The psychological effects of academic labeling: The case of class tracks

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ABSTRACT

This paper studies the psychological effects of academic labeling. Exploiting the class tracking policy in a Chinese university, we identify the psychological impacts of the academic labels associated with class tracks on the students via a regression discontinuity design in the track assignment rule. We establish causal evidence of positive effects of a better academic label on the academic self-concept and self-expectation of students as well as their academic interest. Our setup ensures that the identified effects of the labels are through the mechanism of student responses, not teachers and schools, suggesting that previous literature focusing on the mechanism of teachers and schools may have neglected an important channel through which academic labels may impact students.

1. Introduction

Students are usually given a range of labels by their teachers and parents, their peers and themselves during their school lives–"gifted and talented students", "slow learners", "trouble makers", etc. Some of the labels are positive while others are negative. How these labels may affect the labeled students has interested educational sociologists for decades. However, there are few opportunities to observe random assignment of labels to students in reality and, thus, there exists little empirical evidence of the causal effects of labeling in education.

Pioneered by Becker (1963), labeling theory gained its prominence in studies of deviant behaviours during the 1960s and 1970s. Since then, its application has been expanded to other areas including education (Rist, 1977). To investigate how academic labeling leads to self-fulfilling prophecy, education sociologists focuses on the mechanism of teachers and schools. Recently, academic labels have attracted the attention of economists (Papay et al., 2016; Foote et al., 2015; Avery et al., 2017). The economists focus on how the information carried by the labels may affect the education decisions of the students, establishing a causal relationship between the labels and the education decisions of the students. Interestingly, Papay et al. (2016) present an indirect evidence that the education decisions made by the students are unlikely to be the results of being influenced by their teachers, suggesting that another significant mechanism of students directly responding to the labels may be at play alongside the mechanism of teachers and schools.

This paper investigates the direct psychological effects of academic labeling on the students. Exploiting a regression discontinuity (RD) design in the English education in a Chinese university, we study the psychological effects of assigning students to different English education tracks. Tracking of students naturally creates labels with the students in the advanced track being labeled as "advanced learners" while those in the standard track being "ordinary learners" (Henceforth, we refer to the former label as the advanced label and the latter as the ordinary label.). Our results show that the labels have significant psychological impact on the students, establishing an evidence that academic labels do influence students' self-perception. In particular, comparing with the

students with the ordinary label, the students with the advanced label have superior academic self-concept[1] and higher expectations for themselves. They also become more interested in English language and English literature. We also examine how the students behave after spending one term in different English tracks. This may shed light on the interaction of the effects of labeling with the effects of tracks. Our evidence suggests that the effects of academic labeling may be offset by the effects of tracks.

Our study focuses on the response of the students to the academic labels without the influence of their teachers. It is facilitated by a survey of all students conducted by the Office of the University Registrar to collect information of English learning. The timing of the survey is critical for our identification. The survey was carried out after the students are informed about their track assignment, but before the start of the courses. Since the students have not met their teachers, we are able to examine the direct psychological effects of the labels on the students without the confounding effects of teachers. Our study complements Papay et al. (2016) by focusing on the noncognitive dimensions of the effects of academic labels. Formation of self-concept and self-expectations are important for education decisions (Kaufman, 1999; Loewenstein, 2000; Akerlof and Kranton, 2002) and education achievements (Flook et al., 2005; Jacob and Wilder, 2011) as well as future development beyond education. Our findings also corroborate those of Papay et al. (2016) by presenting an explicit, rather than indirect, empirical evidence of students directly responding to the labels assigned to them.

We also contribute to the literature on the big-fish-little-pond effect (BFLPE). The literature posits that the BFLPE is the net effect of a stronger negative contrast effect (a more demanding basis of comparison to compare their accomplishments to those of their peers) and a weaker positive assimilation effect (feelings of pride in belonging to a high-achieving group) (Marsh, 1987; 1991). Unlike the contrast effect which has been robustly identified empirically, the assimilation effect remains largely theoretical and is believed to be illusive (Marsh et al., 2000; Trautwein et al., 2009). The timing of our survey provides an opportunity to study the assimilation effect. Since the students had not met their classmates at the time of the survey, there is little contrast effect. Our findings suggest that when students realise that they belong to the group with superior academic skills, they form higher academic self-concept, establishing an empirical evidence that the assimilation effect does exist.

Last but not least, we contributed to the extensive literature on the effects of attending elite schools and classes. For recent studies in Chinese context, please see Park et al. (2015), Ma and Shi (2014), Dee and Lan (2015). Previous literature investigates the effects on education outcomes and emphasises the effects of course content and classroom peers (Nomi and Raudenbush, 2013). To the best of our knowledge, no previous study has distinguished the labeling effects and the treatment effects, nor directly examined the effects of elite classes on noncognitive skills. Yet, noncognitive skills are important for the future development of the students (Heckman and Rubinstein, 2001) and are strong predictors of cognitive skills (Bowles and Herbert, 1976).

The rest of the paper is laid out as follows. In Section 2, we introduce the background information about the class tracking policy of the university. Section 3 presents our data. In Section 4, we discuss our RD identification strategy and verify the validity of our RD design. Section 5 reports the empirical results of this paper, the effects of academic labels on academic self-concept, self-expectation of English skills, and the interest in English language and English literature. Section 6 verifies the robustness of our empirical results. Section 7 examines the academic behaviours of the students after they spend one term in the university. Section 8 concludes.

2. Background

The tertiary education in China puts much emphasis in English education. The Ministry of Education published the *Curriculum of English Education* in 1985 and required all Chinese universities to follow the curriculum in their English education. Revised in 2007, the newest version of the curriculum requires all universities to adopt class tracking policy. The Ministry also offers two standardised English tests to university students twice each year, once in June and once in December. The test at the elementary level is the College English Test Band 4 (CET4) while the more advanced test is the College English Test Band 6 (CET6). The full scores of both tests are 710. All students are required to pass the CET4 to complete their graduation requirements. The CET6, on the other hand, is optional.

Our study was conducted at an elite university in Beijing whose freshmen cohort has about 2000 students on average. Class tracking policy has been implemented in English education since 2002. All first-year students must take a diagnostic English test after entering the university and are assigned to two tracks of English education based on their scores. Students who score higher than the cutoff threshold are assigned to the advanced track while those with scores lower than the cutoff threshold are assigned to the standard track. In Fall 2016, the cutoff threshold was set at 79 out of a full score of 100. The assignment rule is sharp, i.e. there is no exception. The students are informed about their track assignment after their orientation and before the start of their English classes.

Some students are exempted from the class tracking policy. The students from the College of English and those from special programs are excluded because their English education follows different curricula which are more rigorous.

3. Data

Our data set combines the data from a survey of English study and the administrative data of the first-year students in 2016. Both data are provided by the Office of the University Registrar. The survey of English study was carried out at the beginning of the Fall semester of 2016. First-year students enter the university in the fall semester each year and spend the first three and half weeks in orientation. On the Thursday of the fourth week, their timetables are released together with their track assignment and scores on the

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[1] Also known as self-identity, self-concept is the belief about oneself (Myers, 2009). In this paper, we focus on academic self-concept, the belief about one's academic ability.