COLLEGE MAJOR COMPETITIVENESS AND ATTRITION FROM THE SCIENCES

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* The views in this paper are those of the author and do not necessarily reflect those of the Federal Trade Commission.

RESEARCH QUESTION

How does competition (as measured by peer ability) affect the likelihood that students persist in the sciences?

- Absolute competitiveness of the sciences
- Relative competitiveness of the sciences to the non-sciences

National SAT Percentile Of Average Student By Intended Major Field

	STEM Math Percentile	Non-STEM Verbal Percentile	Difference
Berkeley	93	83	10
UCLA	90	81	9
San Diego	85	78	7
Davis	79	67	12
Santa Barbara	79	69	10
Irvine	79	64	15
Santa Cruz	69	73	-4
Riverside	66	49	17

Institutional Factors that Potentially Affect Student Success

- Academic and Social Norms
- Location
- Faculty
- Infrastructure
- Student Services
- Peers (Study Buddies vs. Competitors)

EMPIRICAL STRATEGY

To isolate the effect of the absolute and relative competitiveness of the sciences, we control for observed and (typically) unobserved:

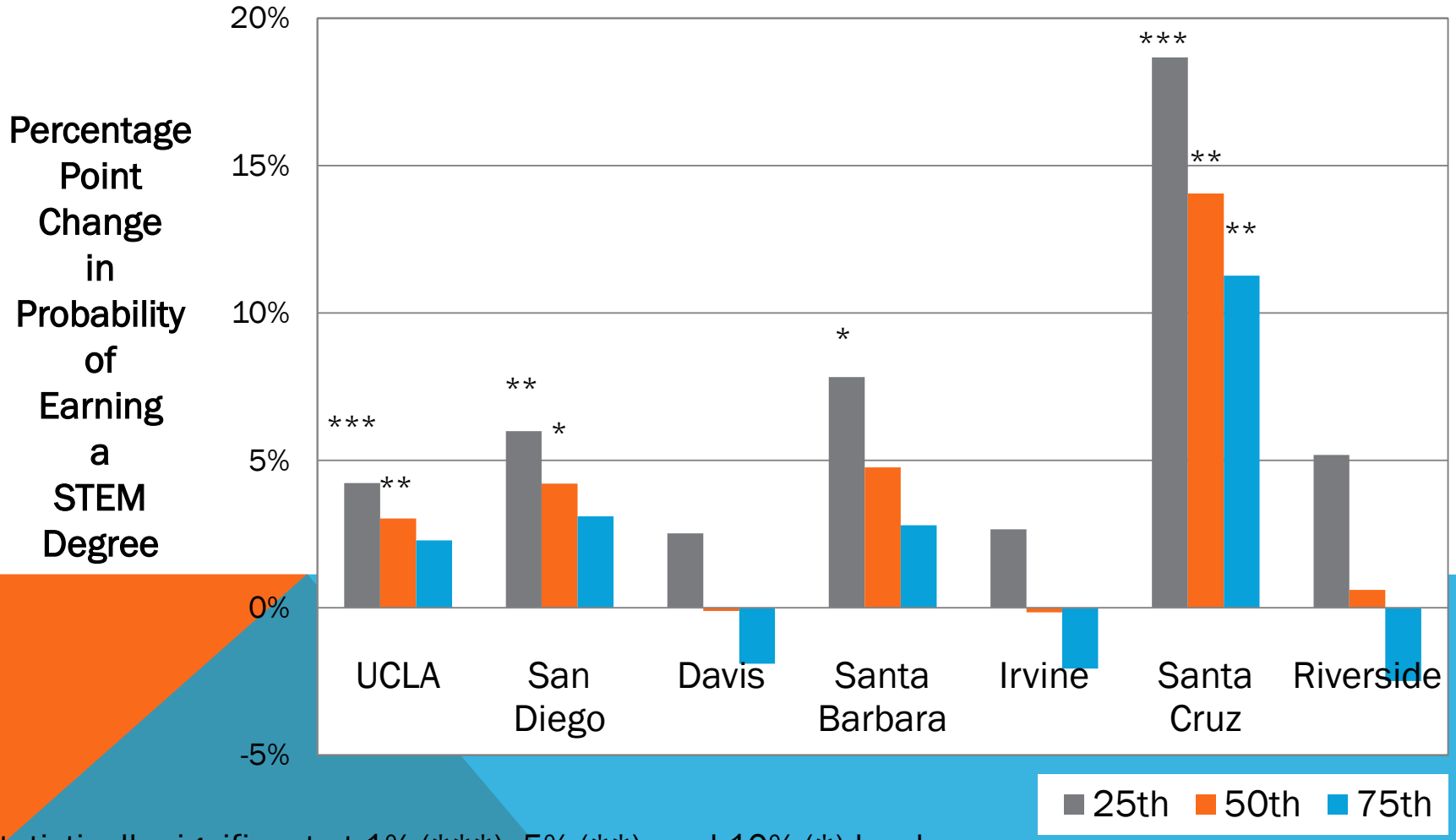
- Student characteristics that drive both enrollment decisions and outcomes.
- Institutional characteristics that are potentially correlated with science competitiveness and student outcomes.

Math SAT Percentiles Of Intending STEM Majors

	SAT I Scores	
	Math	Verbal
UC Sample (1995-2003):		
25th Percentile	570	550
50th Percentile	660	630
75th Percentile	710	630
All US College-Bound (1999):		
50th Percentile	580	550

Effect of Lowering Major Competitiveness From UC Berkeley Levels to those at other UC Campuses

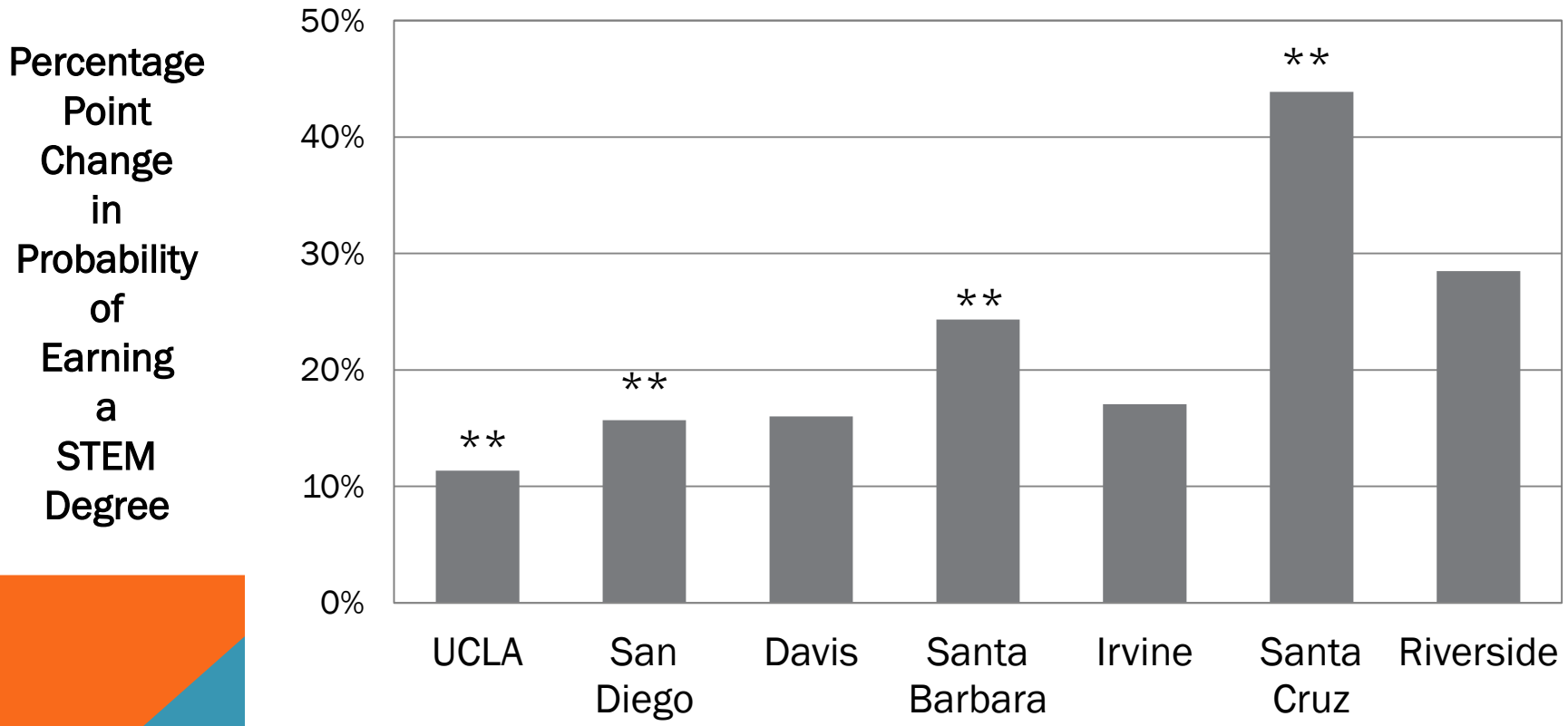
(By Intending STEM Major Math SAT Percentile)



Statistically significant at 1% (***), 5% (**), and 10% (*) level.

Effect of Lowering Major Competitiveness From UC Berkeley Levels to those at other UC Campuses

(For the Average Minority Intending STEM Major)



Statistically significant at 1% (***), 5% (**), and 10% (*) level.

SUMMARY OF FINDINGS

- Both the absolute and relative competiveness of the sciences appear to affect student attrition.
- Non-minorities tend to respond to greater competition by switching out and graduating with degrees in other fields.
- Minorities appear to persist in the sciences in the face of greater competition, but then suffer in terms of grades and graduating.