

*READY OR NOT? CALIFORNIA'S EARLY
ASSESSMENT PROGRAM AND THE
TRANSITION TO COLLEGE*

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Policy Analysis for California Education

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Thank you!

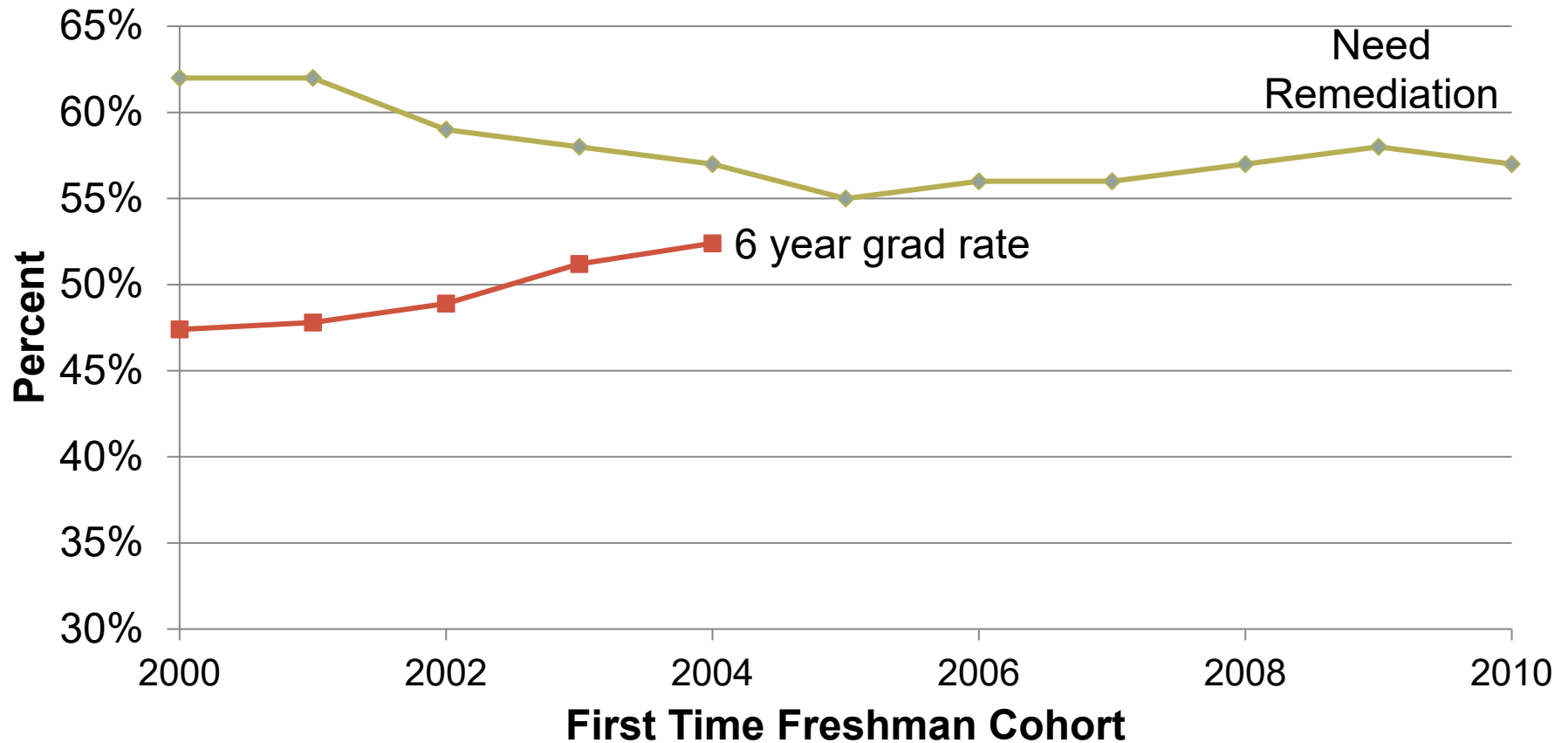
- *Collaborators:* Jake Jackson (University of California Davis), Jessica Howell (College Board), and Eric Grodsky (University of Minnesota)
- *California State University:* Beverly Young, Marsha Hirano-Nakanishi, Carolina Cardenas, Phillip Garcia, Monica Malhotra, Joy Salvetti, Roberta Ching, and Nancy Brynelson
- *California Department of Education:* Deb Sigman, Rachel Perry, and Julie Williams

Policy Context

- College Readiness
 - High college remediation rates
 - Calls for alignment between high schools and colleges
 - Require all high school graduates to complete a college- and career-ready curriculum
- College Completion Agenda
- Common Core standards to promote college and career readiness

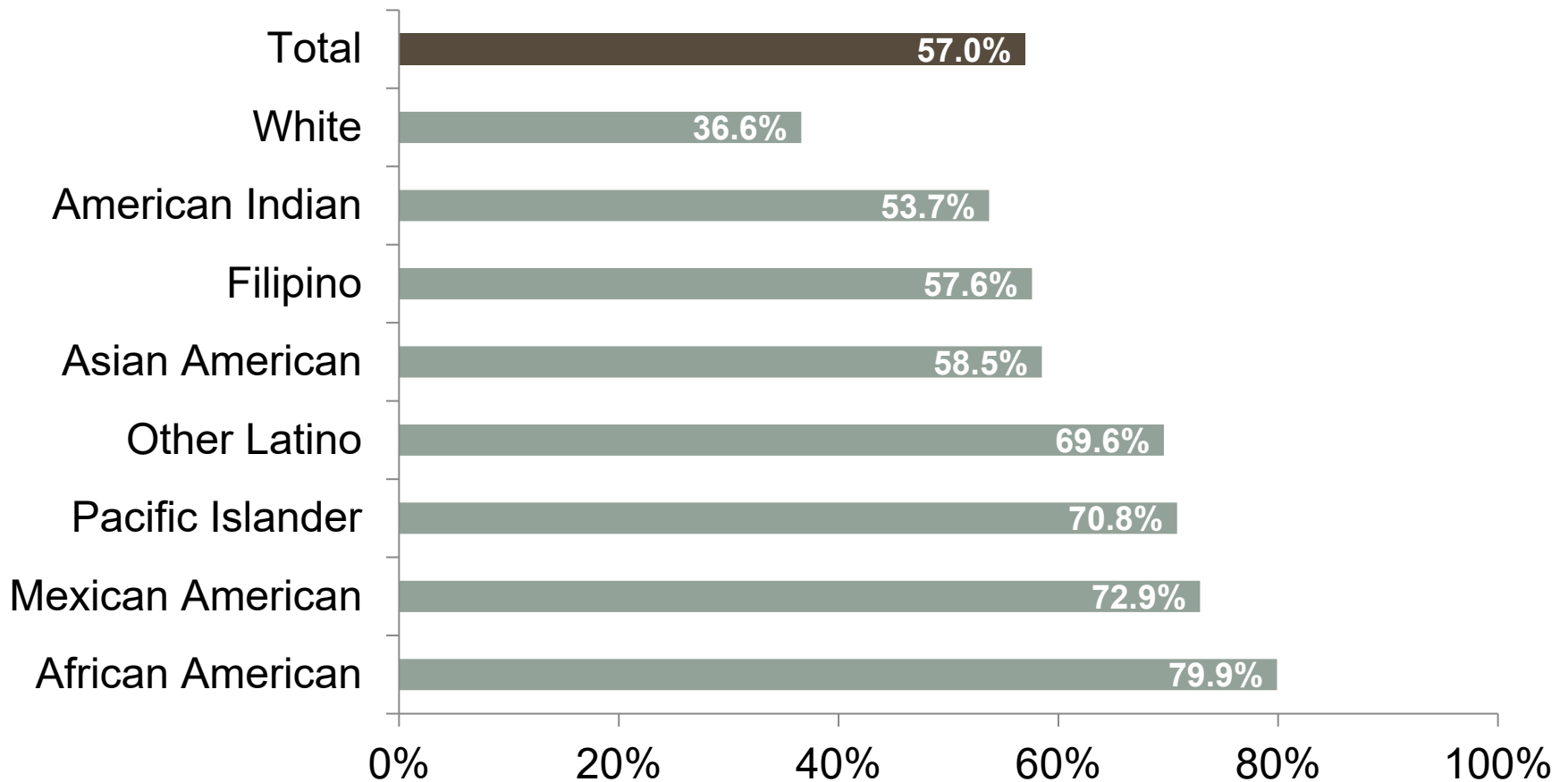
Remediation need at CSU

Percent of students requiring remediation at CSU system and six-year graduation rates by cohort



Remediation need varies by race

Percent of students Requiring remediation at CSU in 2010



Early Assessment Program Overview

- Goals of EAP:
 - Provide an early signal to students about their college readiness
 - California State University collaboration with K-12
 - Provide 12th grade interventions
- Components of EAP:
 1. 11th grade testing (early assessment)
 2. Professional development for teachers
 3. Supplemental preparation for students

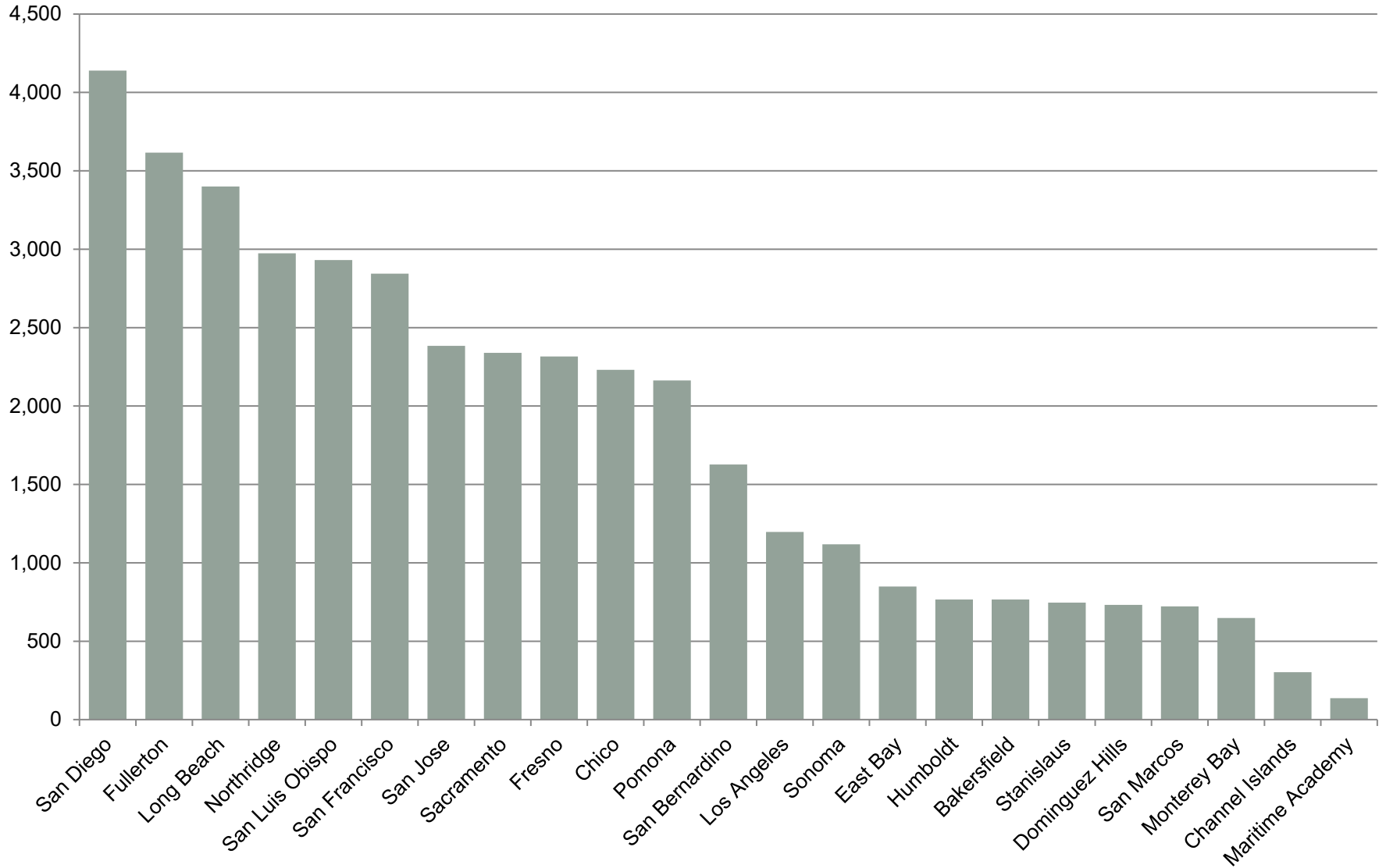
CSU lists the benefits of the EAP

- Aligning school and CSU standards so that success in high school means readiness for the CSU
- Giving high school students an early signal about their college readiness and adequate time to prepare before entering CSU
- Making the senior year a time for more direct and specific preparation for college
- Exempting CSU-ready students from taking CSU placement tests, thereby reducing testing time for students
- Giving more meaning and force to the California Standards Tests (CSTs)

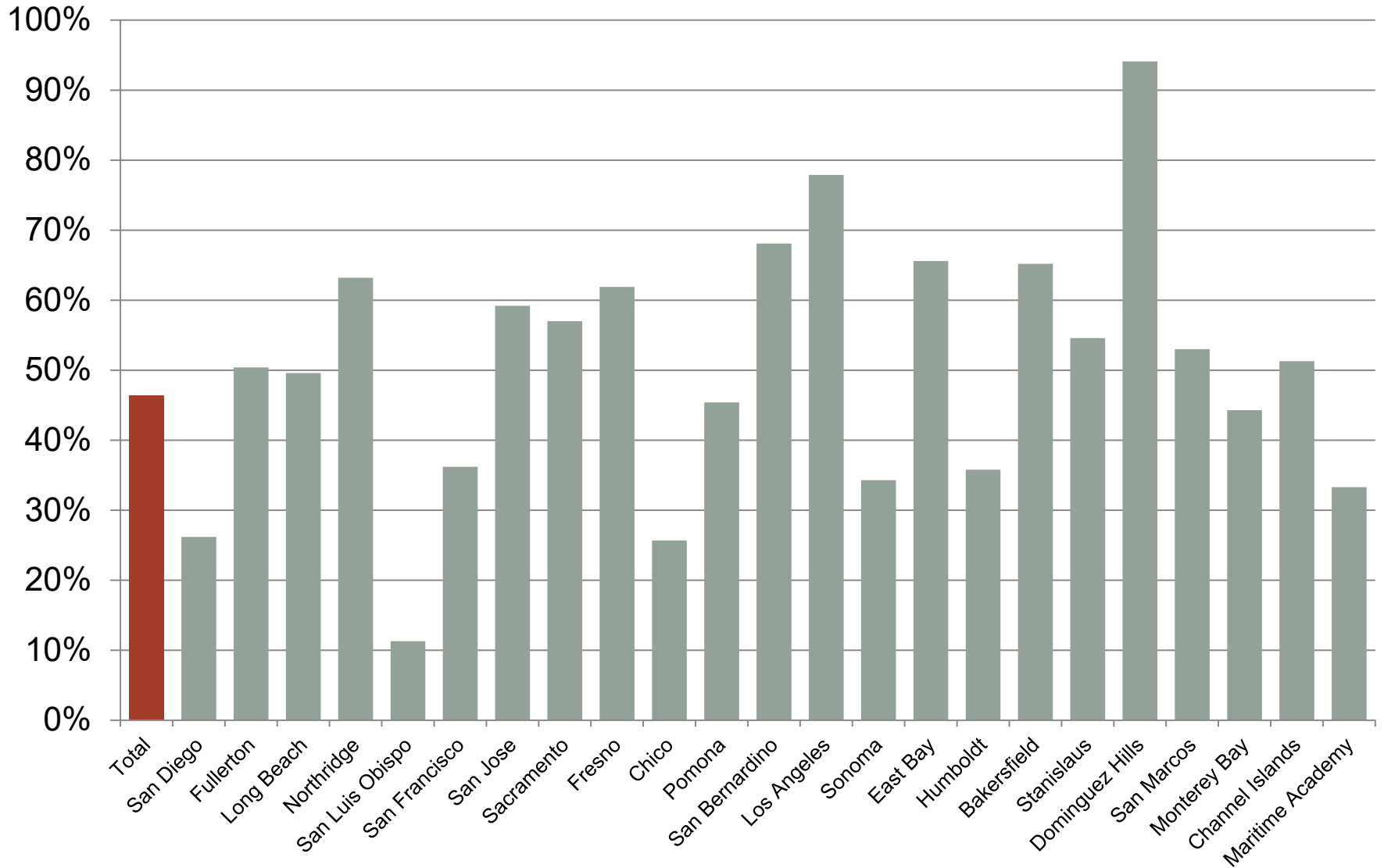
Research Questions

- How does participation in the Early Assessment Program affect the probability of requiring remedial coursework in college?
- Do effects vary with individual and school characteristics?
- How have different levels of EAP participation influenced school-wide measures of college readiness?

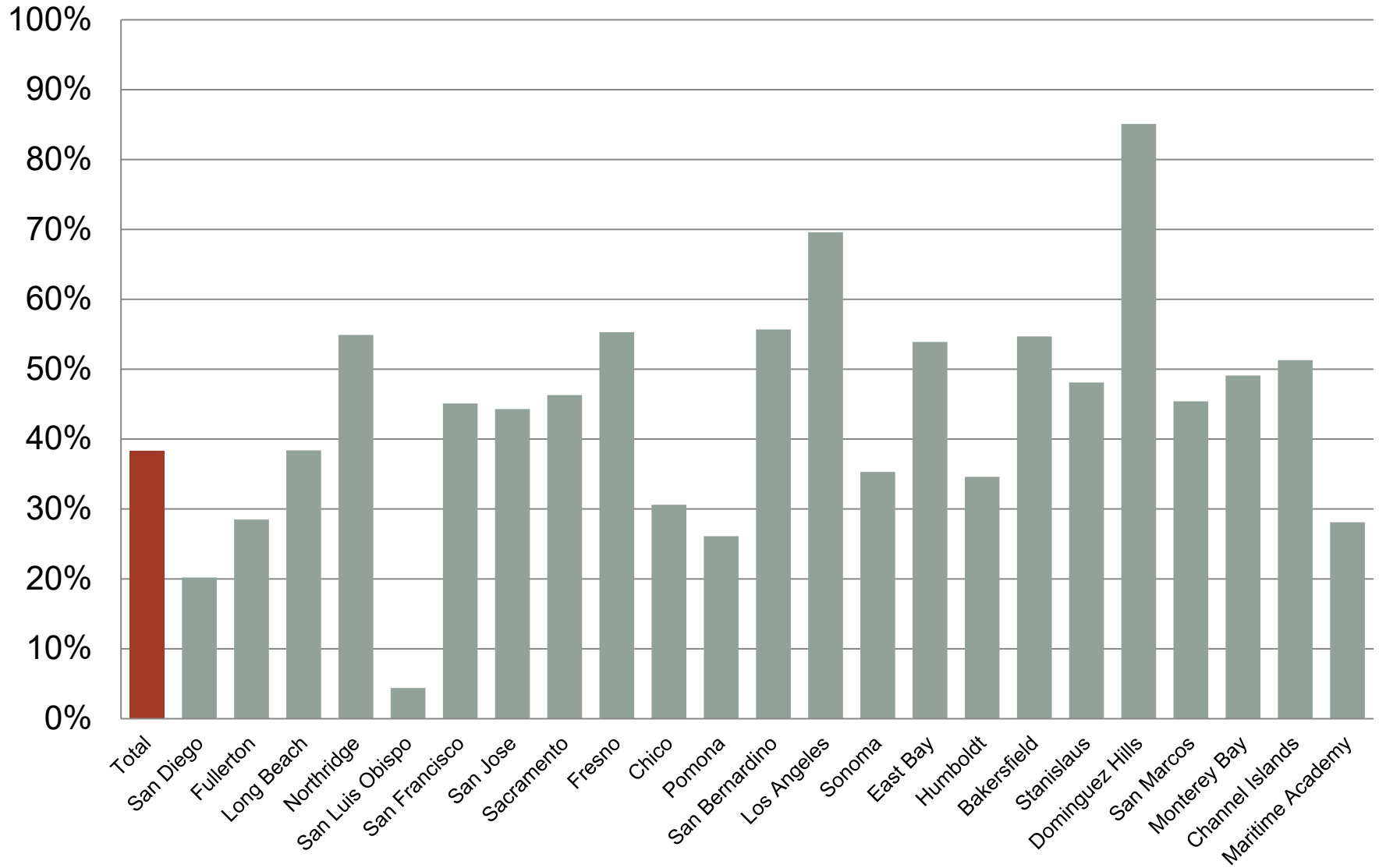
CSU by Campus First-Time Freshmen Enrollment, Fall 2004



English Remediation Need, Fall 2004



Math Remediation Need, Fall 2004



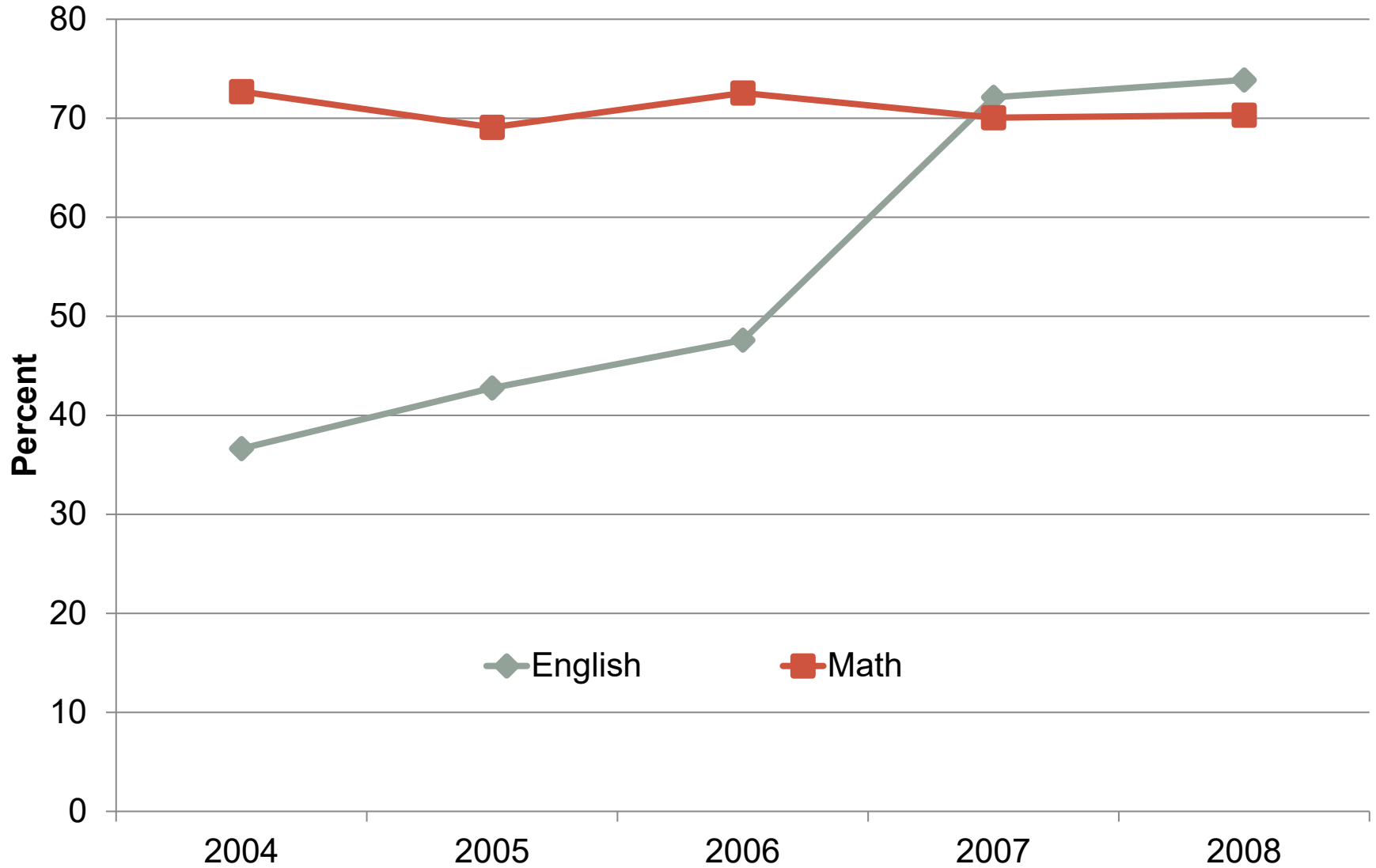
Data

- CSU Chancellor's Office
 - Four cohorts of first-time freshman applicants (2003 – 2006)
- California Department of Education
 - EAP participation by all HS juniors in the state since program inception
 - Matched CSU applicants (enrollees) to CST scores and EAP participation and outcomes

Overview of EAP Testing Component

- **Assessment:**
 - Optional 15 questions on the mandatory 11th grade CST
 - Additional items developed by CSU faculty
 - Score based on CST augmented with EAP items
- **Signal:**
 1. Exempt
 2. Non-Exempt
 3. Conditional Exempt (in math only)

Percent of Eligible Juniors Participating in the EAP Test



Analytic Strategy for Research Questions 1 & 2

- Model remediation need for first-time freshmen in Math and English, respectively, as a function of:
 - Individual characteristics of students
 - Attributes of individual's high school
 - EAP availability
 - Participation in EAP
- Interrupted Time Series—Intuition: Compare similar students in cohorts that had EAP available to those that did not

Characteristics of CSU Enrollees

Pre-EAP

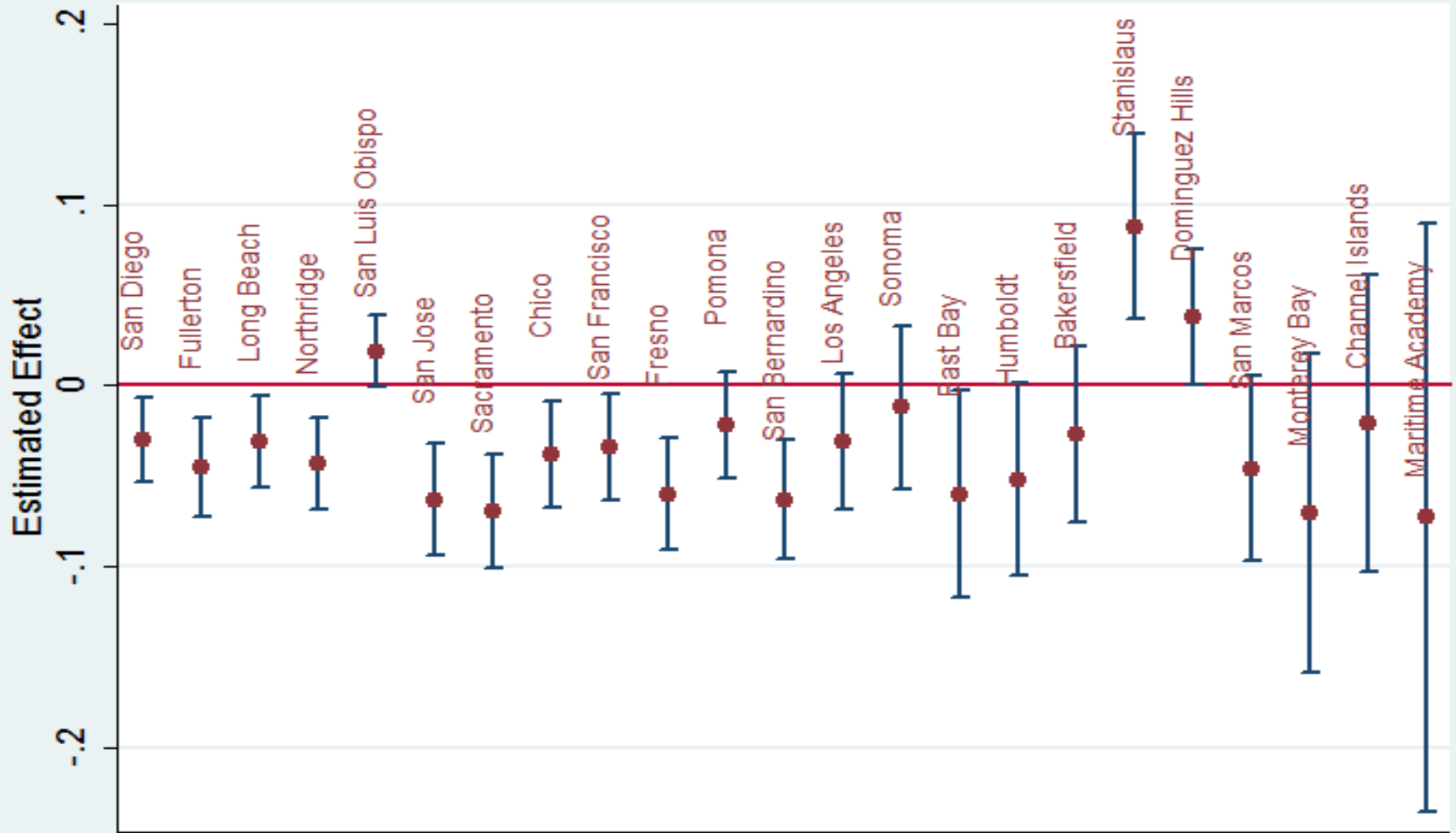
Post-EAP

<i>Proportion</i>	2003	2004	2005	2006
Male	39.0%	39.4%	39.7%	40.0%
White	38.9%	38.1%	36.5%	35.9%
Black	6.5%	6.5%	7.1%	7.3%
Hispanic	24.2%	26.8%	28.0%	29.1%
Asian	13.0%	13.5%	13.5%	13.0%
Other race/ethnicity	17.4%	15.1%	14.9%	14.7%
Mom - College Grad	28.8%	29.5%	29.3%	29.3%
Dad - College Grad	31.7%	32.4%	31.8%	31.1%
Math Remediation	42.4%	38.7%	37.2%	39.9%
English Remediation	49.5%	47.8%	47.9%	47.5%
N	27,436	28,985	32,264	35,667

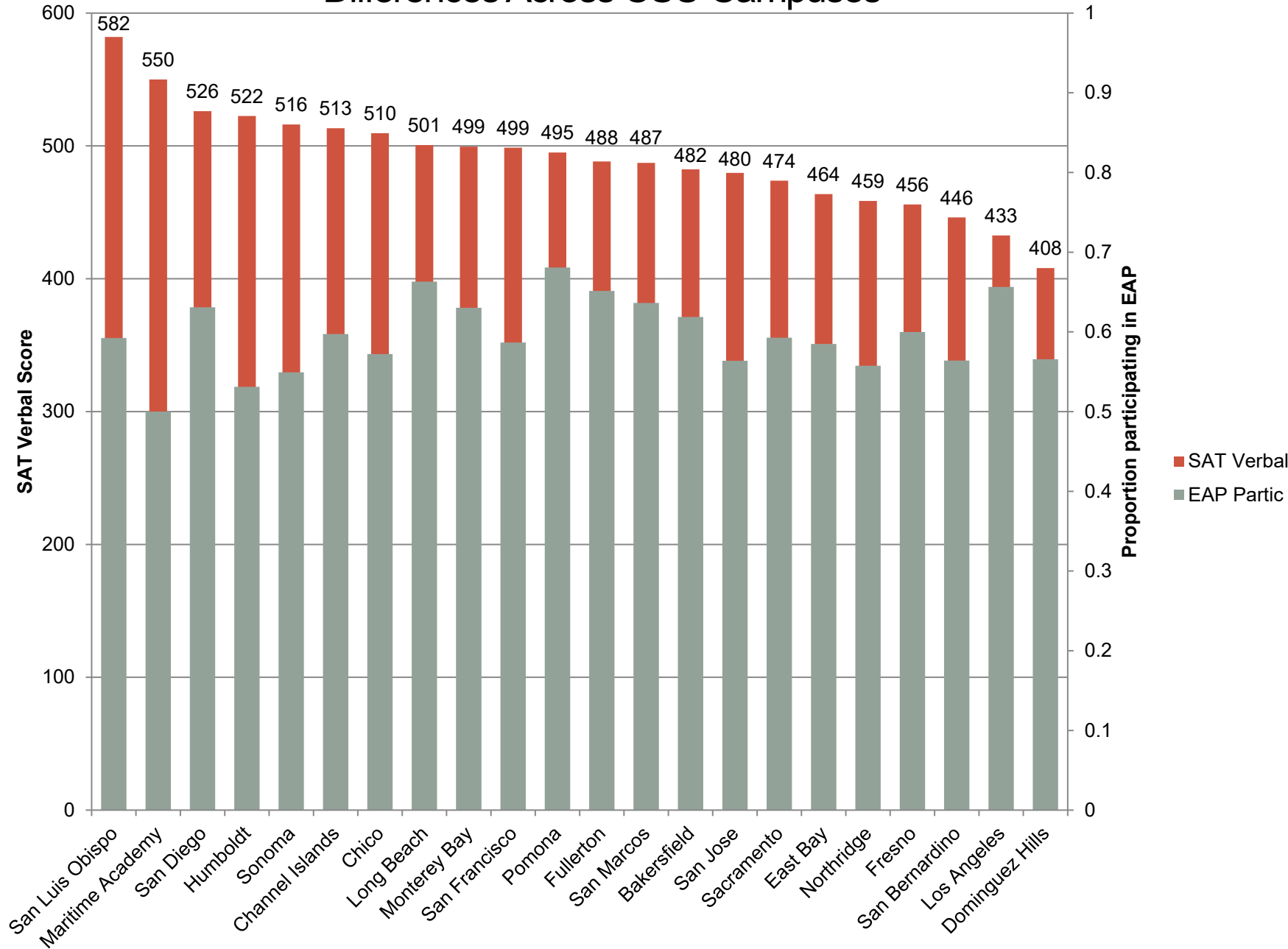
Characteristics of CSU Enrollees

<i>Average</i>	Pre-EAP		Post-EAP	
	2003	2004	2005	2006
ELM Test (math)	42.0	42.8	41.9	43.0
Proportion non-zero	55%	51%	50%	58%
EPT Test (English)	144.9	145.3	145.0	145.2
Proportion non-zero	70%	69%	65%	66%
SAT	998	1005	1006	994
Proportion non-zero	92%	91%	92%	91%
ACT	20.6	20.7	20.7	20.5
Proportion non-zero	24%	24%	23%	24%
High School GPA	3.3	3.3	3.3	3.3
<i>N</i>	27,436	28,985	32,264	35,667

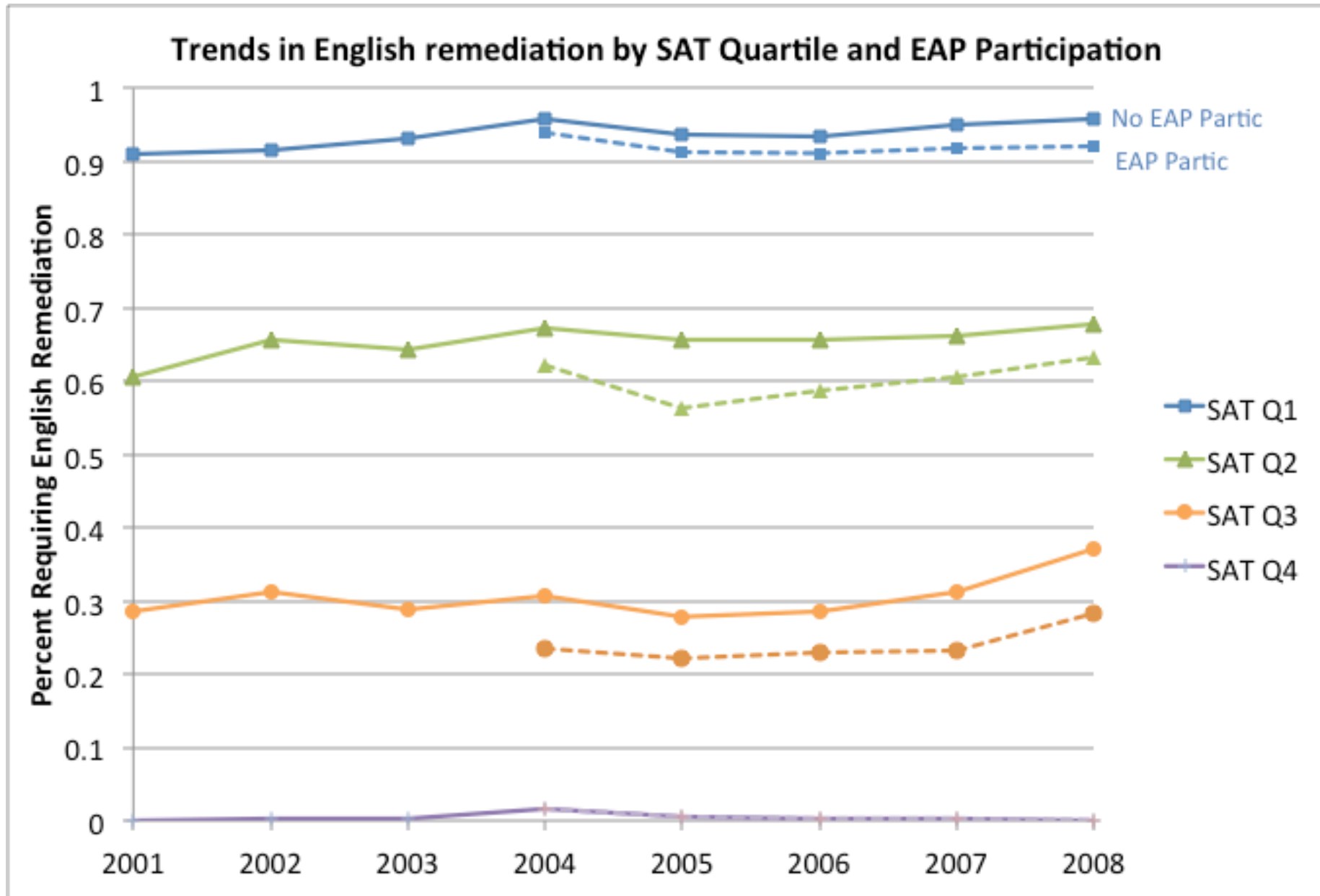
English Results by Campus



Differences Across CSU Campuses

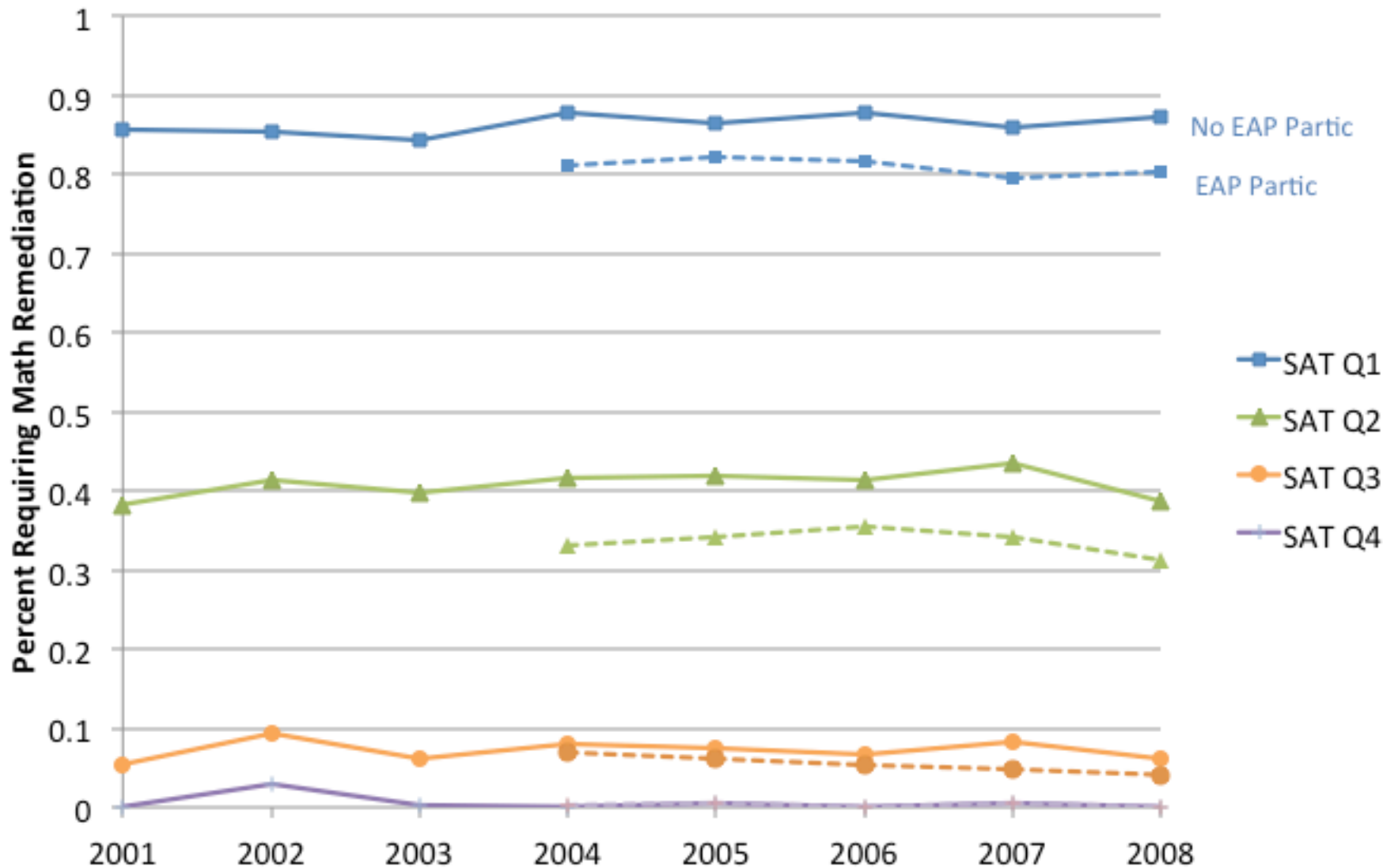


Differential Treatment Effects



Differential Treatment Effects

Trends in Math remediation by SAT Quartile and EAP Participation



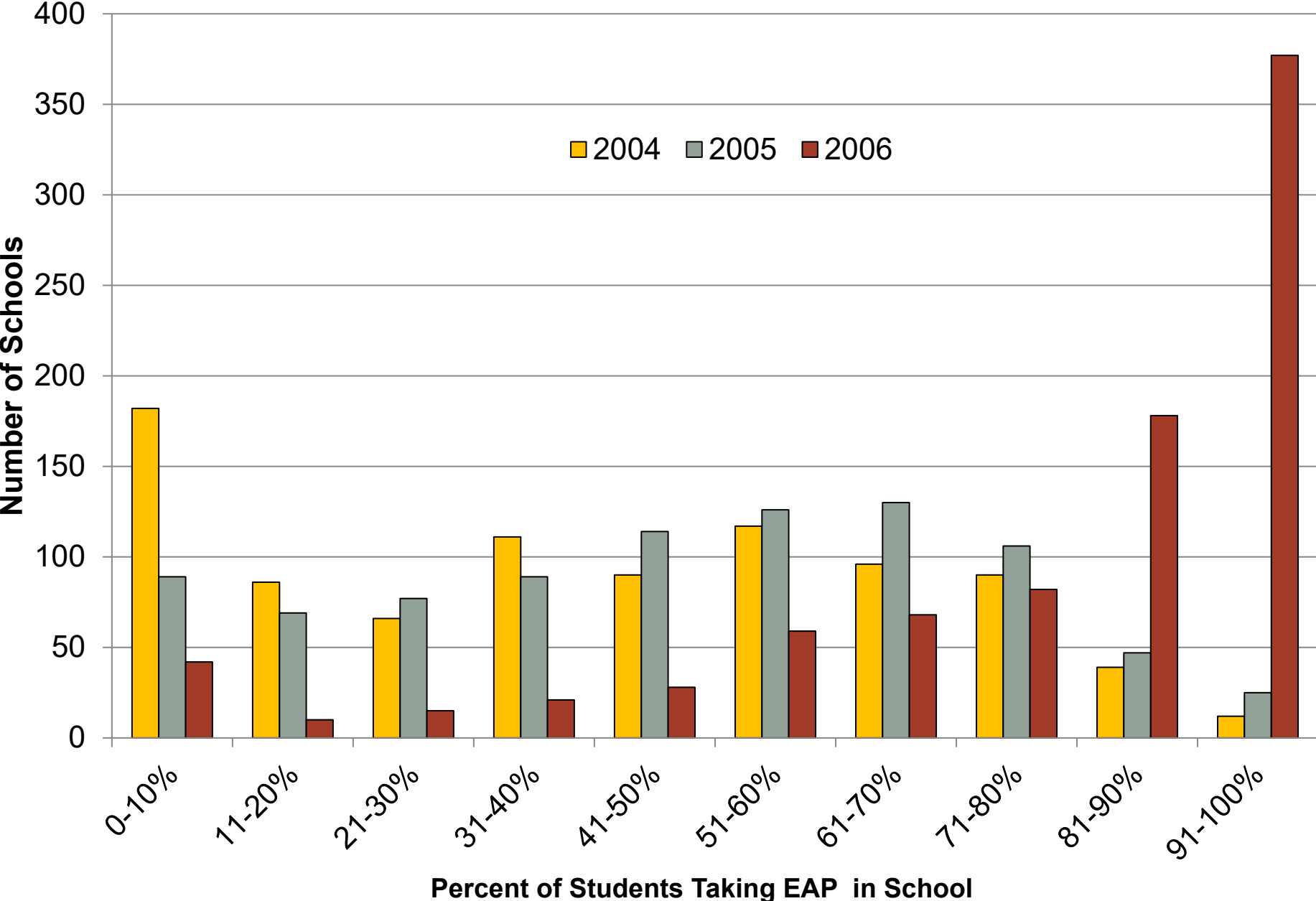
Preliminary Conclusions—Part I

- EAP participation in English leads to a reduction in the probability that CSU freshmen require remediation
- Important differences in treatment effects
 - by campus
 - by individual characteristics

An Examination of EAP School Effects

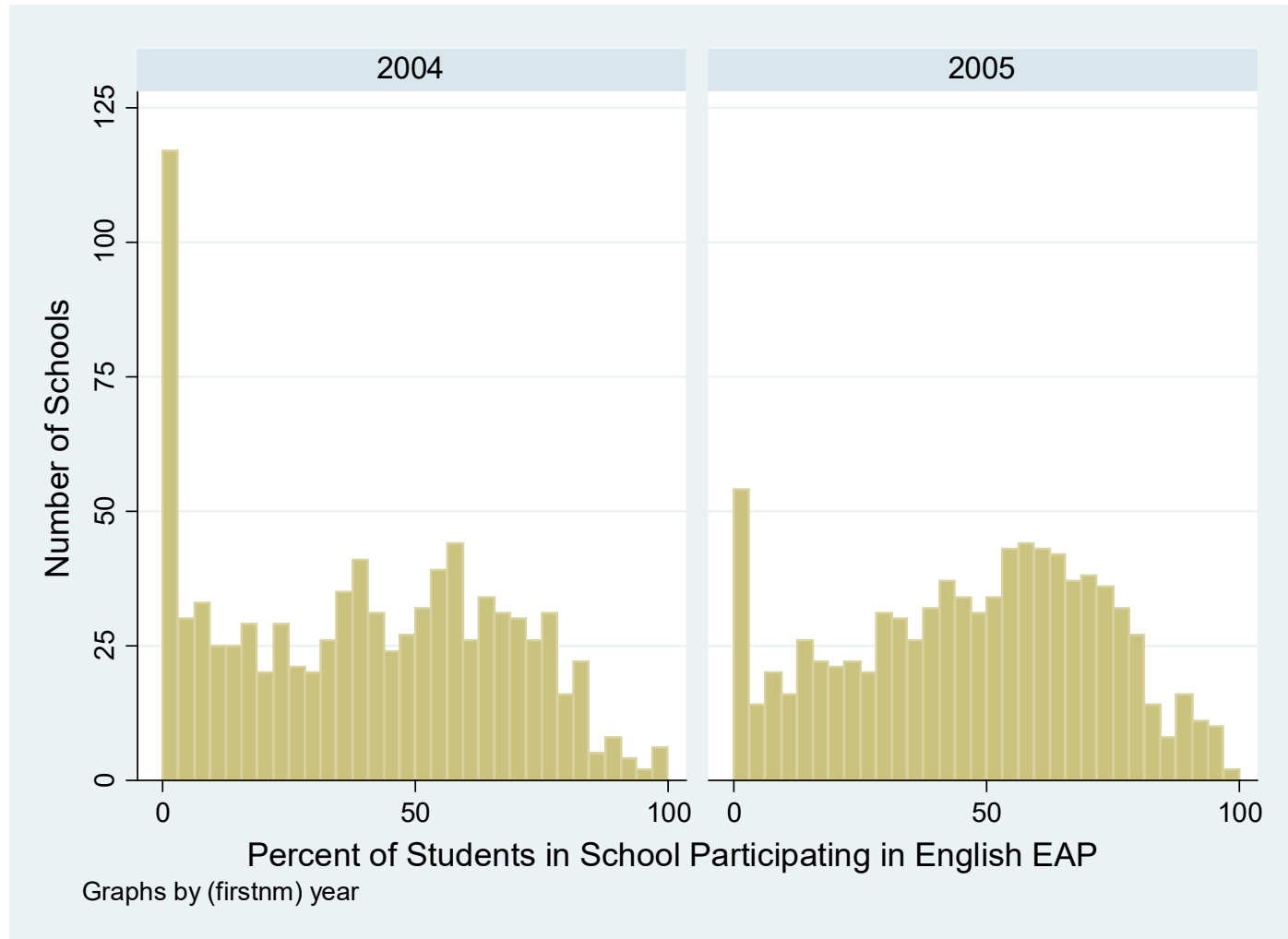
- Differences in EAP participation across schools
- School attributes that influence EAP participation rates
 - Student demographics
 - Aggregate academic performance
- Difference-in-Difference—Intuition: Compare school outcomes over time, for schools with varying levels of EAP participation

School English EAP Participation by Year



School EAP participation rates

Percent of students taking EAP English Exam



School characteristics related to EAP participation

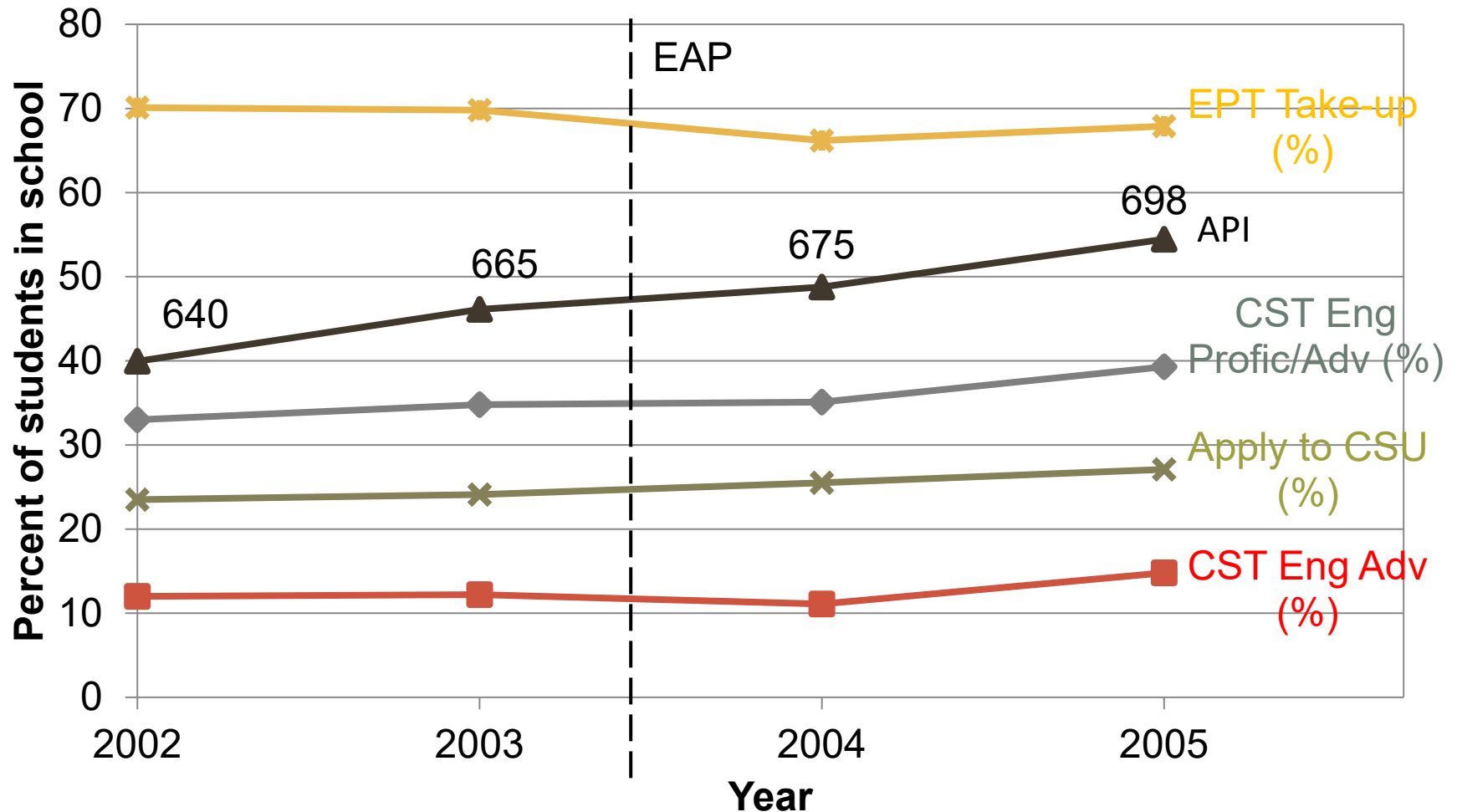
Correlation coefficients for school characteristics with EAP participation

	2004	2005
Academic Performance Index	0.197***	0.245***
Free/Reduced Lunch (%)	-0.027**	-0.094**
Under-represented Minority Students (%)	0.028	-0.018
Enrollment	0.077*	0.048
Emergency Credential (%)	-0.032	-0.093*
Pupil-Teacher Ratio	0.073*	0.106**
Parent with less than diploma (%)	-0.084*	-0.052

* p<0.05, **p<0.01, ***p<0.001

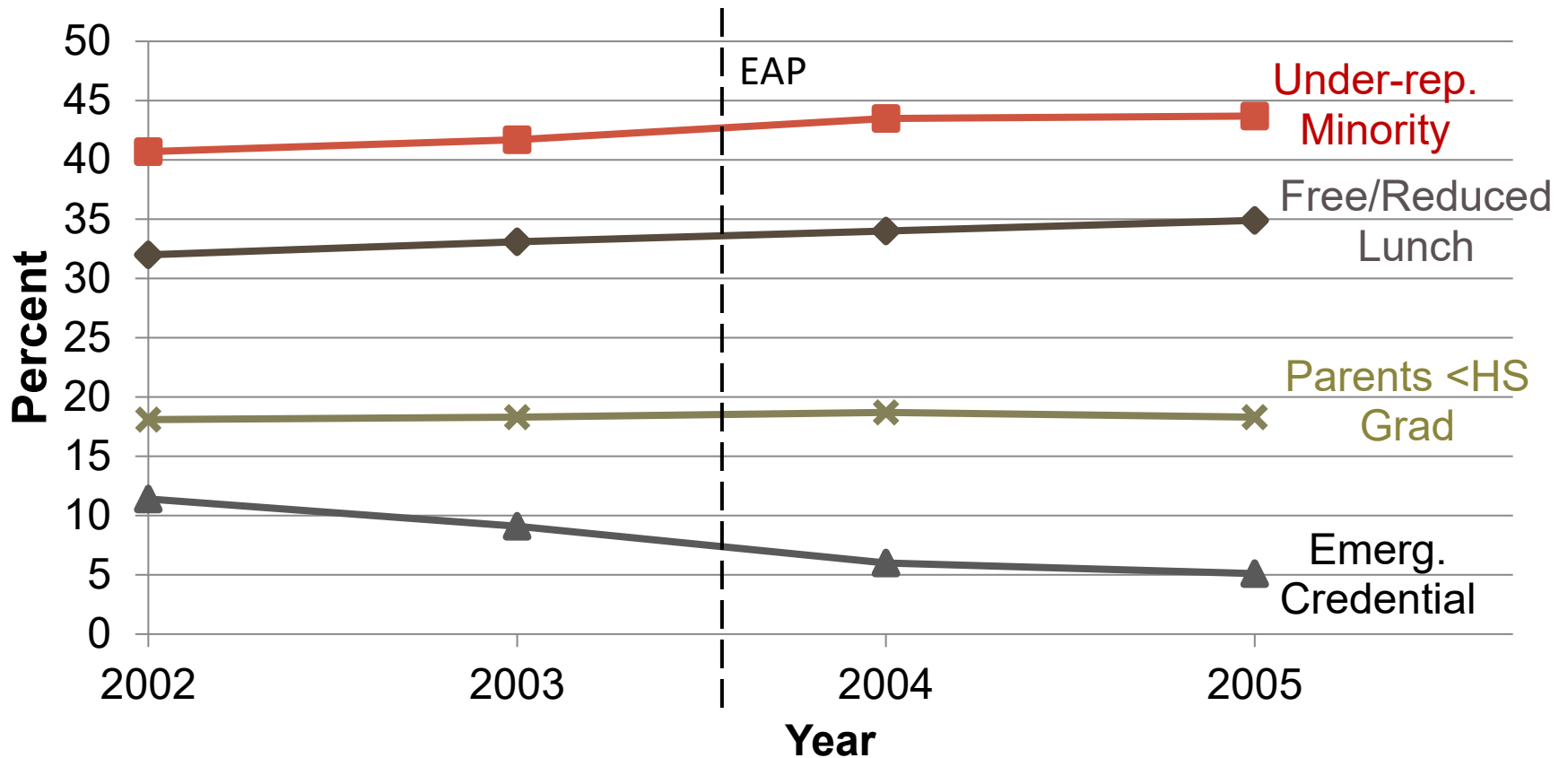
College readiness indicators have increased over time

Average percent of students in school displaying readiness indicators over time



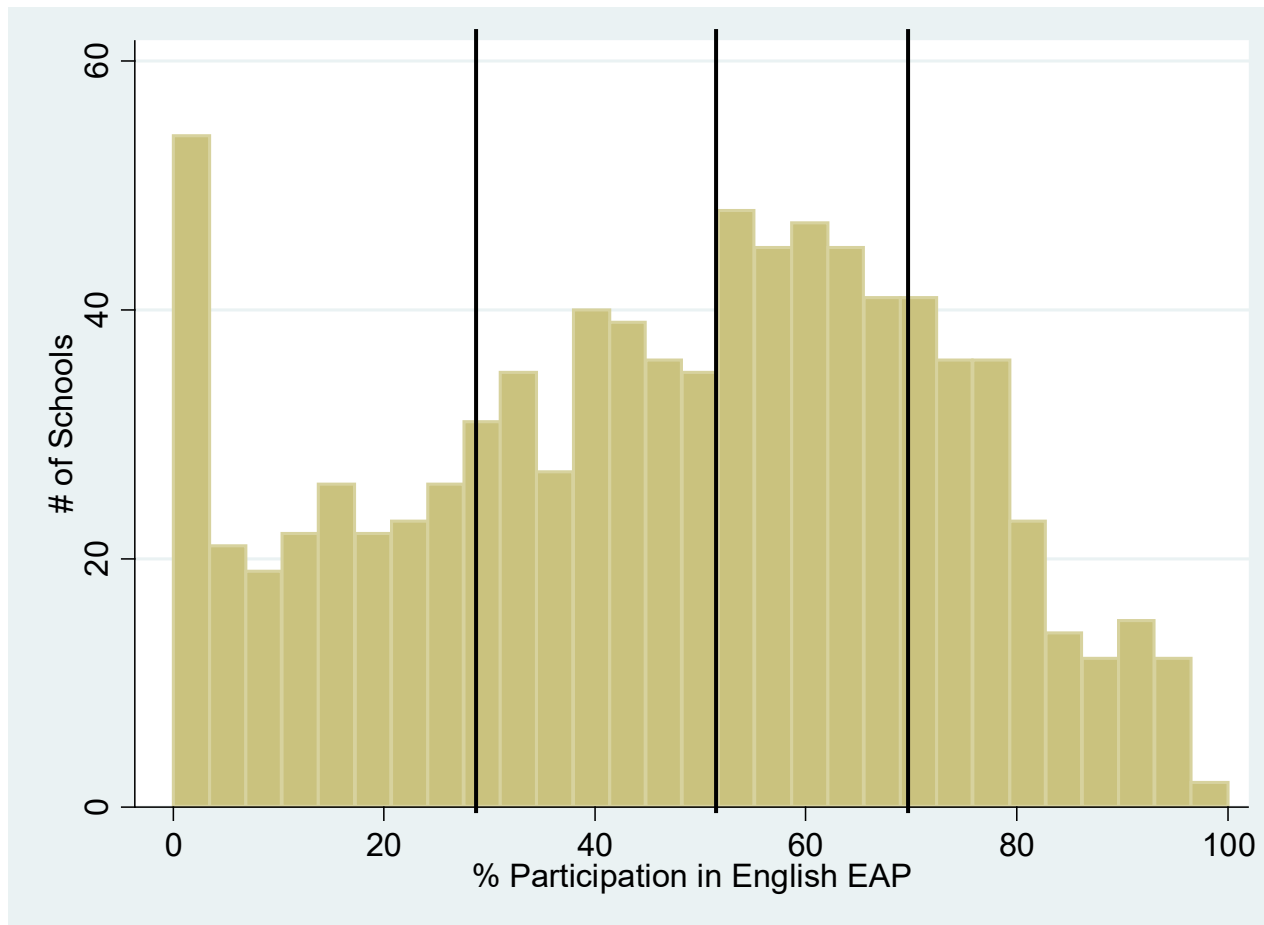
California's high schools also changed over the same time period

Average student and teacher characteristics in California high schools over time



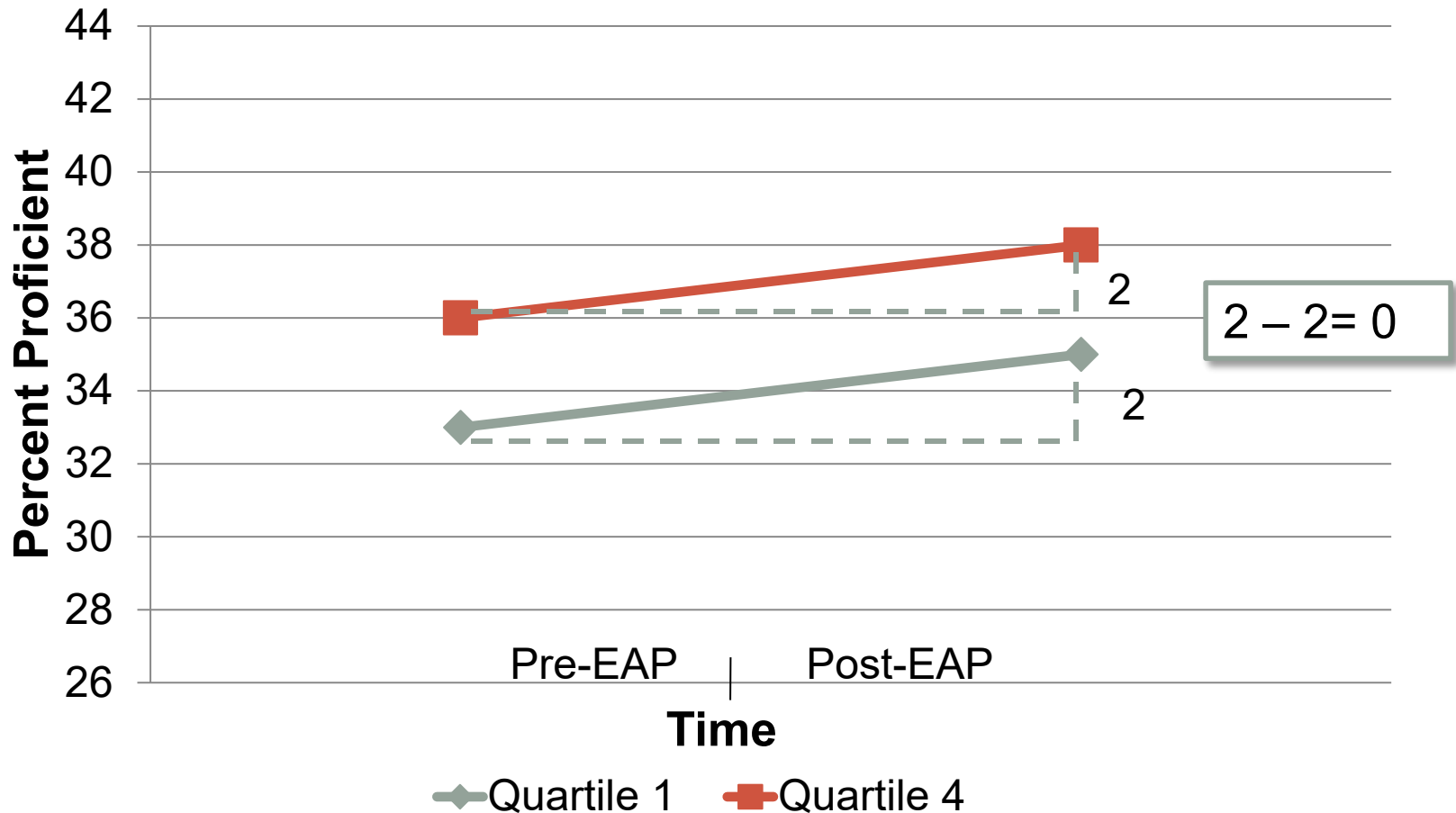
Using EAP participation quartiles

Percent of students taking EAP English Exam per school (2005 Cohort)



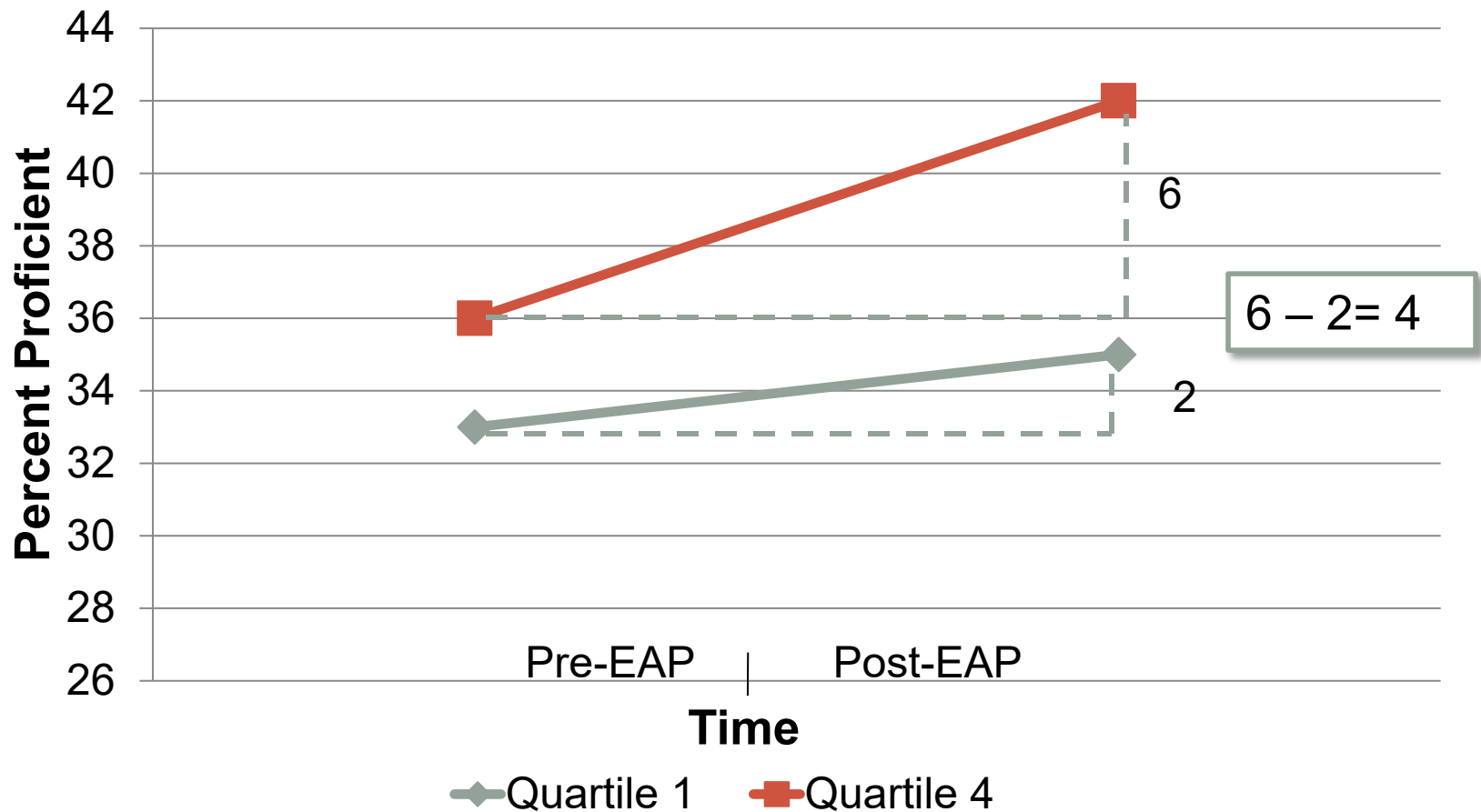
What if level of EAP participation had no impact on CST Proficiency?

Hypothetical Pre-EAP to Post-EAP differences in CST Proficiency by Quartile



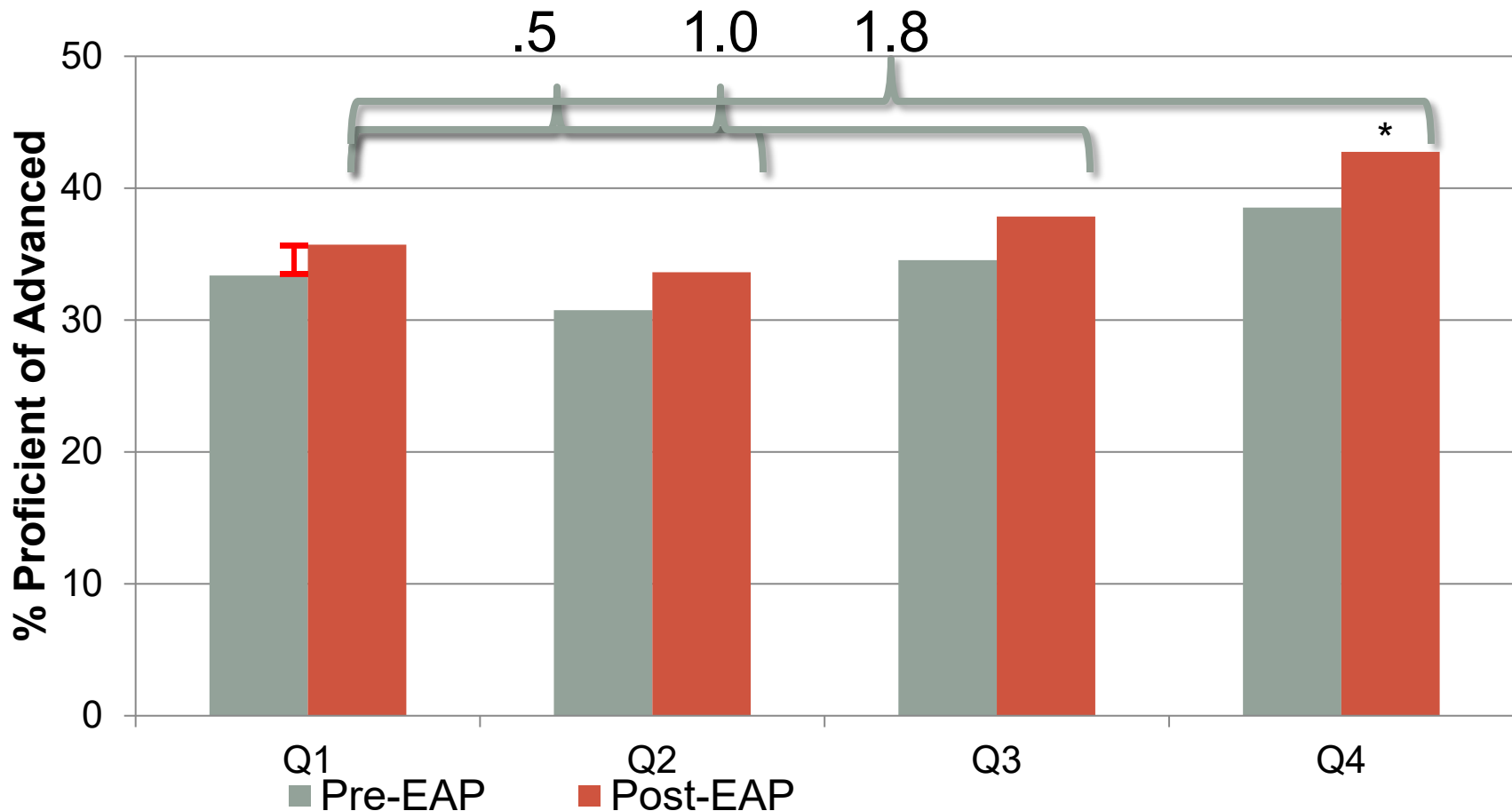
What if level of EAP participation did have an impact on CST Proficiency?

Hypothetical Pre-EAP to Post-EAP differences in CST Proficiency by Quartile



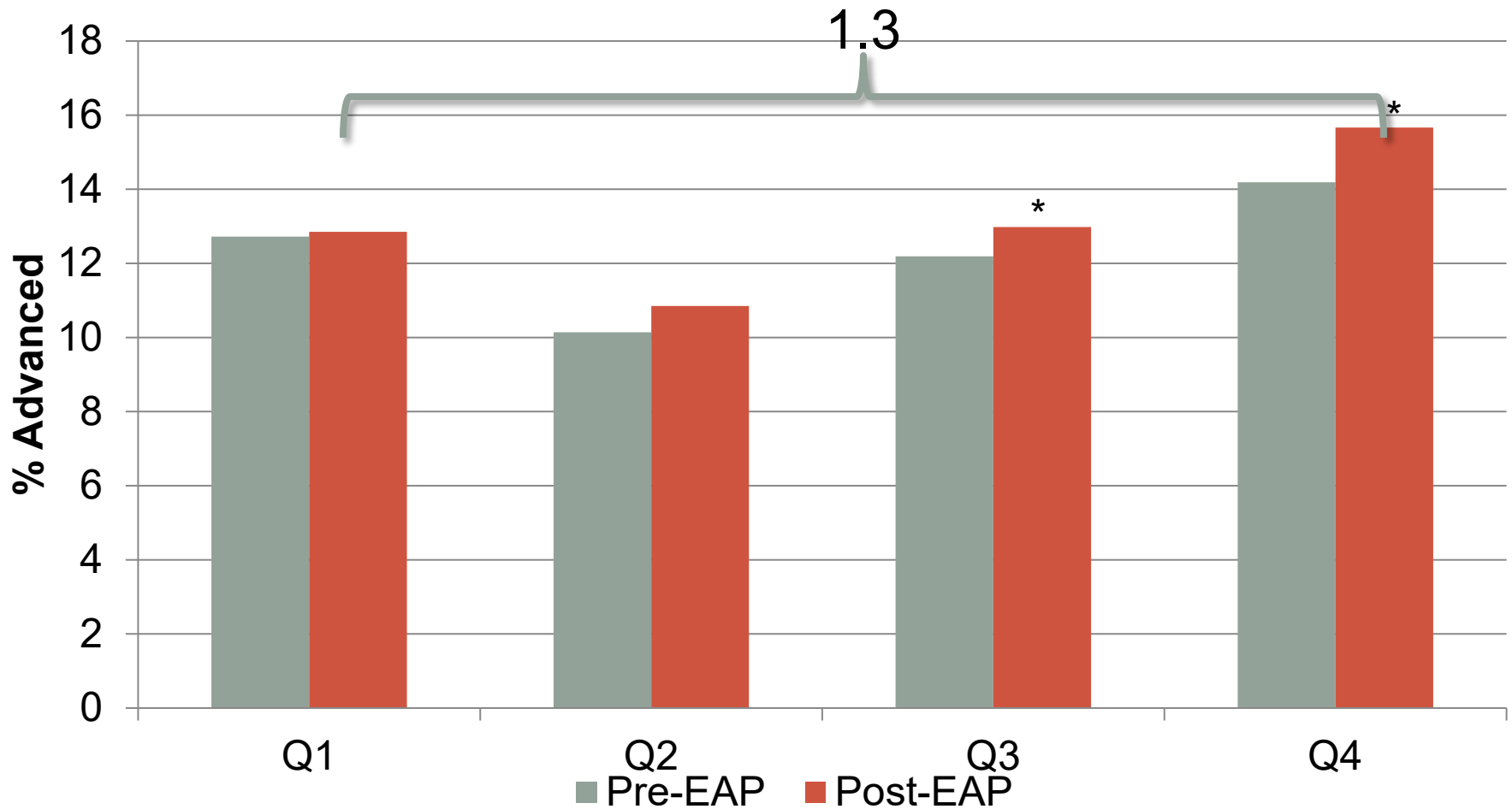
Higher EAP participation is associated with higher levels of CST Proficiency

Fitted Values for CST Proficiency from Difference in Difference



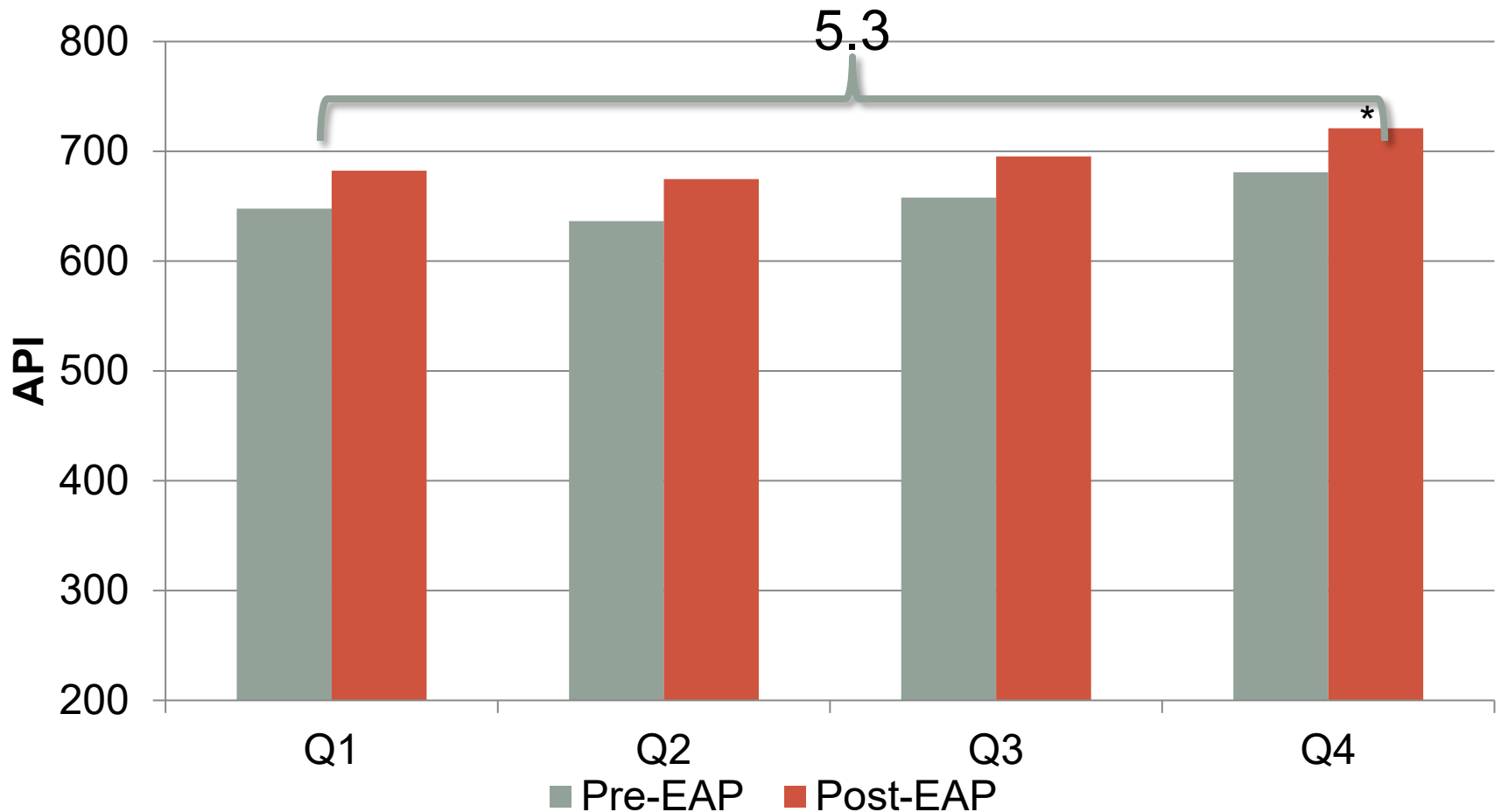
Higher EAP participation is associated with higher levels of CST Advanced

Fitted Values for CST Advanced from Difference in Difference



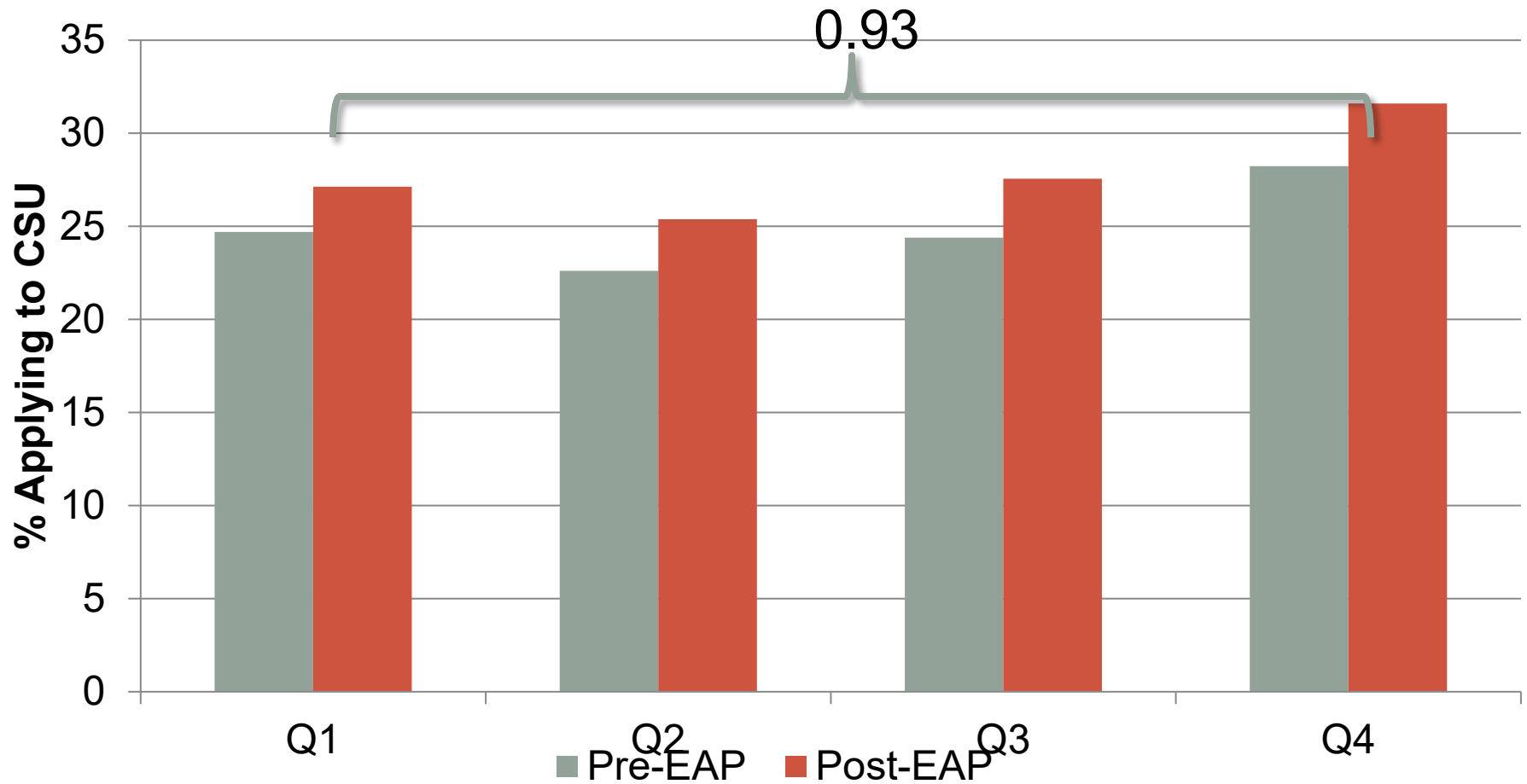
Higher EAP participation is associated with higher API

Fitted Values for API from Difference in Difference



Higher EAP participation is somewhat related to applications to CSU

Fitted Values for Apply to CSU from Difference in Difference



Preliminary Conclusions—Part II

School Effects

- Schools in all levels of participation see gains in test scores, accountability measures, and college-level outcomes
- Higher levels of participation in EAP are associated with higher gains across tests scores and school accountability measures

Conclusions & Future Directions

- EAP participation in English leads to a reduction in the probability that CSU freshmen require remediation, with key differences in treatment effects
 - by individual characteristics and across campuses
- At the school level, higher levels of participation in EAP are associated with higher gains across tests scores and school accountability measures

Future Directions

- Math
- Closer investigation of differential treatment effects
- Examine mechanisms
 - Sorting in applications
 - 12th grade course taking

Comments & Questions

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Timeline for EAP

Figure A3: Timeline for EAP Participation and College Entrance

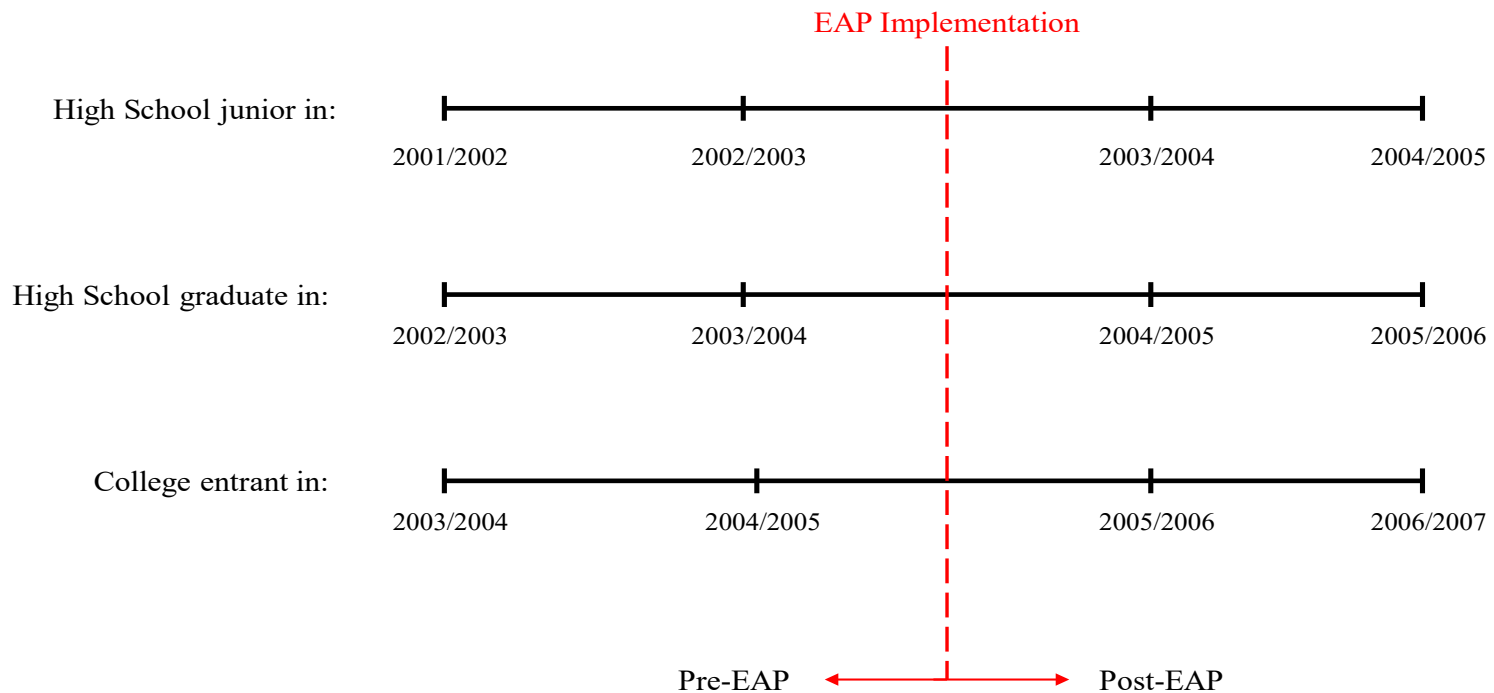
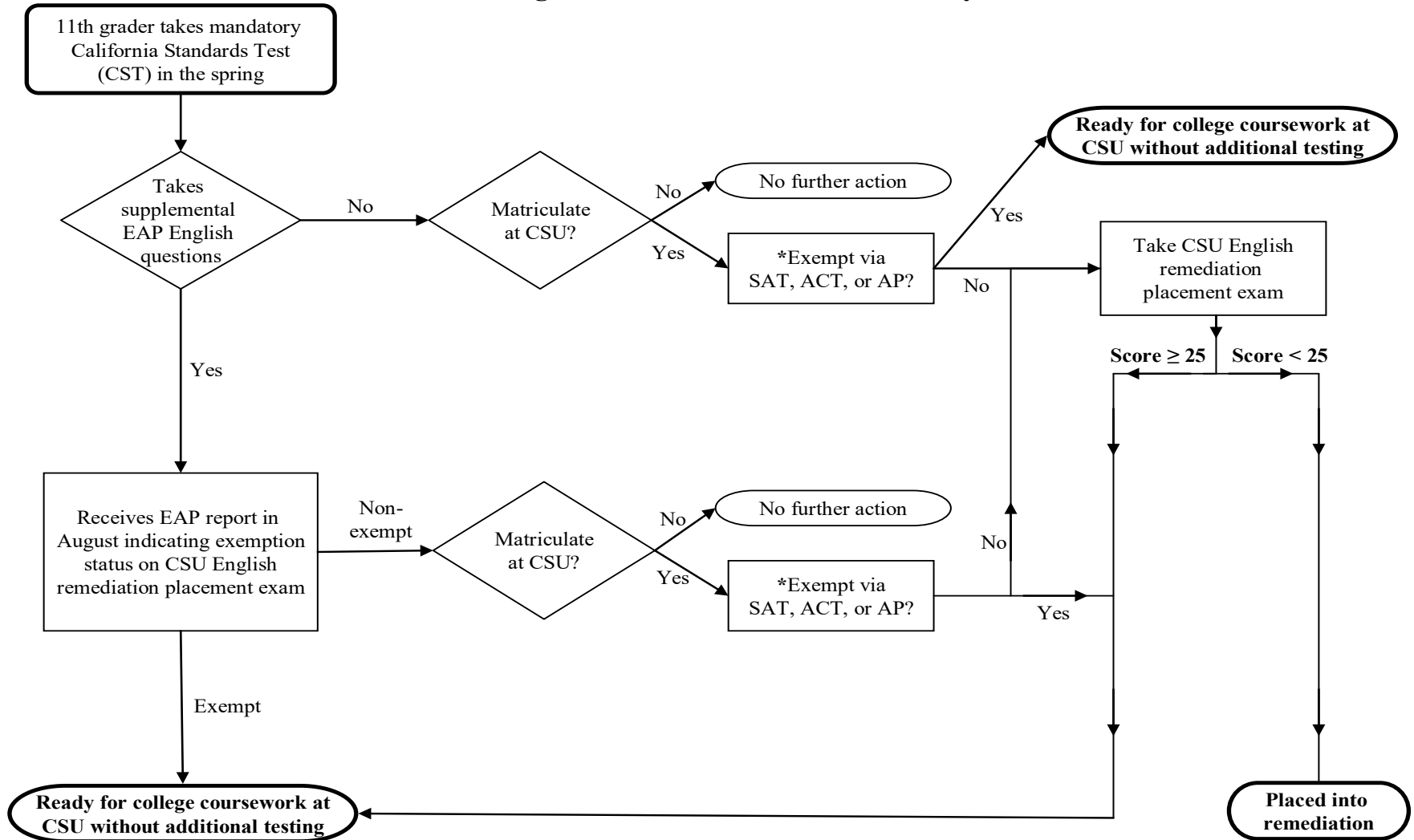
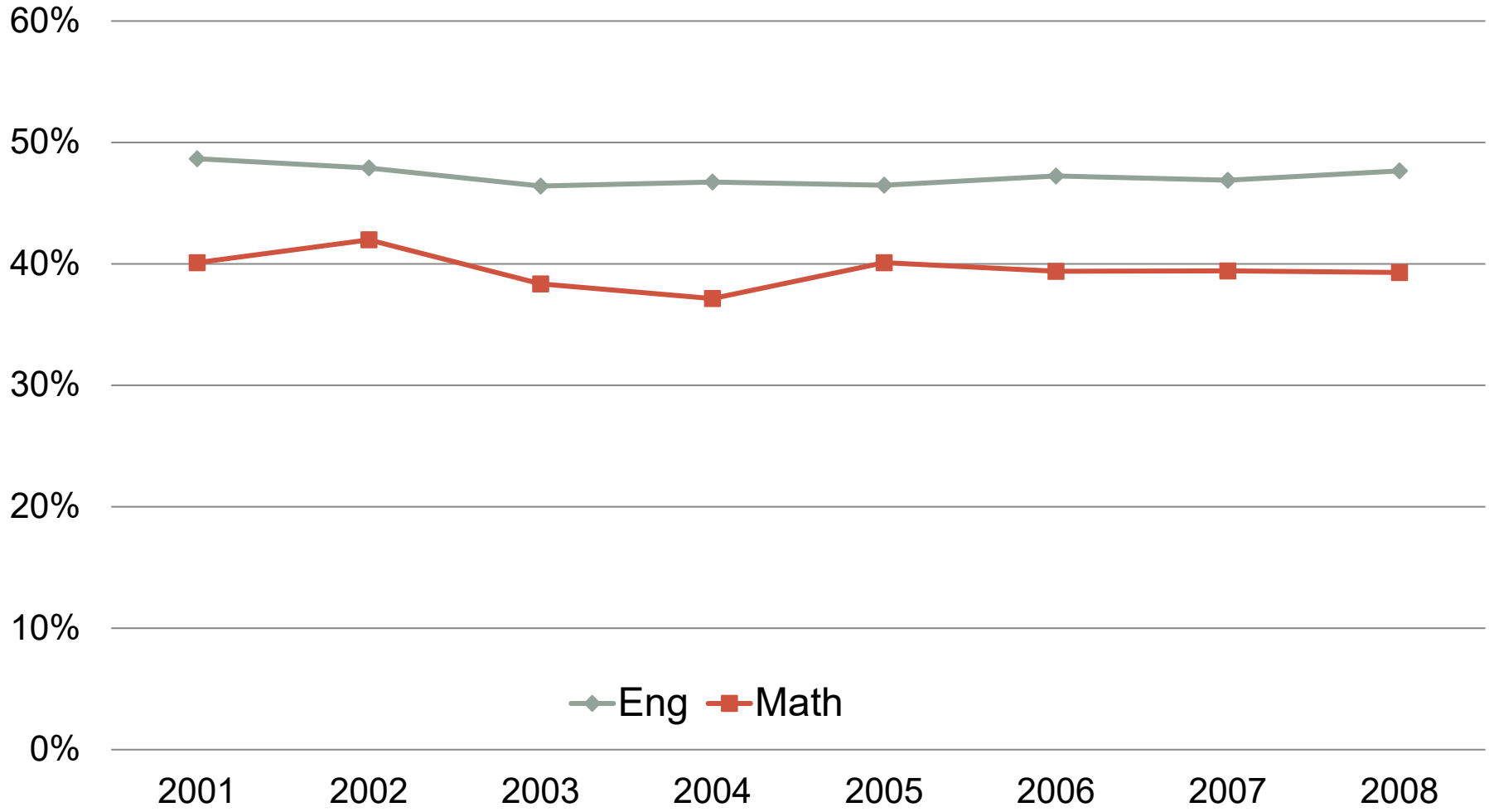


Figure 3: Paths to College Readiness or Remediation in English at California State University



* Exemption requires a score of 550 or above on SAT I verbal or a score of 680 on the SAT II writing test, a score of 24 or above on ACT English, or a score of 3, 4, or 5 on either the AP Language and Composition exam or the AP Literature and Composition exam.

California State University Systemwide Remediation Need



Context: College Completion

- College participation rates are at an all time high
- Despite increases in postsecondary participation, degree completion has remained stagnant (and slightly declining for African American and Latino students)
- Why?
 - Compositional changes in college participation
 - Financial constraints
 - Academic preparation
 - “College for All” ethos
 - Institutional practices

Academic Preparation Literature

- Better academic preparation → higher rates of persistence and degree completion
- Student information and expectations
 - Person, Rosenbaum & Deil-Amen (2006)
- K-12 alignment with higher education
 - Venezia et al. (2005); Martinez & Klopott (2005)
- Effect of college remediation
 - **Ohio (Bettinger & Long, 2004):** Positive effects on transfer to more selective institution and on degree completion.
 - **Florida (Calcagno & Long, 2008):** Slight positive effects on persistence and no effect on transfer to 4-year institution or on degree completion.
 - **Texas (Martorell & McFarlin, 2008):** No effects (and even modest negative effects) on transfer, persistence, degree completion, and earnings.

Controversy over Collegiate Remediation

- Where should remediation occur?
 - Bridge between K-12 schooling and college readiness
 - Role of secondary schools or community colleges, but not BA-granting institutions.
- Costs associated with remediation
 - “Paying Double”
 - Estimated cost of remediation at 4-year colleges is over \$500 million (Strong American Schools, 2008)

Selection into EAP

- Selection at the Individual Level
 - Propensity Score Matching
- Selection at the School Level
 - School Fixed Effects
 - Schools with Universal EAP take-up

American Diploma Project

- Align high school standards and assessments with the skills required for success after high school.
- Require all high school graduates to complete a college- and career-ready curriculum.
- Build assessments that measure students' readiness for college and careers.
- Develop an accountability system that promotes college and career readiness.