

**Mathematics Course-Taking and the SAT Score Gap:
A Case Study of 151 Los Angeles County Public High Schools**

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Abstract

The large racial/ethnic gap in SAT scores concerns many educational policymakers who fear that Latinos will have an increasingly difficult time competing for the limited seats at the nation's most selective colleges and universities. This dissertation analyzes the relationship between mathematics course-taking and SAT math scores among college-bound seniors to better understand differences in academic preparation among racial/ethnic groups. Although Latinos have made important gains in advanced mathematics course-taking in the past decade, they continue to trail their White and Asian counterparts. This finding is important because many studies link mathematics course-taking with higher standardized test scores and future educational opportunities.

Despite the increasing belief in the link between course-taking and standardized test scores, little is known about Latino mathematics course-taking in Los Angeles County (LAC), a multi-ethnic metropolitan area with the nation's highest concentration of Latino students. In this study, I use data from the College Board's 1996 Student Data Questionnaire (SDQ) to examine the relationship between mathematics course-taking and SAT math scores in a sample of 18,169 college-bound seniors in 151 LAC public high schools. I use OLS multiple regression to explore the variation in SAT math scores across LAC schools.

Although my principal interest concerns Latino students, I answer three research questions separately for Black, White, and Asian students. The first question examines variation in student SAT math scores across LAC public high schools, controlling for student socioeconomic status (SES). The second question examines whether the remaining "within-

school” variation in SAT math scores is associated with course-taking choices that students have made. The third question focuses on the differing effects of mathematics course-taking depending upon whether a student is enrolled in a school where average student achievement for their particular group ranks in the top, middle, or bottom third of the county.

This study yields three important findings. First, there are significant differences in mean school SAT math scores across 151 LAC public high schools for all racial/ethnic groups, controlling for student SES. Second, for all groups, patterns of mathematics course-taking significantly impact mean school SAT math scores, controlling for student SES and all existing school-level site differences. Third, for all racial/ethnic groups, the effects of mathematics course-taking on mean school SAT math scores differ significantly in schools with different average student achievement, after controlling for student SES and all existing school-level site differences. Findings from this study should be important to anyone interested in closing the large racial/ethnic gap in SAT scores and improving disparities in college preparation among students enrolled in LAC public high schools.

Please feel free to contact me if you would like to learn more about my dissertation.

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