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A Community College Instructor like Me: Race and Ethnicity Interactions in the Classroom

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A community college instructor like me: Race and ethnicity interactions in the classroom

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Abstract:

This paper uses detailed administrative data from one of the largest community colleges in the United States to quantify the extent to which academic performance depends on students being of similar race or ethnicity to their instructors. To address the concern of endogenous sorting, we use both student and classroom fixed effects and focus on those with limited course enrolment options. We also compare sensitivity in the results from using within versus across section instructor type variation. Given the computational complexity of the 2-way fixed effects model with a large set of fixed effects we rely on numerical algorithms that exploit the particular structure of the model's normal equations. We find that the performance gap in terms of class dropout and pass rates between white and minority students falls by roughly half when taught by a minority instructor. In models that allow for a full set of ethnic and racial interactions between students and instructors, we find African-American students perform particularly better when taught by African-American instructors.

JEL Code: I20, I23, J24, J71

Keywords: Higher Education, Student Outcomes and Skills, Teacher and Student Interactions, Economics of Minorities and Race, Discrimination, 2-way Fixed Effects Models

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Executive Summary

This paper uses detailed administrative data from one of the largest community colleges in the United States to quantify the extent to which academic performance depends on students being of similar race or ethnicity to their instructors. We focus on the differential effect between minority and non-minority students of being assigned to a minority-instructor in the same class, a variable that varies both within student and within a class. As a consequence, we are able to estimate models that simultaneously include student and classroom fixed effects, thus eliminating biases coming from student specific differences common across courses and classroom specific differences common across classmates. It also leads to standardized grade outcomes, since we are only using within-class differences among students facing the same grading standards. To further address the concern of endogenous student sorting, we focus on those with limited course enrolment options due to a low standing on course priority lists that is not related to past academic performance. Given the sample size – we observe over 30,000 students in nearly 21,000 classes – estimation of this model by conventional algorithms is computationally infeasible. We thus rely on an algorithm that has been applied to the estimation of firm and worker fixed effects in large administrative data.

We find that minority students perform relatively better in classes when instructors are of the same race or ethnicity. Blacks, Hispanics, Asians, and Native Americans are 2.9 percentage points more likely to pass courses with instructors of similar background and 2.8 percentage points more likely to pass courses with underrepresented instructors. These effects represent roughly half of the total gaps in classroom outcomes between white and underrepresented minority students at the college. The effects are particularly large for Blacks. The class dropout rate relative to Whites is 6 percentage points lower for Black students when taught by a Black instructor. Conditional on completing the course, the relative fraction attaining a B-average or greater is 13 percentage points higher. We estimate relative grade score effects ranging from 4 to 8 percent of a standard deviation from being assigned an instructor of similar minority status.

Taken together with the large class dropout interaction effects, these impacts are notably larger than those found for gender interactions between students and instructors at all levels of schooling. We present evidence that they are likely due to students behaving differently based on minority status of instructors rather than the other way around.

Our results suggest that the academic achievement gap between White and underrepresented minority college students would decrease by hiring more minority instructors. However, the desirability of this policy is complicated by the finding that students appear to react positively when matched to instructors of a similar race or ethnicity but negatively when not. Hiring more instructors of one type may also lead to greater student sorting and changes to classroom composition, which may also impact academic achievement.