Identifying Indicators of College Readiness & Success

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Goals of the Presentation

- Emphasize the importance of college preparation through evidence from new research
- Explore indicators of college readiness by linking K-12 to postsecondary data
- Determining the relationship between high school predictors of readiness and actual college readiness
  - For individual students
  - For schools
- Consider multiple school measures of college readiness for accountability purposes
THE IMPORTANCE OF COLLEGE PREPARATION—NEW RESEARCH EVIDENCE

College Preparation

- Addressing the discrepancy between students’ K-12 academic preparation and the demands of postsecondary schooling is at the heart of Common Core State Standards.

- College readiness research is broadly organized around two domains:
  - Academic rigor in high school
  - Improved information

- A note about Career Readiness: Although this has been far less researched, the same principles apply—students would be better served with more direct preparation and information about the expectations of employers in the labor market.
College Preparation—Academic Rigor

- The accumulation of academic skills and preparation in high school is a critical predictor of students’ short-term and long-term outcomes.
- High school curricular intensity is positively associated with the following: test scores, high school graduation, college entry, type of college entry, college grades, college graduation, and earnings.
- Example: a recent study found a 7 to 11 percentage point increase in the likelihood of high school graduation and four-year college entry between a student who takes no rigorous high school courses and a student taking just one rigorous course during high school.

Advantages of more rigorous courses:

- Provide richer curricula, exposing students to material they may face in college
- Often taught by more skilled teachers
- Provide a signal for college admissions and course placement
- Allow students to engage with higher-ability/motivated peers.
- Other unobserved forces (e.g. parents, school expectations, teacher encouragement)
College Preparation—Academic Rigor

- Improving the academic rigor of students’ high school experience will likely lead to improved postsecondary outcomes.
- But, we must also be attentive to the host of factors that contribute to students’ sorting into various levels of courses in high school: availability of courses, knowledge of offerings at the school, academic ability, interest, motivation, familial involvement (or lack thereof), and the influences of teachers, counselors, and/or peers.

College Preparation—Information

- A majority of high school students, regardless of their academic performance, report that they will attend college.
- Despite a college for all culture, many students lack knowledge about the academic demands of college.
- Students can experience discouragement from placement exams and additional developmental coursework needed to catch up to college-level courses.
College Preparation—What Works?

Evidence from recent research:
• Increasing exposure to college-level experiences and content
• Improved information about students’ academic preparation
• Improved transparency and efficiency in developmental course placement at the postsecondary level

INDICATORS OF COLLEGE READINESS—LINKING K-12 TO POSTSECONDARY DATA
College readiness from the point of view of higher education

- College readiness at the K-12 level is about preparation and entry.
- College readiness at the college level is about being ready to take college level courses, and increasing students' chances of persisting and completing a degree.
- Despite increased college participation, we see high rates of remedial/developmental course-taking and low rates of degree completion.
- Improving alignment between K-12 and postsecondary is a big focus of Common Core State Standards.

College Readiness for CSU First-Time Freshmen

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

Data from CSU Analytic Studies: http://www.asd.calstate.edu/performance/proficiency.shtml
### College Readiness for CSU First-Time Freshmen

#### Percent of students Requiring remediation at CSU in 2010

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>57.0%</td>
</tr>
<tr>
<td>White</td>
<td>36.6%</td>
</tr>
<tr>
<td>American Indian</td>
<td>53.7%</td>
</tr>
<tr>
<td>Filipino</td>
<td>57.6%</td>
</tr>
<tr>
<td>Asian American</td>
<td>58.5%</td>
</tr>
<tr>
<td>Other Latino</td>
<td>69.6%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>70.8%</td>
</tr>
<tr>
<td>Mexican American</td>
<td>72.6%</td>
</tr>
<tr>
<td>African American</td>
<td>79.9%</td>
</tr>
</tbody>
</table>

Data from CSU Analytic Studies: [http://www.asd.calstate.edu/performance/proficiency.shtml](http://www.asd.calstate.edu/performance/proficiency.shtml)

### The Early Assessment Program

- **Goals of EAP:**
  - Provide an early signal to students about their college readiness
  - Provide 12\textsuperscript{th} grade interventions
- **Components of EAP:**
  1. 11\textsuperscript{th} grade testing (early assessment)
  2. Professional development for teachers
  3. Supplemental preparation for students
The Early Assessment Program

Evidence of Effectiveness

- The introduction of the EAP reduced remediation rates among first-time freshmen at CSU systemwide, in both English and Math.
- In the early years, higher EAP test participation among high schools was associated with higher school-wide outcomes (e.g. CST, API).

Measuring College Readiness

- We have a unique opportunity to link K-12 to postsecondary data at California’s two largest postsecondary systems of higher education
- Data Sources
  - Matched the census of California 11th grade students in 2008 to census of California State University and Community College campuses
  - Evaluated college course-taking, specifically the need for remedial/developmental coursework
Ways to Become College Ready at CSU and CCC

- **California State University**
  - Pre-College: SAT, Advanced Placement, EAP
  - At College Entry: English-EPT, Math-ELM

- **Community Colleges**
  - Pre-College: EAP (at about 2/3 colleges)
  - At College Entry: College-specific placement tests

Contribution of this Analysis

- Measuring actual college readiness for those who attend college at CSU and CCC
- Why connect high school measures to actual college readiness?
  - Provide evidence of (mis)alignment
  - Provide critical information to K-12 about what is necessary for postsecondary success
    - For Students, Schools, Accountability goals
# WHAT PREDICTS COLLEGE READINESS?

## FOR INDIVIDUALS

## Measures to Consider

### Academic Rigor
- Highest math course taken
- EAP Math Eligibility
- Academic Performance
- A to G Coursework
- High School Grade Point Average (GPA)
- EAP Exemption

### Information
- EAP Participation
- Participation in college entry activities (SAT, FAFSA, etc.)
- College course taking while in high school (AP, IB, dual or concurrent enrollment)
- College application
Predictors of College Readiness: Academic Rigor in Math

Students in higher level math courses are more likely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in math remediation (CSU) or basic skills courses (CCC).
- Math course represents the math course the student took in 11th grade.

Predictors of College Readiness: Math CSTs

Students who were proficient or advanced on the Math CST were very likely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in math remediation (CSU) or basic skills courses (CCC).
- CST Performance levels were assigned to students based on their CST score in math.
Predictors of College Readiness: English CSTs

Students who were advanced on the English CST were very likely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in English remediation (CSU) or basic skills courses (CCC).
- CST Performance levels were assigned to students based on their CST score in English.

Predictors of College Readiness: EAP Math Test

Students who scored Not Exempt on their EAP Math Test were unlikely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in math remediation (CSU) or basic skills courses (CCC).
- Students were deemed exempt from remediation if they scored high enough on their EAP Test.
Predictors of College Readiness:
EAP English Test

Students who scored not exempt on the English EAP were unlikely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in English remediation (CSU) or basic skills courses (CCC).
- Students were deemed exempt from remediation if they scored high enough on their EAP Test.

Predictors of College Readiness:
High School Grade Point Average

Students with higher grade point averages were more likely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in math remediation (CSU) or basic skills courses (CCC).
- High school GPA represents the cumulative grade point average upon entry to college.
Predictors of College Readiness: High School Grade Point Average

Students with higher grade point averages were more likely to be ready for college level courses.

- Percent ready represents the percent of students in each category who were not enrolled in English remediation (CSU) or basic skills courses (CCC).
- High school GPA represents the cumulative grade point average upon entry to college.

WHAT PREDICTS COLLEGE READINESS?
FOR SCHOOLS
Predictors of College Readiness at the School Level

- We demonstrated that several student-level measures predict college readiness in math and English
- If we want to hold schools accountable for college readiness, we may want to scale these measures up to the school level

College Ready at California State Universities (CSU) and Community Colleges (CCC)

- Data
  - Linking CSU & CCC with K-12 (2008 11th graders)
  - Restrict to: “Regular” high schools with minimum of 30 students in grade 11, and at least 11 students attending CSU or CCC
College Ready at California State Universities (CSU) and Community Colleges (CCC)

- Why only CSU and CCCC?
  - Most students who go to selective colleges are ready for college level courses; need to look at moderately-selective and broad-access institutions.
  - Most students do not travel across state lines or go to private schools to attend non-selective institutions (at least when compared to more selective colleges)

College Ready at California State University

Note: Each observation is one school
Only high schools with at least 11 students attending the CSU are included
College Ready at California Community Colleges

Note: Each observation is one school
Only high schools with at least 11 students attending the CCC are included

CSU/CCC Readiness

Note: Each observation is one school
Only high schools with at least 11 students attending the CSU or CCC are included
Schools with higher proportion of A to G eligible students had higher rates of college ready students

![Graph showing the relationship between A to G % (All Graduates) and Attenders of CSU and CCC Who are Ready (%).](image1)

Note: Each point represents one high school.
Only high schools with at least 30 students combined in CSU or CCC are included.

Schools with higher proportion of students enrolled in more rigorous math courses had higher rates of college ready students

![Graph showing the relationship between All 11th Graders in Higher Level Math (%) and Attenders of CSU and CCC Who are Ready (%).](image2)

Note: Each point represents one high school.
Only high schools with at least 30 students combined in CSU or CCC are included.
Schools with higher proportion of EAP Exempt students in English had higher rates of college ready students

Note: Each point represents one high school
Only high schools with at least 30 students combined in CSU or CCC are included

Schools with higher proportion of EAP Exempt students in math had higher rates of college ready students

Note: Each point represents one high school
Only high schools with at least 30 students combined in CSU or CCC are included
CONSIDERING MULTIPLE SCHOOL MEASURES OF COLLEGE READINESS

Investigating School Level College Readiness Indicators for Accountability

- Objective:
  - Investigate the variation in these measures across California high schools
  - Investigate whether schools rank differently across these measures
  - We demonstrate this by following 3 schools across these measures to see how they fare.
    - School A – San Diego Area
    - School B – Los Angeles Area
    - School C – Sacramento Area
School Indicators: College Sending

<table>
<thead>
<tr>
<th></th>
<th>School A</th>
<th>School B</th>
<th>School C</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCC</td>
<td>10%</td>
<td>30%</td>
<td>40%</td>
</tr>
<tr>
<td>CSU</td>
<td>5%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>UC</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

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</tr>
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<td>10%</td>
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</tr>
<tr>
<td>UC</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>
School Indicators: Attending a California public college or university

Graduates attending a CA Public College (%)

School Indicators: Completing A-G

Graduates completing A to G (%)

Obs=830

Obs=821
School Indicators: Students enrolled in Algebra II or higher in 11th grade

School Indicators: Applicants to CSU
School Indicators: College Readiness Assessment, EAP Math Eligibility

School Indicators: College Readiness Assessment, EAP Math Exemption
How did the three schools rank across these indicators?

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Rank</th>
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</thead>
<tbody>
<tr>
<td>A to G</td>
<td>1</td>
</tr>
<tr>
<td>Attend College</td>
<td>3</td>
</tr>
<tr>
<td>CSU Application</td>
<td>1</td>
</tr>
<tr>
<td>Higher Level Math</td>
<td>3</td>
</tr>
<tr>
<td>English EAP Ready</td>
<td>3</td>
</tr>
<tr>
<td>Math EAP Ready</td>
<td>1</td>
</tr>
<tr>
<td>Math EAP Eligibility</td>
<td>2</td>
</tr>
<tr>
<td>English EAP Participation</td>
<td>1</td>
</tr>
</tbody>
</table>

How did the three schools rank across these indicators?

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**Graph**

Overall Rank

- A To G
- Attend College
- Apply To CSU
- High Math Class
- English EAP Exempt
- Math EAP Exempt
- EAP Math Participation
- EAP English Participation

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Summary

- Consistent with existing research, California juniors who have a more rigorous academic background experience higher likelihoods of being college ready when they enter CSU or CC.
- Demonstrating proficiency in high school, however, is not necessarily synonymous with college readiness.
- Several school level indicators of academic rigor are associated with college readiness at CSU and CC.
- There is widespread variation in these school level indicators of college readiness across California high schools.
- It is important to consider multiple measures of college readiness at the school level.

Contact Information:

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Useful References


Useful References

- Rosenbaum, J. E. (2004). It's time to tell the kids: If you don't do well in high school, you won't do well in college (or on the job). American Educator, 28, 8-10.