NEPC
NATIONAL EDUCATION POLICY CENTER

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Newsletter

More Math Matters

More math coursework in high school = more college enrollment.

That's the conclusion of a study conducted by Kramer Dykeman, Jacob Jackson, NEPC Fellow Michal Kurlaender, Beryl Larson, and Sherrie Reed, all of the University of California, Davis.

The study found that college enrollment rates are higher for California high school students who take more than three years of math and who enroll in precalculus, AP statistics, and/or calculus.

It was released in May as part of a massive project, Getting Down to Facts III, which produced 55 technical reports and 22 research briefs reviewing California's public education system. The influential project is the subject of May's *NEPC Talks Education* podcast interview of Stanford Professor Susanna Loeb, who led the initiative. Multiple NEPC Fellows contributed to this effort, with other studies highlighted in future newsletters.

For the math study, the researchers examined the relationship between high school math courses and college enrollment for 344,852 students

who were 12th graders in California high schools during the spring of 2022.

Their analysis found that more students enrolled in college right out of high school, and were more likely to enroll in four-year colleges, if they took four years of math—even after accounting for academic performance in Grade 8, the high schools attended, race, socioeconomic status, and gender.

Coursework also mattered. Students who took advanced math were more likely to enroll in college than were those who stopped taking math after algebra II. Students who took both AP statistics and calculus were especially likely to enroll in four-year colleges. The quantity and intensity of math coursework was especially consequential for students from low-income families.

"Our findings indicate a clear positive association between years of mathematics completed in high school and subsequent college enrollment," the researchers wrote.

They suggested two main explanations for the association between math coursework and college enrollment. One possibility is that students already planning to attend four-year colleges are more likely to take a bigger and more intense math courseload because they believe this will help them gain admission to and succeed at four-year colleges. Another possibility is that additional and advanced math coursework may help students acquire skills, knowledge, and/or support that spurs them to enroll in college and to select four-year schools.

"Whatever mechanism may be at work, evidence suggests that taking more math courses and engaging in advanced math has the potential to narrow the four-year college enrollment gaps between [socioeconomically disadvantaged] and non-[socioeconomically disadvantaged] students," the researchers write.

They note, however, that enrollment in advanced math coursework in the state has declined in recent years among high school seniors.

"Whatever the reason, the prominent role of advanced math in college attendance, combined with the trend that fewer seniors are taking math-

ematics, means that fewer students have the opportunity for college enrollment and for 4-year enrollment in particular," they conclude. "Future policy efforts could focus on strengthening opportunities for additional years of math enrollment through default course scheduling, partnerships with colleges for dual enrollment expansion, and through advising practices."

NEPC Resources on Math Education

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