

Teachers and the reproduction of educational inequalities: awareness as a powerful leverage to reduce tertiary effects. Evidence from a light touch intervention assessed through a RCT

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Teachers' advice towards upper secondary education is the only guidance device operating at national level in Italy and seems to contribute to the reproduction of educational inequalities, being biased on the basis of students' socio-economic background.

Qualitative studies have analysed the processes of formulation of advice, highlighting teachers' considerations on extracurricular and ascribed element. Quantitative studies have instead studied robust associations between guidance advice and social origins, gender, migration background, showing that these remain even net of student performance. All previous studies did not properly face the issue of causality, especially regarding the mechanisms underlying the detected biases, and did not provide proposals for remedial interventions.

The aim of this study is twofold: i. causally investigating the existence and magnitude of teachers' biases in formulating guidance advice for students with different social and migratory background; ii. causally test whether raising teachers' awareness about this bias and about their role in inequalities reproduction may reduce disparities among students.

In order to pursue the first aim, we implemented a factorial survey experiment. Previous factorial survey experiment about teachers' biases tell us that teachers' expectations are differentiated by students' ascriptive characteristics. Teachers have higher expectations for students whose parents are from socio-economically advantaged backgrounds. Following this line of research, we assessed teachers' bias on a large (non random) sample of teachers, in an on line survey, allowing simulated students characteristics to randomly rotate (gender, social background, migratory background and interest towards different subjects). The survey involved 196 schools and 2,565 teachers, at the beginning of the school year (October and November 2021). Our results confirm the existence of teachers' biases when providing school advice and provide new causal empirical evidence regarding tertiary effects in education.

To assess whether teachers' bias may be reduced raising teachers' awareness, the second aim of the paper, we designed a light touch professional development, implemented on the same sample of teachers. The treatment, developed starting from previous works by Alesina et al. (2018) and Argentin & Gerosa (2022), consisted of

an online light touch training aimed at teachers called to formulate guidance advice and aimed at: i) making them aware of the processes of reproduction of inequalities at stake; ii) provide some recommendations to neutralize these processes. The intervention was delivered through a dedicated web platform.

We assess the impact of this intervention through a randomized controlled trial combined with the factorial survey experiment named above, repeated before and after a teachers' professional development intervention. The 196 schools were randomly assigned to treatment (102) or control group (94).

As stated above, treatment and control group teachers were asked twice, before and after the experimental phase, to express guidance advice in a repeated factorial survey experiment. The second one took place at the end of the school year (May/June 2022), involving 1.352 teachers, allowing to assess the impact on teachers' biases, looking at their advice to simulated students.

In addition, we collected administrative data regarding teachers' advices provided to real world students during the school year 2021/22.

Coming to results, regarding the first aim of the paper, the factorial survey experiment showed that teachers' guidance is strongly affected by students' social and migratory background. Lyceum is less recommended to pupils from lower parental social classes (minus 20 percentage points, comparing working class to service class).

About the RCT, the information treatment generated among teachers a reduction in the bias in the guidance advice, as estimated by the second factorial survey experiment: the difference in recommending a lyceum to children of working class compared to service class reduced to 15 percentage points among treatment group teachers and raised to 26 percentage points among the controls.

Also real world effects, despite small are relevant and goes in the expected direction. Treated teachers corrected their advice, at the extremes of school tracking distribution (higher lyceum and vocational track).

The differences detected between treatment and control groups, both in the simulated and real world advices, show a reduction of the biases due to students' parental education and social classes. Our results prove that awareness is a powerful leverage to reduce tertiary effects in education and provide hints for a promising program of future actions, to counteract social inequalities in education.