Race and the College Completion Gap: Postsecondary Outcomes at California’s Broad Access Institutions

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Current Policy Context

▷ “College for All” ethos
▷ Rise in time to degree
▷ Rising tuition
▷ Persistent gaps in college entry, persistence, and completion by family income
▷ Accountability in higher education and college quality
▷ Increased attention on community colleges
Is College Worth It?

▷ Higher earnings (earnings premium on the rise the past several decades)
▷ Lower unemployment
▷ Better health outcomes
▷ More stable family life
▷ Less crime
▷ Increased civic participation
▷ Less stress/more happiness
Today’s Talk

- Policy context on college completion
- California’s system of higher education
  - Broad-access college and universities
- Trends in college outcomes
- Gaps in college outcome by race/ethnicity
  - persistence, degree completion, performance
Data Sources

- California Community College Chancellor’s Office
  - Census of students enrolled
  - Transcript level information

- California State University Chancellor’s Office
  - Census of students applied/enrolled
  - Term level information

- Match to California Department of Education K-12 data
  - High school test scores
  - High school course taking
  - Demographic information

- Other
  - University of California
  - National Student Clearinghouse
  - College Board
Six-Year Outcomes of 2009 Freshman Cohort

- **Four-Year Public**: 48.4%
- **Two Year Public**: 26%

Source: NCES, IPEDS (2016)
College Completion at Public Colleges & Universities

Six-Year Outcomes of 2009 Freshman Cohort

- Four-Year Public:
  - Completed at starting Institution: 48.4%
  - Completed at Different Institution: 12.8%

- Two Year Public:
  - Completed at starting Institution: 26%
  - Completed at Different Institution: 12.2%

Source: NCES, IPEDS (2016)
College Completion at Public Colleges & Universities

Six-Year Outcomes of 2009 Freshman Cohort

- **Four-Year Public**
  - Completed at starting Institution: **48.4%**
  - Completed at Different Institution: **12.8%**
  - Still Enrolled: **14.2%**

- **Two Year Public**
  - Completed at starting Institution: **26.0%**
  - Completed at Different Institution: **12.2%**
  - Still Enrolled: **16.6%**

Source: NCES, IPEDS (2016)
College Completion at Public Colleges & Universities

Six-Year Outcomes of 2009 Freshman Cohort

<table>
<thead>
<tr>
<th>Percent</th>
<th>Four-Year Public</th>
<th>Two Year Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>48.4</td>
<td>26.0</td>
</tr>
<tr>
<td>10%</td>
<td>12.8</td>
<td>12.2</td>
</tr>
<tr>
<td>20%</td>
<td>14.2</td>
<td>16.6</td>
</tr>
<tr>
<td>30%</td>
<td>24.6</td>
<td>45.3</td>
</tr>
</tbody>
</table>

- Completed at starting Institution
- Completed at Different Institution
- Still Enrolled
- Not Enrolled

Source: NCES, IPEDS (2016)
College Completion at Public Colleges & Universities

Grad Rate from 1st Institution within 150% of normal time for full-time students

Source: NCES, IPEDS (2016)
6-Year Graduation Rate for 2009 Freshman Cohort at 4-Year Postsecondary Institutions

Acceptance Rate

- Less than 25%
- 25-49.9%
- 50-74.9%
- 75-89.9%
- 90%
- Open Admissions

SOURCE: NCES (IPEDS)
College Completion

▷ Compositional changes
▷ Financial constraints
▷ Academic preparation
▷ High school quality
▷ Major sorting
▷ Institutional differences
Research Objective

- Focus on two of the nation’s largest postsecondary systems
  - California Community Colleges (CCC)
  - California State University (CSU)
- Examine gaps in postsecondary outcomes by race (persistence, degree completion, & performance)
- Adjust for observed individual and institutional differences that may contribute to gaps:
  - Financial constraints
  - Academic preparation
  - High school quality
  - Major sorting
  - Institutional differences
California Public Higher Education
Public Enrollment by State

FIGURE 26A Public Full-Time Equivalent (FTE) Enrollment in Degree-Granting Institutions by State, Fall 2013

College Board; Sources: NCES, IPEDS
California’s structured system of public higher education—The Master Plan (1960)

- University of California (UC): reserved for the top 1/8 (9 campuses)
- California State University (CSU): reserved for the top 1/3 (23 campuses)
- California Community Colleges (CCC): “any student capable of benefiting from instruction” (114 campuses)
## California Public Higher Education (2016)

<table>
<thead>
<tr>
<th></th>
<th>CCC</th>
<th>CSU</th>
<th>UC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Campuses</td>
<td>114</td>
<td>23</td>
<td>9</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>2.1 million</td>
<td>478,640</td>
<td>216,747</td>
</tr>
<tr>
<td>Enrollment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race/Ethnicity:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African-American</td>
<td>6%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>13%</td>
<td>16%</td>
<td>34%</td>
</tr>
<tr>
<td>White</td>
<td>26%</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>44%</td>
<td>39%</td>
<td>24%</td>
</tr>
<tr>
<td>Other</td>
<td>12%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Pell Receipt</td>
<td>19% (Fee Waiver: 41%)</td>
<td>52%</td>
<td>38%</td>
</tr>
<tr>
<td>First Generation</td>
<td>~40%</td>
<td>33%</td>
<td>42%</td>
</tr>
<tr>
<td>California Resident</td>
<td>94%</td>
<td>83%</td>
<td></td>
</tr>
<tr>
<td>Selectivity</td>
<td>Open-access</td>
<td>74%</td>
<td>16-50%</td>
</tr>
<tr>
<td>Graduation Rate</td>
<td>20-30%</td>
<td>59%</td>
<td>85%</td>
</tr>
</tbody>
</table>
Trends in Racial/Ethnic Representation Gaps Across CA’s Public Higher Education System

4-Year College Eligibility

- Black
- Latino
- White
- Asian
Trends in Racial/Ethnic Representation Gaps Across CA’s Public Higher Education System

Community College Enrollment

Percentage Points

-30% -20% -10% 0% 10% 20% 30%


Black  Latino  White  Asian
Trends in Racial/Ethnic Representation Gaps Across CA’s Public Higher Education System

CSU Enrollment

Percentage Points


Black  Latino  White  Asian
Trends in Racial/Ethnic Representation Gaps Across CA’s Public Higher Education System

UC Enrollment

Percentage Points

-30% -20% -10% 0% 10% 20% 30%


Black  Latino  White  Asian
College Outcomes Over Time
CSU: Persistence and Graduation Outcomes, First-time Freshman Cohorts

Persist to Year 2

- 2004: 83%
- 2005: 81%
- 2006: 80%
- 2007: 80%
- 2008: 82%
- 2009: 85%
- 2010: 84%
- 2011: 85%
- 2012: 85%
- 2013: 85%
- 2015: 84%
CSU: Persistence and Graduation Outcomes, First-time Freshman Cohorts

 Persist to Year 2 Persist to Year 3

2004 83% 75%
2005 81% 72%
2006 80% 70%
2007 80% 72%
2008 82% 75%
2009 85% 77%
2010 84% 76%
2011 85% 77%
2012 85% 77%
2013 85% 76%
2014 84% 76%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
CSU: Persistence and Graduation Outcomes, First-time Freshman Cohorts
CSU: Persistence and Graduation Outcomes, First-time Freshman Cohorts, by Pell Status
CSU: Persistence, Achievement, & Graduation Outcomes, First-time Freshman Cohorts, by Race and Pell Status

Gaps in Year 2 Persistence

Percentage Points


Black-White  Hispanic-White  AsPI-White  Pell Gap
CSU: Persistence, Achievement, & Graduation Outcomes, First-time Freshman Cohorts, by Race and Pell Status

Gaps in 1st Year GPA

- Black-White
- Latino-White
- AsPI-White
- Pell Gap
CSU: Persistence, Achievement, & Graduation Outcomes, First-time Freshman Cohorts, by Race and Pell Status

Degree Completion in 4 Years

Percentage Points

-30% -20% -10% 0% 10% 20% 30%

2004 2005 2006 2007 2008 2009 2010 2011

Black-White Hispanic-White AsPI-White Pell Gap

Degree Completion in 4 Years for Black-White, Hispanic-White, AsPI-White, and Pell Gap.
CSU: Persistence, Achievement, & Graduation Outcomes, First-time Freshman Cohorts, by Race and Pell Status

Degree Completion in 6 Years

Percentage Points

-30% -20% -10% 0% 10% 20% 30%

2004 2005 2006 2007 2008 2009

-30% -20% -10% 0% 10% 20% 30%

Black-White  Latino-White  AsPI-White  Pell Gap

Percentage Points
Community College Outcomes

Note Sample: First Time Freshman: CA High School Graduates, Entering with 2 Years Post-HS, Enrolled in Minimum of 6 Credits

% Enrolled in following Fall

Proportion

Community College Outcomes

Note Sample: First Time Freshman: CA High School Graduates, Entering with 2 Years Post-HS, Enrolled in Minimum of 6 Credits

- % Enrolled in following Fall
- % Ever Receive Degree and/or Certificate

Proportion

- 1993
- 1994
- 1995
- 1996
- 1997
- 1998
- 1999
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
Note Sample: First Time Freshman: CA High School Graduates, Entering with 2 Years Post-HS, Enrolled in Minimum of 6 Credits
Community College Outcomes—by Aid Receipt

- % Enrolled in following Fall (No Aid)
- % Enrolled in following Fall (Fin Aid)
- % Ever Receive Degree and/or Certificate (No Aid)
- % Ever Receive Degree and/or Certificate (Fin Aid)
- % Ever Transfer to a 4 year (No Aid)
- % Ever Transfer to a 4 year (Fin Aid)
Community College Outcomes—by Race/Ethnicity

Proportion Ever Receive Degree and/or Certificate

- Asian
- African American
- Hispanic
- White
Community College Outcomes—by Race/Ethnicity

Proportion Ever Transfer to a 4-Year Institution

- Asian
- African American
- Hispanic
- White
Gaps in Postsecondary Outcomes

- Community Colleges
- California State University
Research Objective

- Examine gaps in postsecondary outcomes by race
  - Persistence and completion
  - Performance
- Adjust for observed individual and institutional differences that may contribute to gaps:
  - Financial constraints
  - Academic preparation
  - High school quality
  - Major sorting
  - Institutional differences
Analytic sample over 300,000 students across 108 community colleges

- First time freshman cohorts (2005-2009)
- Age 17-19
- Started college within one year of high school graduation
- Enrolled in at least two courses (six units) in their first year
Race Gaps in Persistence, Performance, & Completion

- **Individual Determinants**
  - Financial Constraints (Free/Reduced Lunch in 11th grade)
  - Academic Preparation (11th grade Math/ELA performance)
  - High School Quality (California’s API score)

- **Institutional Differences**
CCC: Race Gaps in Two Year Persistence Rates

- Model 1: Unconditional
- Model 2: 1 + Cohort Fixed Effects
- Model 3: 2 + Free/Reduced Lunch Eligibility
- Model 4: 3 + 11th Grade Test Scores
- Model 5: 4 + High School Quality (API)
- Model 6: 5 + College Fixed Effects

Mean Persistence = .78
CCC: Race Gaps in Transfer Rates

- Model 1: Unconditional
- Model 2: 1 + Cohort Fixed Effects
- Model 3: 2 + Free/Reduced Lunch Eligibility
- Model 4: 3 + 11th Grade Test Scores
- Model 5: 4 + High School Quality (API)
- Model 6: 5 + College Fixed Effects

Mean Transfer = .25
CCC: Race Gaps in Degree Completion Rates

- Model 1: Unconditional
- Model 2: 1 + Cohort Fixed Effects
- Model 3: 2 + Free/Reduced Lunch Eligibility
- Model 4: 3 + 11th Grade Test Scores
- Model 5: 4 + High School Quality (API)
- Model 6: 5 + College Fixed Effects

Mean Complete = .32
CCC: Race Gaps in 1\textsuperscript{st} year GPA

- Model 1: Unconditional
- Model 2: 1 + Cohort Fixed Effects
- Model 3: 2 + Free/Reduced Lunch Eligibility
- Model 4: 3 + 11\textsuperscript{th} Grade Test Scores
- Model 5: 4 + High School Quality (API)
- Model 6: 5 + College Fixed Effects

Mean GPA=2.2
Institutional Differences

Distributions of student inputs
  - Considerable differences in student inputs across California’s community colleges
Campuses differ dramatically in racial/ethnic makeup

Campus Race Distributions
Campuses differ in high school academic preparation

Campus high school English standardized test scores
Campuses differ in high school academic preparation

Campus 11\textsuperscript{th} grade math course distribution
Race Gaps in CCC Degree Completion by Institution (Hispanic-White)

No Controls
Race Gaps in CCC Degree Completion by Institution (Hispanic-White) + Free/Reduced Lunch Eligibility
Race Gaps in CCC Degree Completion by Institution (Hispanic-White) + Free/Reduced Lunch Eligibility + Test Scores
Race Gaps in CCC Degree Completion by Institution (Hispanic-White)

+ Free/Reduced Lunch Eligibility + Test Scores + HS Quality
CSU: Data and Sample

- California State University Chancellor’s Office data
  - Census of students enrolled in years 2004-2009
- Match to California Department of Education K-12 data
  - High school test scores and
  - Demographic information
- Over 540,000 students across 23 CSU campuses
Race Gaps in Persistence, Performance, and Completion

- Individual Determinants (Pre-College)
  - Financial Constraints (Pell Eligibility)
  - Academic Preparation (SAT, HS GPA)
- Individual Determinants (College Entry)
  - Remediation Status
  - Declared Major
  - Credit Load, Work Status
- Institutional Differences
CSU: Race Gaps in Year 2 Persistence

- Model 1: Unconditional
- Model 2: 1 + Pell Eligibility
- Model 3: 2 + SATs
- Model 4: 3 + Campus Fixed Effects
- Model 5: 4 + Major Fixed Effects

Mean Persistence = .83
CSU: Race Gaps in 6 Year Graduation Rates

- Model 1: Unconditional
- Model 2: 1 + Pell Eligibility
- Model 3: 2 + SATs
- Model 4: 3 + Campus Fixed Effects
- Model 5: 4 + Major Fixed Effects

Mean Grad 6 YR= .54
CSU: Race Gaps in 1st Term GPA

- Model 1: Unconditional
- Model 2: 1 + Pell Eligibility
- Model 3: 2 + SATs
- Model 4: 3 + Campus Fixed Effects
- Model 5: 4 + Major Fixed Effects

Mean GPA = 2.79
CSU: Race Gaps in GPA Over Time (from fully specified model)
CSU Institutional Differences

Persist at Same Campus

Campus

White  Black  Hispanic
CSU Institutional Differences

Persist at Same Campus

Campus

White    Black    Hispanic
CSU Institutional Differences
CSU Institutional Differences
CSU Institutional Differences

Graph showing 6 Year Graduation rates across different campuses for White, Black, and Hispanic students.
Summary and Next Steps

- Big gaps in postsecondary outcomes, even conditioning on a host of factors that are highly correlated with these outcomes (and holding selectivity/sector constant)
- Explore gender differences
- Major sorting
- Richer set of institutional characteristics
- Qualitative work
Thank You