence of teacher gender on student human capital development: An empirical study based on data from China education panel survey. *Best Evidence in Chinese Education*, 13(2):1703-1707.

Keywords: Teacher Gender, Gender Imbalance, Cognitive Ability, Non-Cognitive Ability, Human Capital Development

Correspondence to: Wenyan Liang, Faculty of Education/Capital Institute for Economics of Education, Beijing Normal University, Beijing 100875, China. E-mail: wenyan_liang@163.com

Conflict of Interests: None.

© 2023 Insights Publisher. All rights reserved.



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-Non Commercial 4.0 License

(<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission provided the original work is attributed by the Insights Publisher.

Introduction

Over the past several decades, Chinese basic education staff have been increasingly feminized. From 2001 to 2020, the percentages of female full-time teachers in Chinese primary and junior secondary schools increased from 49.65% and 40.37% to 74.67% and 86.23%, respectively. It sparked wide concern that teacher gender imbalance may pose an unfavorable impact on basic education students, especially boy students, as they are in the critical stage of human capital development (Heckman et al., 2006). As a result, in the teacher training sector, some scholars proposed to encourage male students to apply for universities of teachers by offering preferential conditions such as lowered admission scores and tuition fee reduction to expand the number of male teacher candidates (Zhai, 2013). Some teachers' colleges have formulated and implemented special enrollment policies with which male students could be admitted with lower Gaokao scores, and some local education departments have launched free pre-service education projects for male students. Can teacher gender balance policies successfully promote student human capital development? This study utilized data from China Education Panel Survey (CEPS) 2014-2015 to examine the impact of teacher gender and gender composition on student human capital development and paid special attention to indicators of student cognitive and non-cognitive performance which are closely related to male teachers' advantages.

Data and Variables

Source of Data

This study was based on CEPS' baseline data in the academic year of 2013-2014 and follow-up data in the academic year of 2014-2015. The sample was made up of 9075 junior secondary school students from 111 schools across the country who participated in the survey as the seventh and eighth graders as well as 288 class teachers and 244 math teachers of these students.

Variable Selection

Variables in this study included student human capital (measured by student cognitive and non-cognitive performance); teacher gender; the percentage of male teachers at the organizational level; control variables comprised of student, family, and school characteristics.

Balance Check

To ensure that the fixed effects model of schools was less affected by the sample selection bias, balance check was conducted to confirm there were no correlations between teacher gender and student characteristics among different classes.

Research Findings

The Influence of Teacher Gender on Student Human Capital Development

The benchmark model estimation results showed that in terms of the influence of teacher gender on student cognitive performance, the coefficients of male teachers are significantly negative in the models with student math scores and cognitive ability test scores as dependent variables; regarding the impact of teacher gender on student non-cognitive performance, the coefficient of male teachers is negative but not significant in the model with student creativity as the dependent variable, while in all other models, the coefficients of male teachers are significantly negative. The results indicate that female teachers can generally better promote student human capital development than their male counterparts.

The Teacher-Student Gender Matching Effect in the Influence of Teacher Gender on Student Human Capital Development

To check the teacher-student gender matching effect is to examine whether female teachers can more effectively enhance human capital of girl students than male teachers and whether male teachers can more successfully increase human capital of boys than female teachers. The coefficient of the variable of teacher gender generated by the random intercept model estimation is almost the same in value and significance as that resulted from the benchmark model estimation. The results of the four robustness checks were consistent with the benchmark model estimates, which showed that the latter were basically reliable and validated that compared with female teachers, male teachers have a negative impact on the improvement of student cognitive and non-cognitive performance.

The Effect of Teacher Gender Composition on Student Human Capital Development

With the increase in the percentages of male teachers in the school and class, the growth of human capital among students declined to varying degrees.

Conclusions

It can be concluded that compared with their male counterparts, female teachers can more significantly promote student human capital; that compared with their female counterparts, male teachers are less capable of improving boy students' cognitive and non-cognitive performance (except for creativity); and that the increase in the proportions of male teachers in the school and class negatively affects student cognitive and non-cognitive performance.

The analysis from the perspective of teacher qualifications and behavioral emotions demonstrated that female teachers are more successful in establishing close teacher-student relationships, making students perceive teachers' concern about them, incorporating information technologies into instruction, and delivering praise in proper ways, which all contribute to their outperforming male teachers in promoting student human capital development.

References

- Heckman, J. J., Stixrud, J., & Urzua, S. (2006). The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior. *Journal of Labor Economics*, 24(3):411 -482.
- Zhai, C. C. (2013) Causes of teacher gender imbalance in basic education and countermeasures. *Journal of the Chinese Society of Education*, 2013(3):112-113.

The Chinese version of this article has been published in Education & Economy, 2022, 38(6):35-44. The English version has been authorized for being publication in BECE by the author(s) and the Chinese journal.

梁文艳, 李涛 & 何茜. 教师性别对学生人力资本发展的影响—基于中国教育追踪调查数据的实证研究. *教育与经济*, 2022, 38(6):35-44.

Received: 10 January 2023

Revised: 01 February 2023

Accepted: 04 March 2023