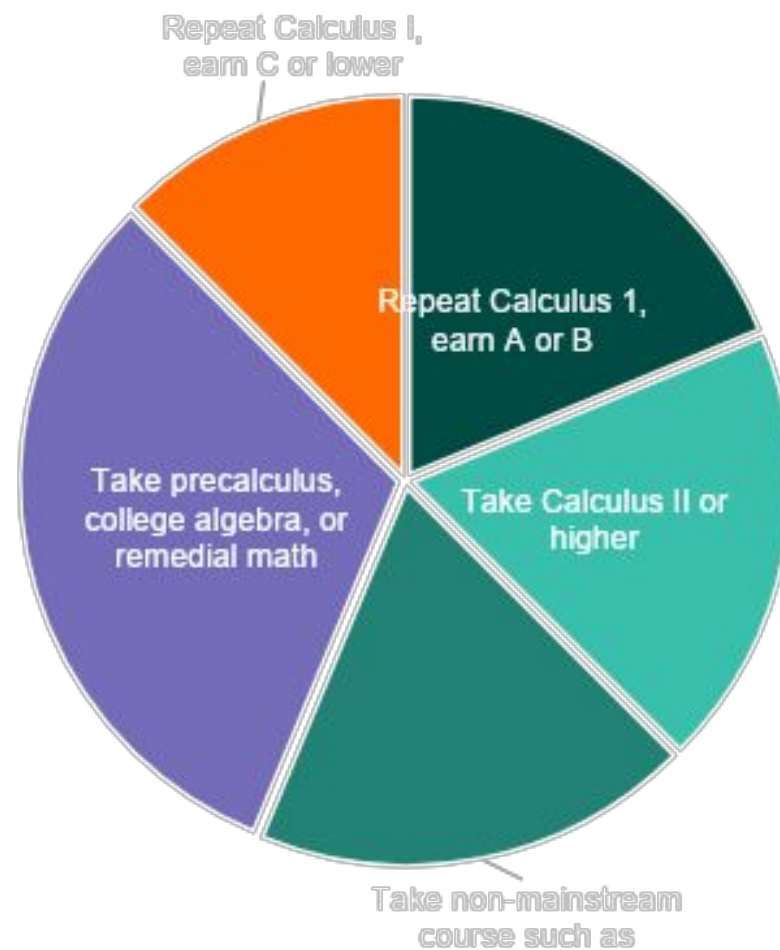


FIRST COLLEGE MATH COURSE FOR THOSE WHO TOOK CALCULUS IN HIGH SCHOOL



Source: Bressoud, 2017

ALIGNING K-12 MATH WITH COLLEGE ADMISSIONS

“

“While there is an important role for calculus in secondary school, the ultimate goal of the K–12 mathematics curriculum should not be to get into and through a course of calculus by 12th grade, but to have established the mathematical foundation that will enable students to pursue whatever course of study interests them when they get to college.”

- *Mathematical Association of America & National Council of Teachers of Mathematics, 2012*

“

“Calculus is the gold standard that people in this business use as a shortcut.”

“We recommend that all applicants take calculus, if it is available to them.”

“We expect to see math through calculus. Students without calculus are much less likely to succeed in our curriculum.”

-admissions officers

... BUT IT SEEMS TO WEIGH HEAVILY IN ADMISSIONS

Does calculus give applicants an edge in the admissions process?

Yes or It Depends

53 percent

No

47 percent

Students who take high school calculus are more likely to succeed in college.

Agree

79 percent

ADMISSIONS OFFICERS DISCOUNT STATISTICS

Which advanced high school math courses carry the most weight for admissions?

AP Calculus	75 percent
Calculus	73 percent
Precalculus	50 percent
AP Statistics	38 percent

“

“It’s like an arms race for taking the higher-level courses, and the more everybody takes, the more everybody else takes.”

“It is deeply problematic that college admission offices—many of which are entirely unaware of how actual math content, sequencing, programs work—use calculus as a benchmark for college admission. It’s one of the most frustrating things about the process.”

-high school counselors

HIGH SCHOOLS SAY STATISTICS IS VALUABLE, BUT NOT FAVORED IN ADMISSIONS

Statistics is valuable preparation for a wide range of college majors.

Agree

96 percent

Calculus outweighs other advanced math, such as statistics.

Agree

61 percent

High school statistics is not as rigorous as high school calculus.

Agree

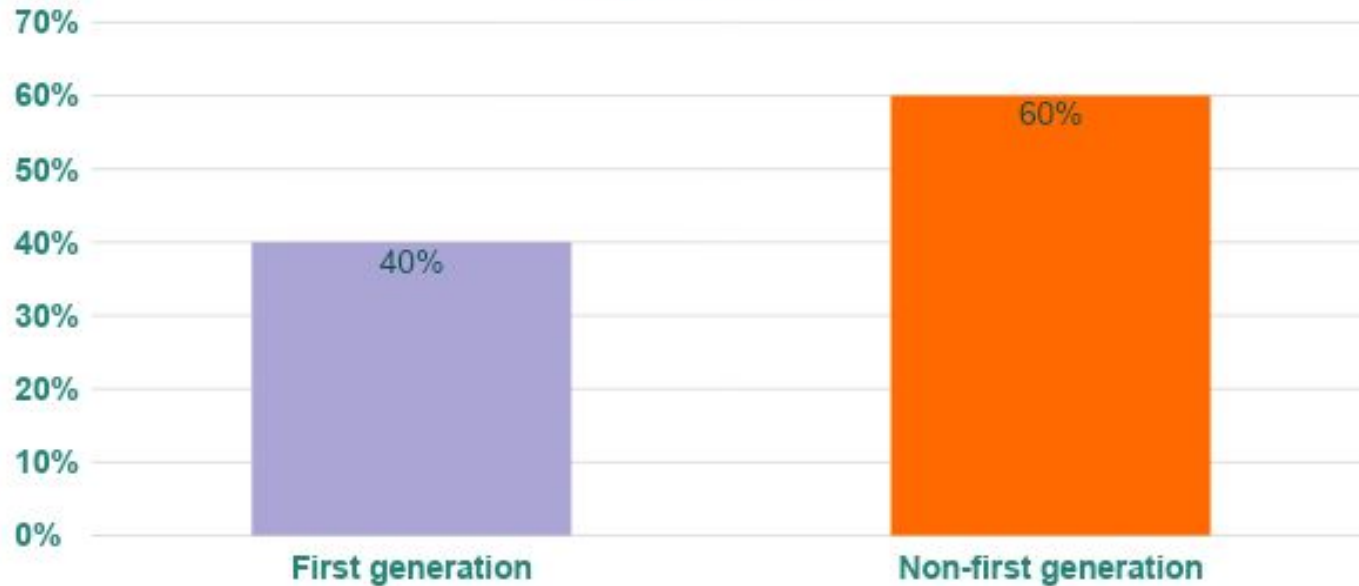
67 percent

“

“In a recent college info session with a highly selective university I was told that 100 percent of admitted students in their engineering program had taken advanced calculus (above BC). This was disheartening, as this is not a course we offer or are able to offer.”

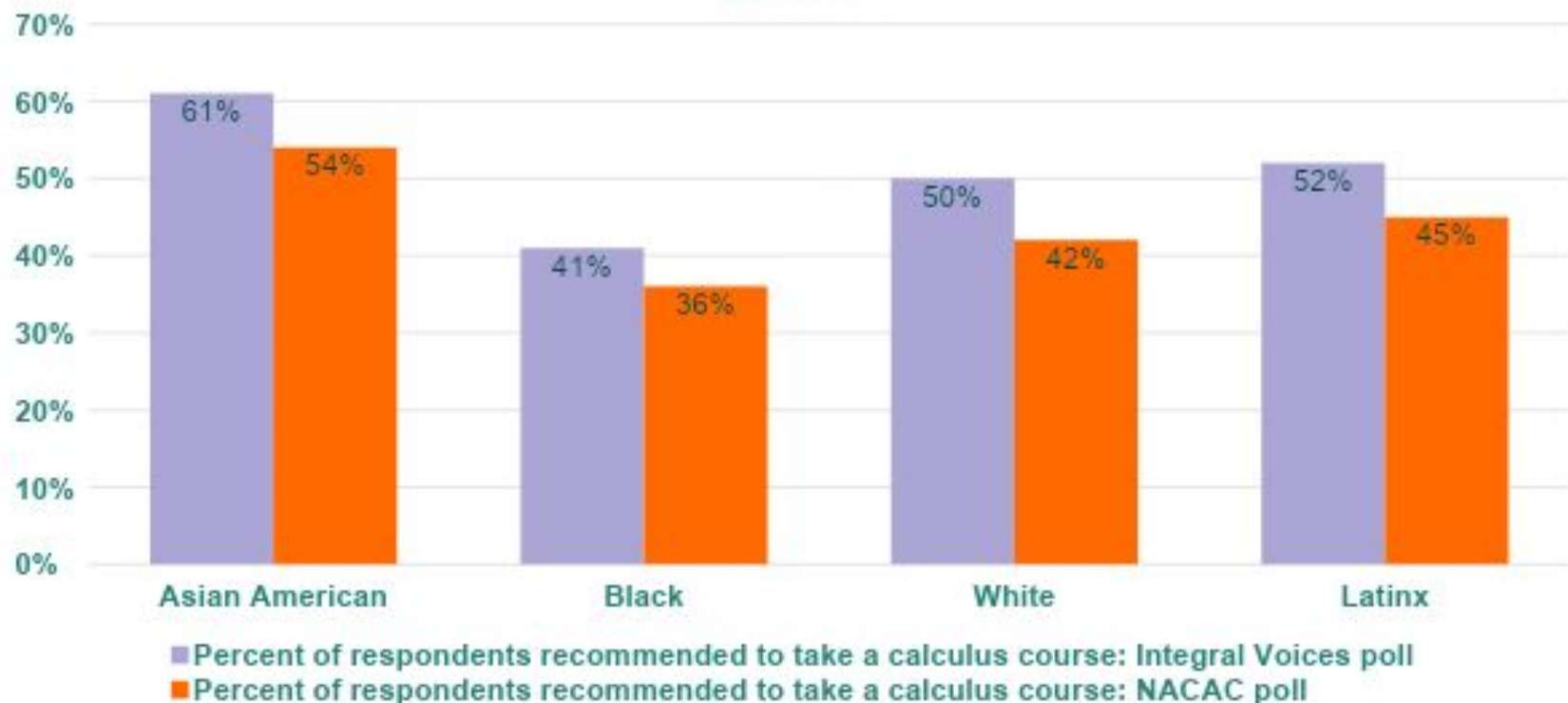
-high school counselor

Parental education and perception of calculus importance

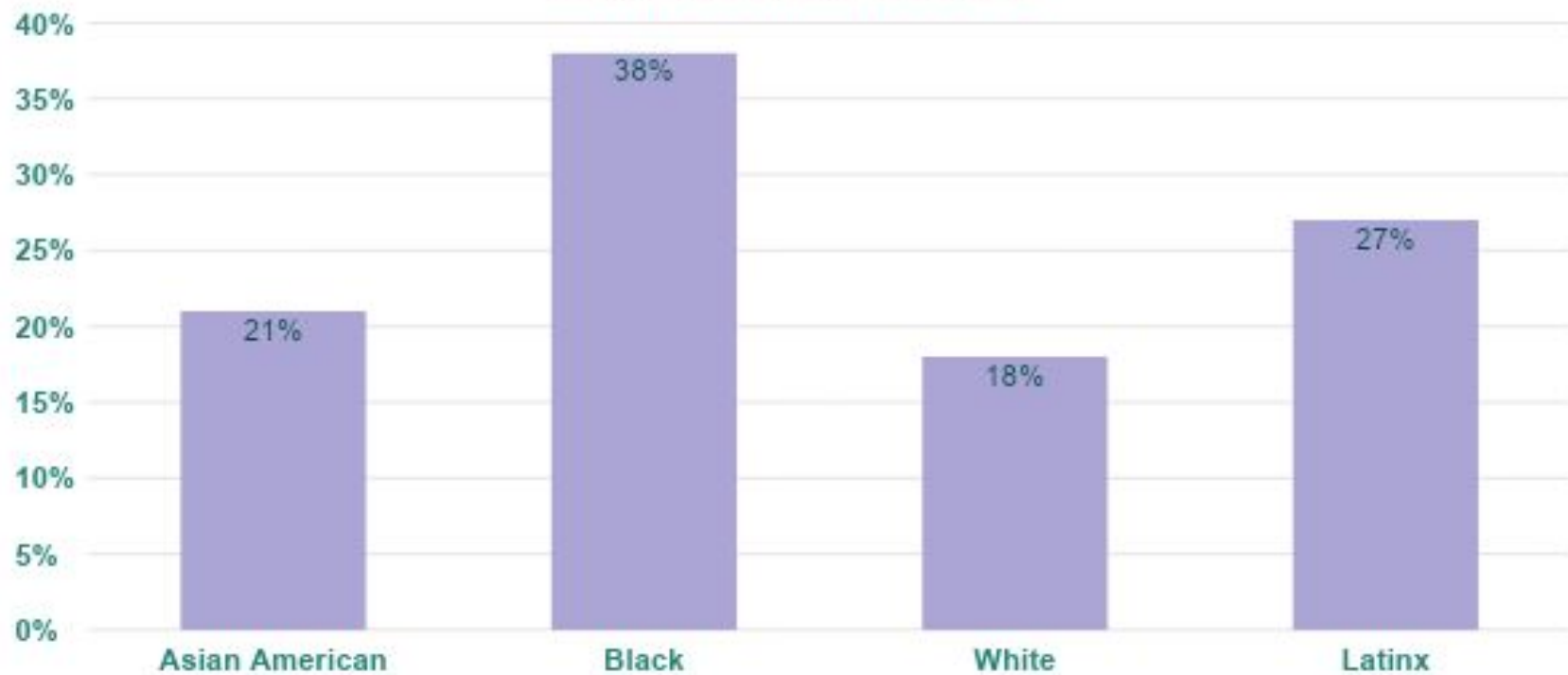


Percentage of students by family educational status who agree with the statement, "Students who take calculus are more likely to be admitted to elite or highly selective colleges." First-generation students are those whose parents did not attend college.

Percent of respondents recommended to take a calculus course



Percent of respondents not recommended to take any advanced math course



“

“So, when I was applying for college, it felt that schools were only looking for AP scores. I mean AP math classes. But my school that I went to didn’t have those.”

“Unfortunately, my high school did not offer AP classes, so I had to do dual enrollment, which made high school a bit challenging.”

— current college students

RECOMMENDATIONS

- Avoid using calculus as a shortcut for evaluating students' potential, especially when the course is not even required for their major.
- Automatic Enrollment
- Expand access to calculus and other advanced math courses so that students can take the courses that best prepare them to reach their college and career aspirations.



THANK YOU

[JustEquations.org](https://www.JustEquations.org)

Questions...

- What is the best way to have an inclusive conversation around data science and statistics in high school?

Questions

- What is missing from the public narrative?

Questions...

- How to get more voices into the public conversation? More spokespeople?

“

“In moving away from test scores, Calculus will be the next frontier for battles of access and equity in higher education.”

- Andy Borst, University of Illinois