

Do teachers use socio-economic cues to evaluate students? Experimental evidence from Peru

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Motivation

Around the world, there is substantial inequality across income groups in educational attainment. Poor children complete less schooling than their more affluent counterparts, and Peru is not an exception. While resource constraints and differences in parental human capital might explain some of these observed gaps, it is also possible that processes within schools might differentially shape education trajectories for poor and non-poor children. Identifying the drivers of any differences in classroom experiences will be important for devising solutions to equalize opportunities within the classroom. On the one hand, teachers may statistically discriminate against poorer children, using their income status to evaluate their scholastic aptitude, especially when signals of aptitude are noisy (Becker, 1957). On the other hand, a more deep seated preference or taste could also lie behind any bias against poor children.

Intervention

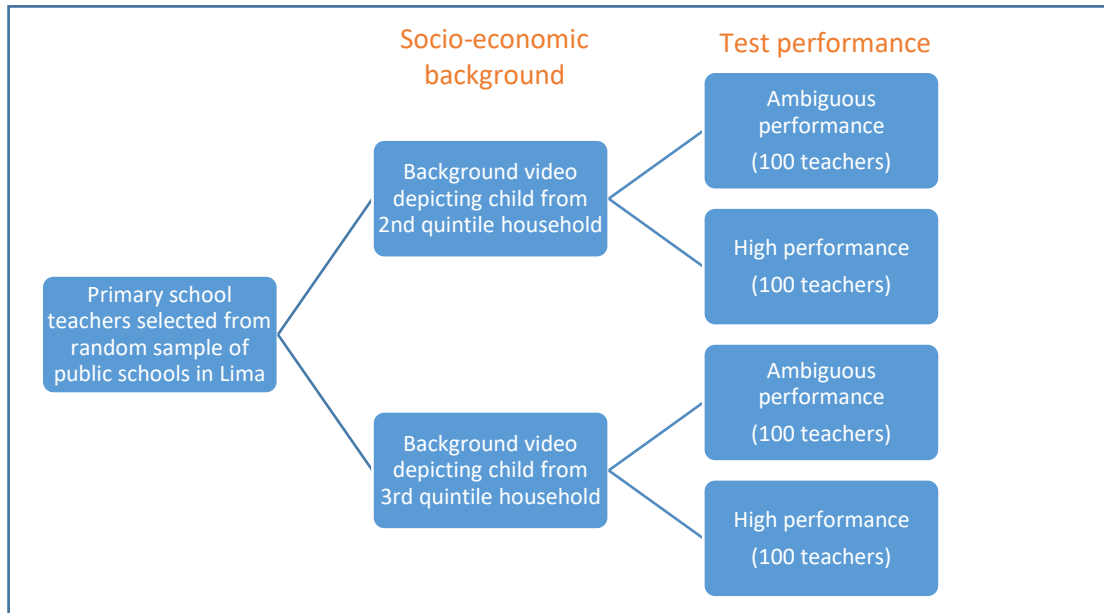
Estimating the magnitude and isolating the impact of such biases is far from straightforward. This study tests whether teachers use students' income to evaluate their scholastic aptitude, behavior, and education potential, using experimental data from teachers in elementary schools representative of the public sector in Metropolitan Lima, Peru. The experimental design was based on a landmark study from psychology (Darley and Gross, 1983), in which subjects viewed a video of a child and teacher in a testing situation, where the child's performance provided a very noisy signal of scholastic aptitude (she correctly answered some difficult questions and incorrectly answered some easy questions). Prior to the testing video, subjects were randomly assigned to two different priming videos that showed the same child playing at home, either in a working class neighborhood or a middle class neighborhood. Subjects tended to rate the child's performance as above grade level when she was depicted as middle class but below grade level when she was depicted as poor, suggesting that socio-economic cues were used to evaluate scholastic aptitude.

This study in Lima extends this previous experiment in two ways. First, subjects in Lima were elementary school teachers rather than university students. Teachers arguably have more experience with evaluating students, and their evaluations can directly affect the educational experiences of children. Second, these teachers in Lima were also assigned to another experimental variant in which the student was an unambiguously high performer both in terms of scholastic aptitude and behavior. Evidence suggests that the use of stereotypes is more limited when the information available provides unambiguous and relevant information to the task at hand (Baron et al. 1995). Under this experimental variant, the student answered most of the questions correctly, and he demonstrated more focus and interest in the test.

Figure 1 depicts the study's experimental set-up. The experiment was implemented on tables, with each teacher randomly assigned a video with one of the four possible combinations of student background and student performance. No background variants were also implemented to test instrument validity.

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Figure 1: Experimental design



Initial results suggest that both statistical discrimination - and potentially taste-based discrimination - affect teachers' evaluations of students. First, in the ambiguous performance variant, when the signal is noisy, teachers use the student's income to evaluate his scholastic aptitude. The poor student was 14 percentage points (or 25 percent) more likely to be rated as performing below grade level. Income priming, however, does not affect their behavioral evaluation of the student. Second, when the testing video instead depicts an unambiguously high performing student, teachers primed to think that the student is poor evaluate his scholastic aptitude as higher than teachers primed to think that he is not poor. In this case, however, teachers provide a significantly harsher evaluation of the poorer student's behavior, especially with respect to his motivation and character. Third, regardless of testing performance, teachers always have lower expectations for the student's final educational attainment when they are primed to think that the student is poor.

This empirical pattern of results suggest that prior beliefs among teachers can predispose them to evaluating poorer students less favorably than their more affluent classmates, even when their scholastic aptitude and behavior is the same. In the ambiguous performance case, the negative stereotype readily finds confirmation in the student's scholastic performance, and teachers accordingly evaluate the poorer student's performance as lower. In the high performance case, when the stereotype cannot be manifest in the scholastic evaluation, it gets transferred to the behavioral evaluation, and teachers thus consider the poorer student to have lower motivation and judge his character more harshly.

Implications

These judgments about a student's scholastic aptitude and their behavior can affect their lifelong academic trajectories through both the grades they receive and the expectations they might sense from their teachers. A recent study from the United States, for example, showed that among children with the same standardized test scores, teachers gave better grades to students perceived to show more self-control and engagement in the classroom (Cornwell et al, 2013). In another study, researchers chose students at random and labeled them as "gifted" to their teachers (Rosenthal and Jacobson, 1968). These fake "gifted" students ended up significantly outperforming the other students. In the context of gender biases, Carlana 2018 finds that higher implicit biases among teachers are associated with a higher gender gap in math performance, lower self-assessment of math abilities among girls, and choice of school tracks among girls.

Despite some recent improvements, results from Pisa tests place Peru among the worst performers in the region. Partly, this has been attributed to the low quality teaching capacities, and the Ministry of Education is currently engaging in a series of actions to improve teacher attitudes and motivation. By identifying the magnitude and potential implications of teacher's preconceptions, this work contributes to build a better understanding of how teacher's attitudes form and how they may affect students' performance.

References

Baron, R.M., L. Albright, and T.E. Malloy (1995). "Effects of Behavioral and Social Class Information on Social Judgment", *Personality and Social Psychology Bulletin*, 21(4):308-315

Becker, G.S. (1957). "The Economics of Discrimination", University of Chicago Press

Carlana, M. (2018). "Implicit stereotypes: Evidence from Teachers' Gender Bias", IZA DP No 11659

Cornwell, C., D.B. Mustard, and J. Van Parys (2013). "Non-cognitive Skills and the Gender Disparities in Test Scores and Teacher Assessments: Evidence from Primary School", *Journal of Human Resources*, University of Wisconsin Press, 48(1): 236-264

Darley, J.M. and P.H. Gross (1983). "A hypothesis-confirming bias in labeling effects", *Journal of Personality and Social Psychology*, 44(1): 20-33

Rosenthal, R., and L.F. Jacobson (1968). "Teacher Expectations for the Disadvantaged", *Scientific American*, 218(4)