

Additional Resources:

Unpacking Program Enrollments & Completions with Equity in Mind

Examining Program Completions using CCRC's IPEDS Data Tool



To Build Back Enrollment, Community Colleges Must Ensure That Their Programs Are Worth Completing

Essays • Multiple Authors • Wednesday, 29 September 2021

By Davis Jenkins and John Fink

Over the past few months, community college leaders have gone to great lengths to recover from the pandemic enrollment crash and attract students back—through marketing campaigns, tuition incentives, and loan or fee forgiveness. All of these efforts are needed. However, to build back enrollment over the longer term, colleges must not only take steps to make it easier to attend college but also reevaluate their programmatic offerings to ensure that all programs lead to outcomes that make them worth the investment of time and money by students and their families.

A starting point is to ask some fundamental questions: What programs are our students completing, what do they lead to, and which groups of students are underrepresented in programs leading to stronger postgraduation outcomes? The data tool below offers a bird's-eye view of what credentials are being completed at your college or in your state.

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<https://ccrc.tc.columbia.edu/easyblog/community-college-enrollment-value.html>

<https://public.tableau.com/app/profile/john.fink>

Examine Completions by Level & Program

IPEDS Completions Data

Select State: All | Select Sector(s): Community Colleges | Select a College: All | Select Multiple Colleges: All

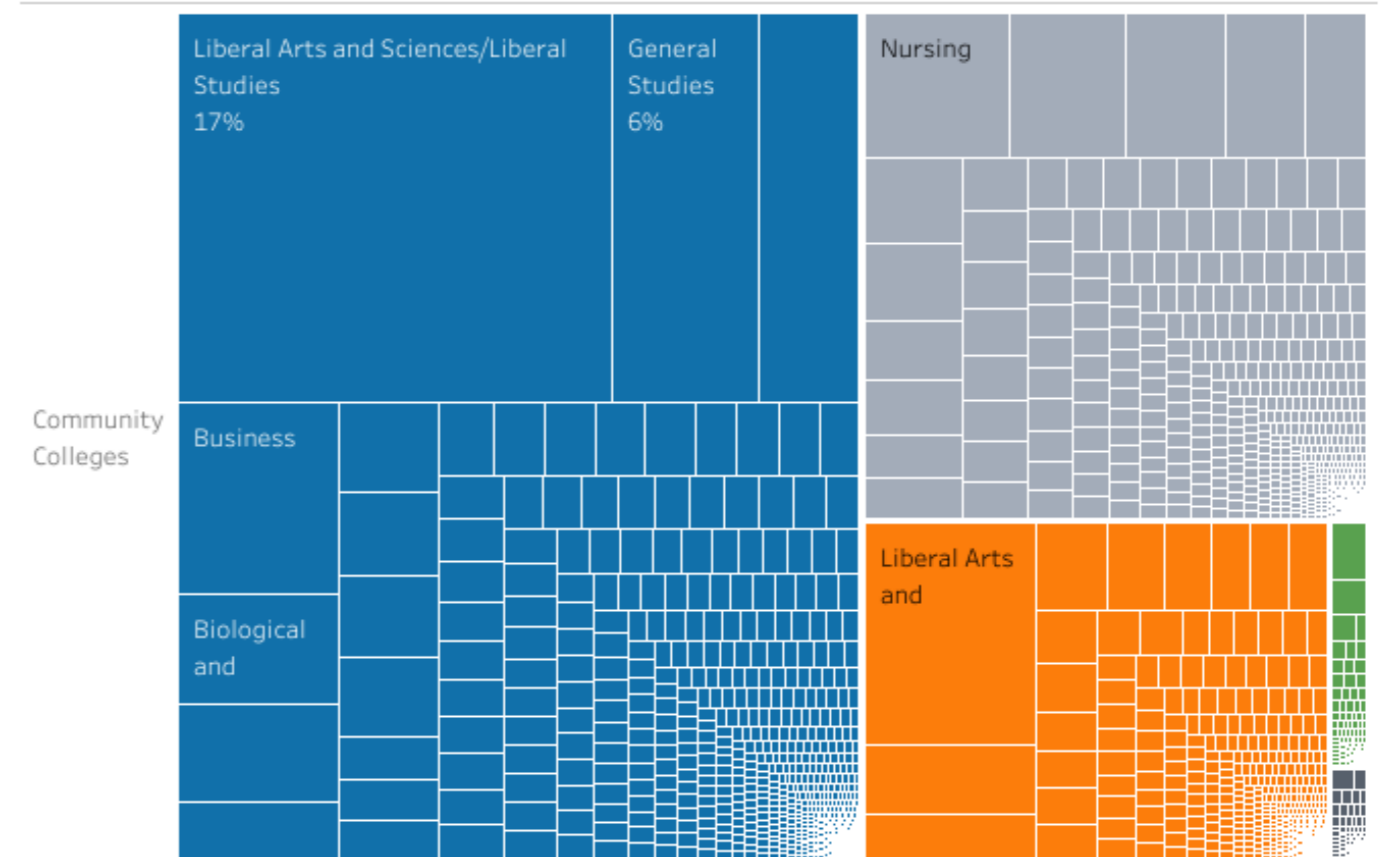
Group Awards by: Award Level | Award Level: All | Select Year(s): 2018-19 | Race/Ethnicity: All | Sex: All

Program Categories

- Certificate, Short
- Certificate, Long
- Associate's degree
- Certificate, Post Associate
- Bachelor's degree
- Postbaccalaureate or post-maste..
- Master's degree

1,481,690 Awards Conferred in 2018-19

State: All, Institution: All, Race/Ethnicity: All, Sex: All



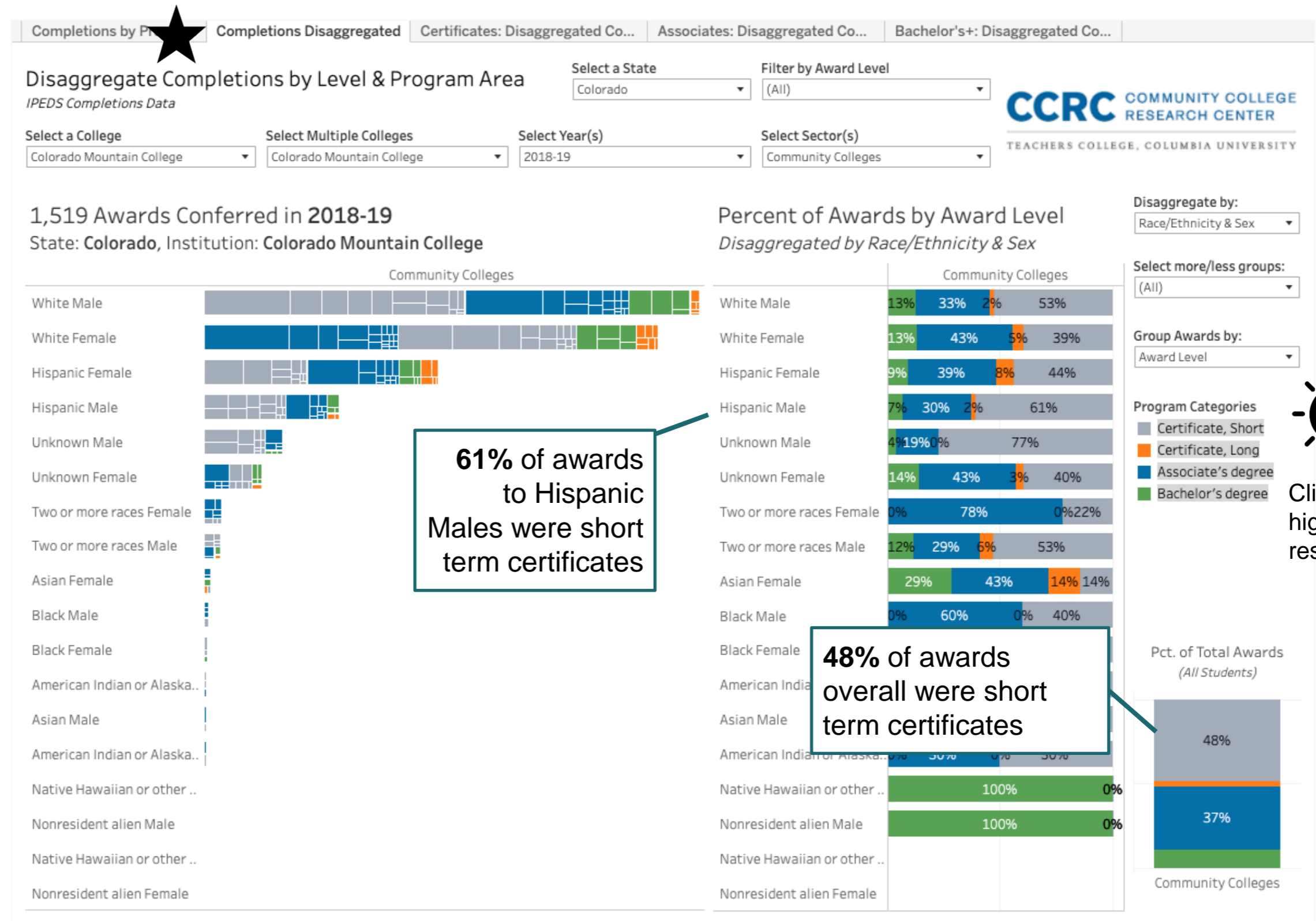
Disaggregating Completions by Award Level

3. Switch to “Completions Disaggregated” tab

4. Disaggregate by sex, race/ ethnicity, or both combined

How do student groups differ by award level?

Which student groups are overrepresented in short-term certificates?

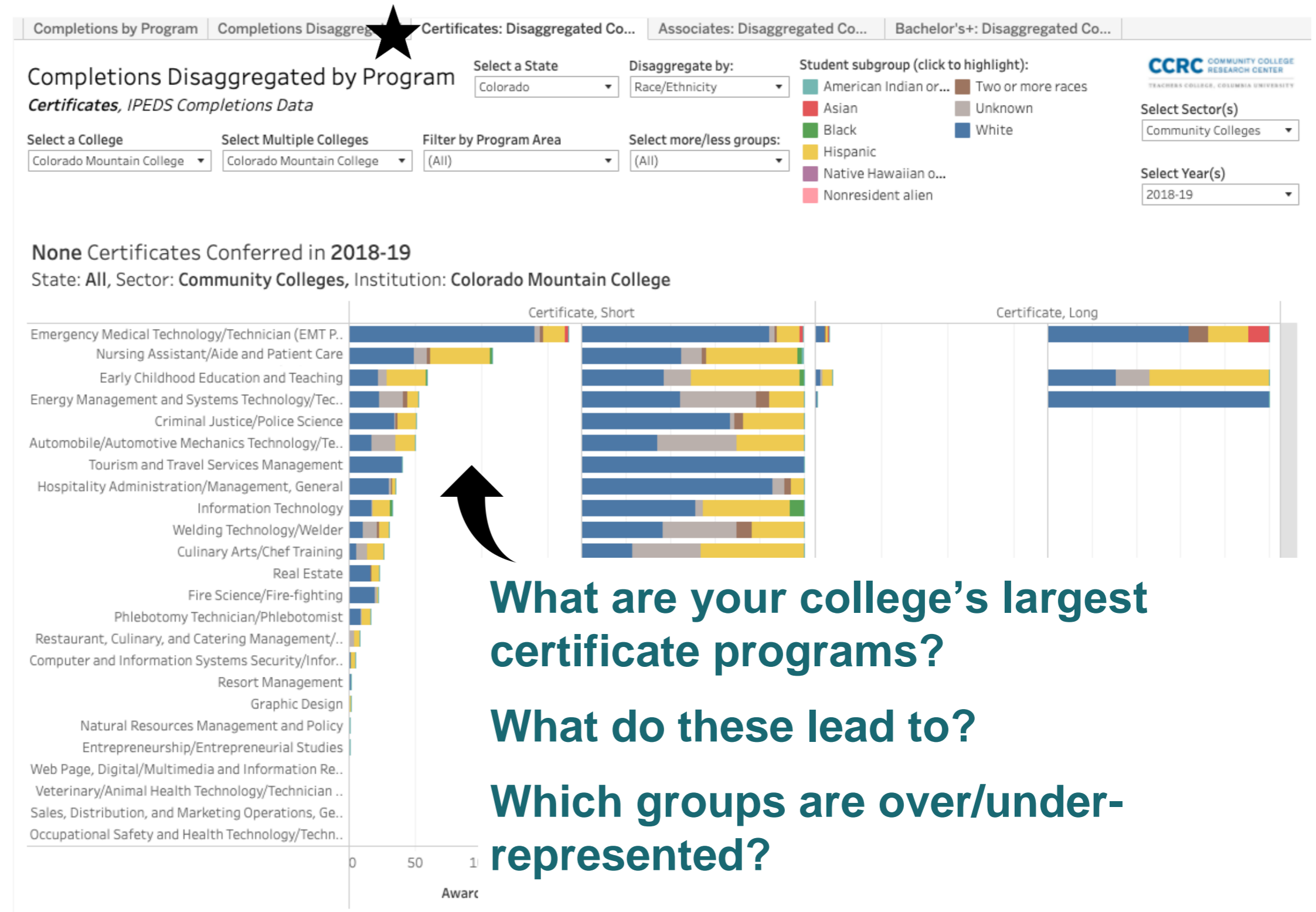


Disaggregating Certificate Completions by Program of Study

3. Switch to “Completions Disaggregated” tab

4. Disaggregate by sex, race/ethnicity, or both combined

5. Switch to tab: “Certificates: Disaggregated Completions”



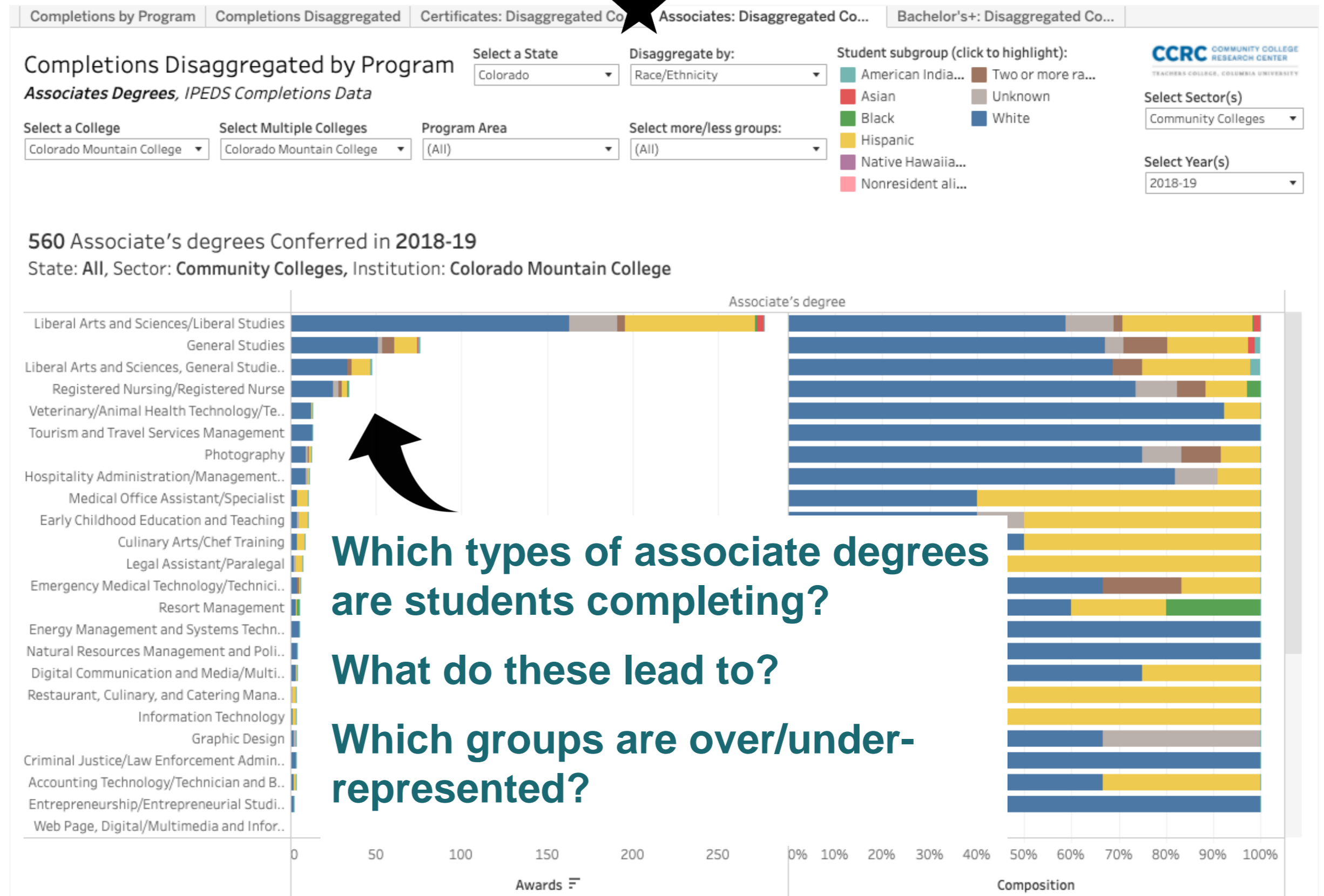
Disaggregating Associate Completions by Program of Study

3. Switch to “Completions Disaggregated” tab

4. Disaggregate by sex, race/ethnicity, or both combined

5. Switch to tab: “Certificates: Disaggregated Completions”

6. Switch to tab: “Associates: Disaggregated Completions”



Program Equity Explorer Excel Tool

Data Tool: Unpacking Program Enrollments and Completions with Equity in Mind

John Fink, June 2020



TEACHERS COLLEGE, COLUMBIA UNIVERSITY

This Excel tool is designed to help colleges get started in examining data on student program enrollments and completions,* following three primary questions described in the companion CCRC Analytics publication (linked below):

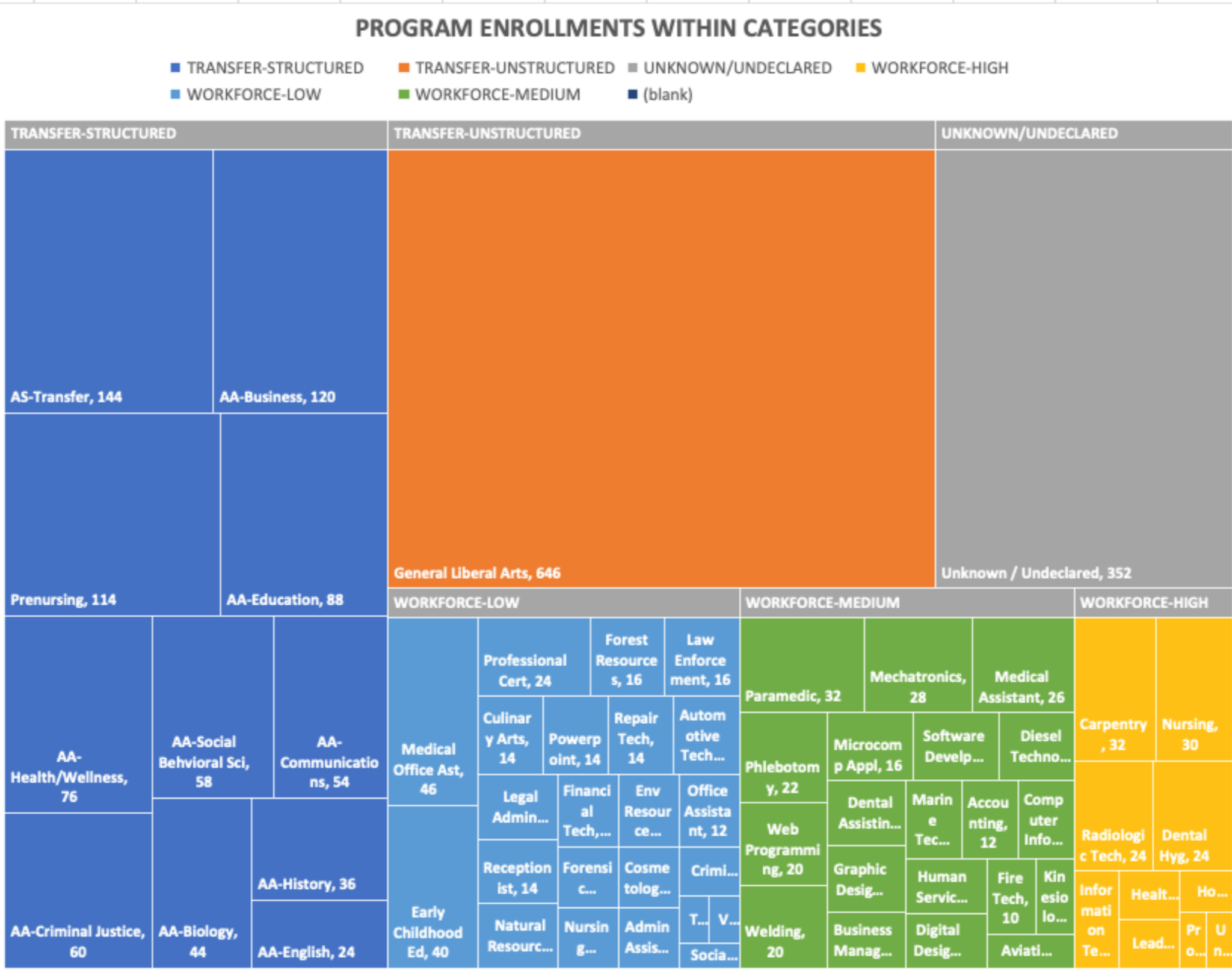
- 1) What programs are our students currently enrolled in? (Tab 1)
- 2) What opportunity does each program lead to in terms of further education (e.g., transfer to bachelor’s programs or bridges into more advanced workforce credentials) and/or immediate job prospects and earnings. Which programs lead to greater or lesser opportunity? (Tab 2)
- 3) Is student representation across programs proportionate? Which subgroups of students (by race/ethnicity, gender, socioeconomic status, and age) are underrepresented in higher-opportunity programs? (Tabs 3-4)

	A	B	C	D	E	F	G
1	Program	Workforce/Transfer Category	Meta-major	Gender	Race	Age	Count
2	General Liberal Arts	TRANSFER-UNSTRUCTURED	Arts, Humanities, Communication	Male	Asian	<18	1
3	Pre-Vet Medicine	TRANSFER-UNSTRUCTURED	Industrial & Applied Technologies	Female	Multiracial	18-24	1
4	Repair Tech	WORKFORCE-LOW	Industrial & Applied Technologies	Female	African American	18-24	1
5	AS-Transfer-Physics	TRANSFER-STRUCTURED	STEM	Male	Asian	<18	1
6	AS-Transfer-Physics	TRANSFER-STRUCTURED	STEM	Female	Multiracial	<18	1
7	General Liberal Arts	TRANSFER-UNSTRUCTURED	Arts, Humanities, Communication	Female	White	25+	1
8	AA-Transfer-Business	TRANSFER-STRUCTURED	Business	Female	White	18-24	1
9	Unknown / Undeclared	UNKNOWN/UNDECLARED	Arts, Humanities, Communication	Male	African American	25+	1
10	AA-Transfer-Business	TRANSFER-STRUCTURED	Business	Male	African American	18-24	1
11	Kinesiology	WORKFORCE-MEDIUM	Social & Behavioral Sciences	Male	Asian	25+	1
12	Forest Resources	WORKFORCE-LOW	Industrial & Applied Technologies	Female	White	18-24	1
13	Dental Assisting	WORKFORCE-MEDIUM	Human Services & Public Safety	Male	Pacific Islander	18-24	1
14	History	TRANSFER-UNSTRUCTURED	Arts, Humanities, Communication	Male	Native	<18	1
15	Political Science	TRANSFER-UNSTRUCTURED	Social & Behavioral Sciences	Male	Hispanic	<18	1
16	AS-Transfer-Biology	TRANSFER-STRUCTURED	STEM	Male	Multiracial	18-24	1
17	AS-Transfer-Construction	TRANSFER-STRUCTURED	Industrial & Applied Technologies	Male	White	18-24	1

Program Equity Explorer Excel Tool

Total Students: 2,624

Sum of count	Workforce/Transfer Categ	Program	Total
TRANSFER-STRUCTURED			
		AS-Transfer	144
		AA-Business	120
		Prenursing	114
		AA-Education	88
		AA-Health/Wellness	76
		AA-Criminal Justice	60
		AA-Social Behavioral Sci	58
		AA-Communications	54
		AA-Biology	44
		AA-History	36
		AA-English	24
	TRANSFER-UNSTRUCTURED	General Liberal Arts	646
	UNKNOWN/UNDECLARED	Unknown / Undeclared	352
WORKFORCE-HIGH			
		Carpentry	32
		Nursing	30
		Radiologic Tech	24
		Dental Hyg	24
		Information Tech	12
		Healthcare Data Analytics	8
		Leadership In Trades	8
		Homeland Security	6
		Project Management	4
		Union Electrician	4
WORKFORCE-LOW			
		Medical Office Ast	46
		Early Childhood Ed	40
		Professional Cert	24
		Forest Resources	16
		Law Enforcement	16
		Culinary Arts	14
		Powerpoint	14
		Repair Tech	14
		Automotive Tech	14
		Legal Admin Assist	14
		Receptionist	14
		Natural Resource	14
		Financial Tech	12
		Env Resource Management	12
		Office Assistant	12
		Forensic Tech	10
		Nursing Assistant	10
		Cosmetology	10
		Admin Assistant	10



Filter by student characteristics:

Student Age

- <18
- 18-24
- 25+
- (blank)

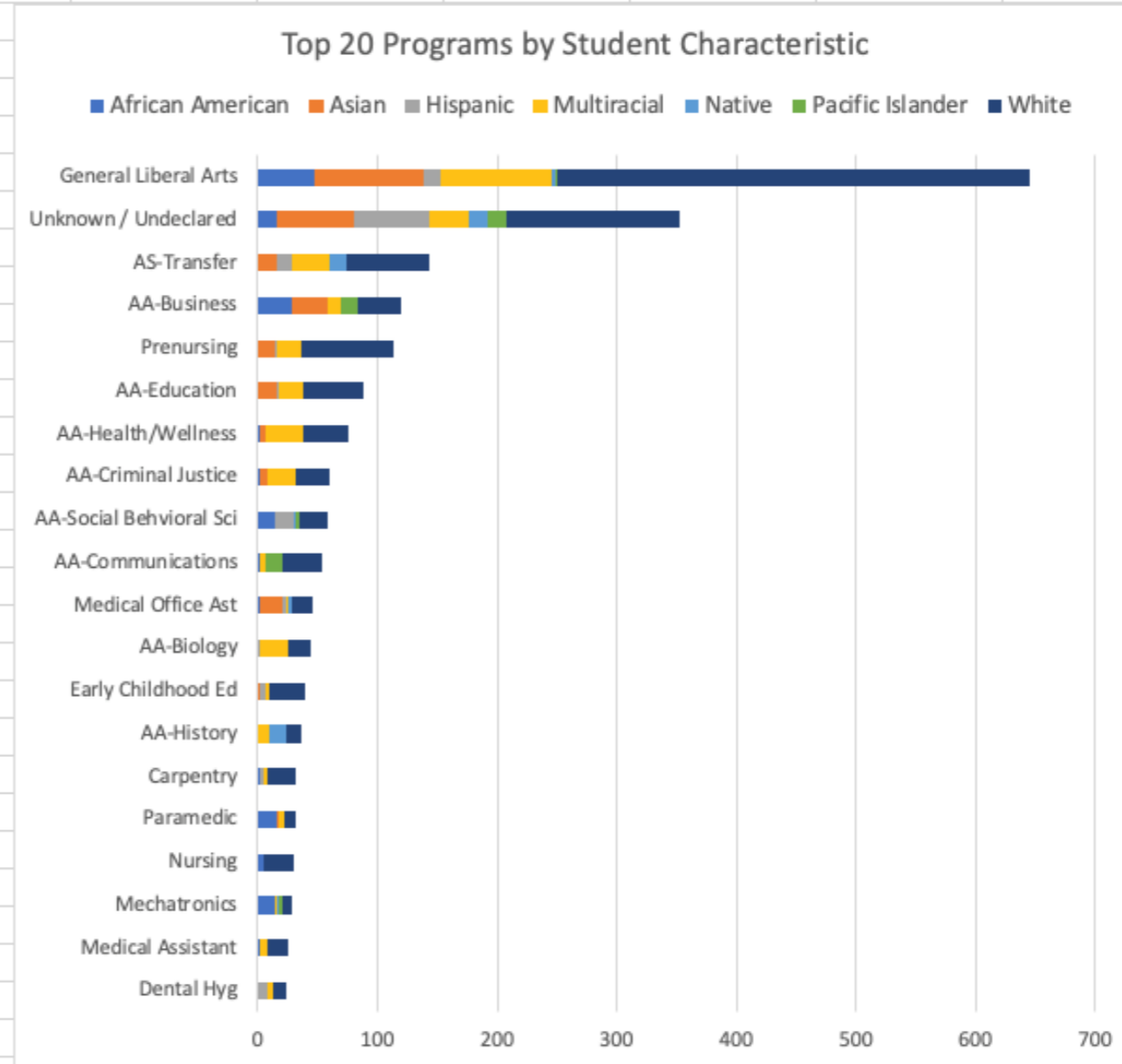
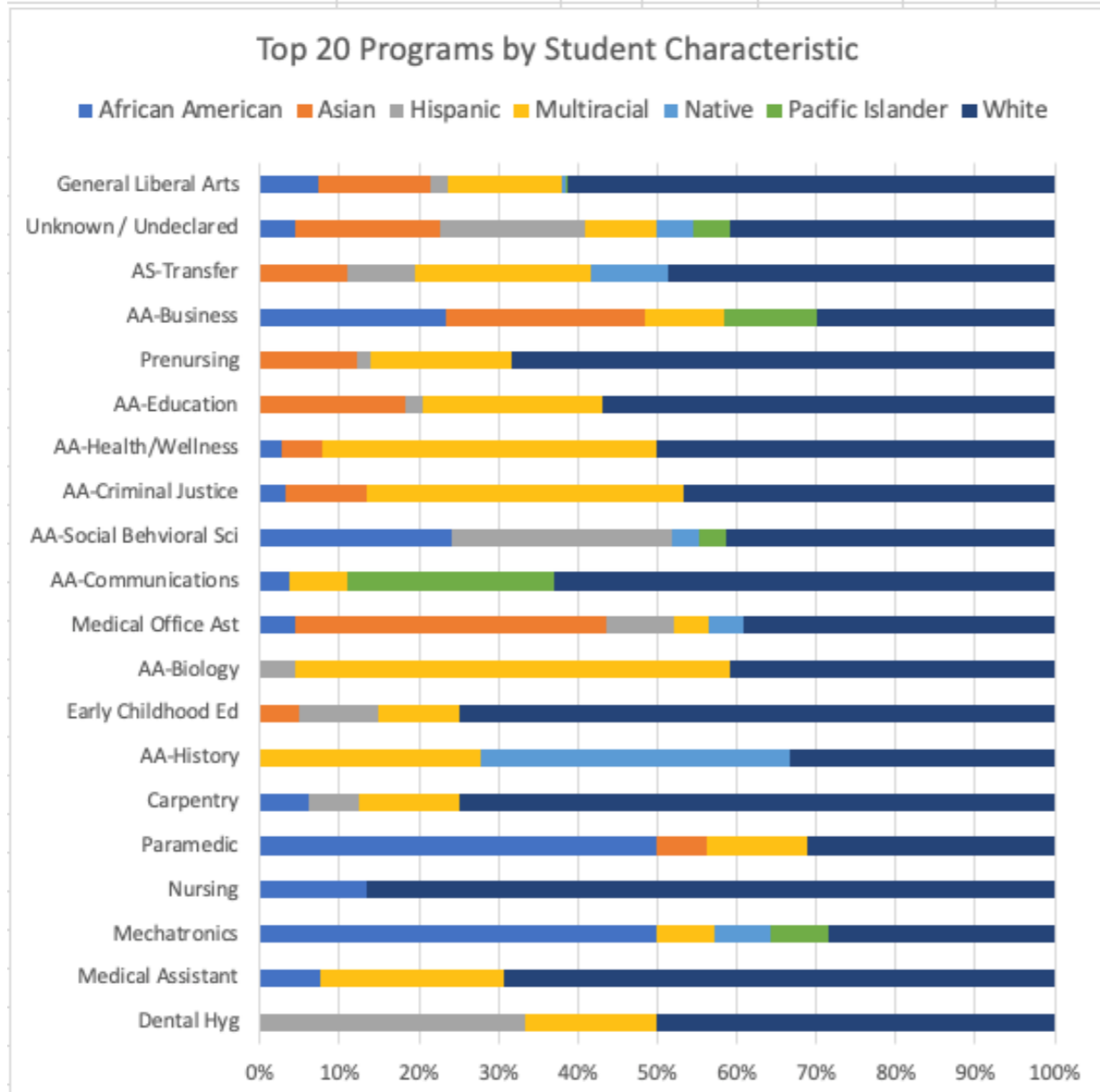
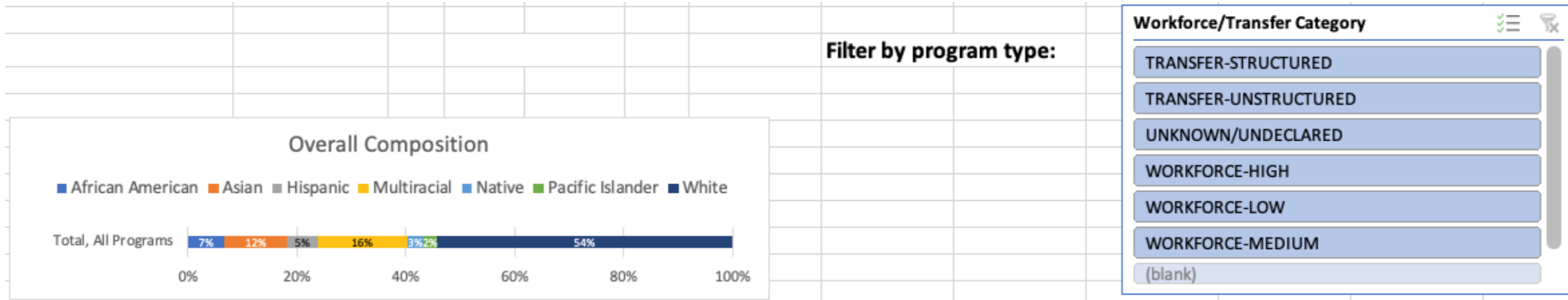
Student Race/Ethnicity

- African American
- Asian
- Hispanic
- Multiracial
- Native
- Pacific Islander
- White
- (blank)

Student Gender

- Female
- Male
- (blank)

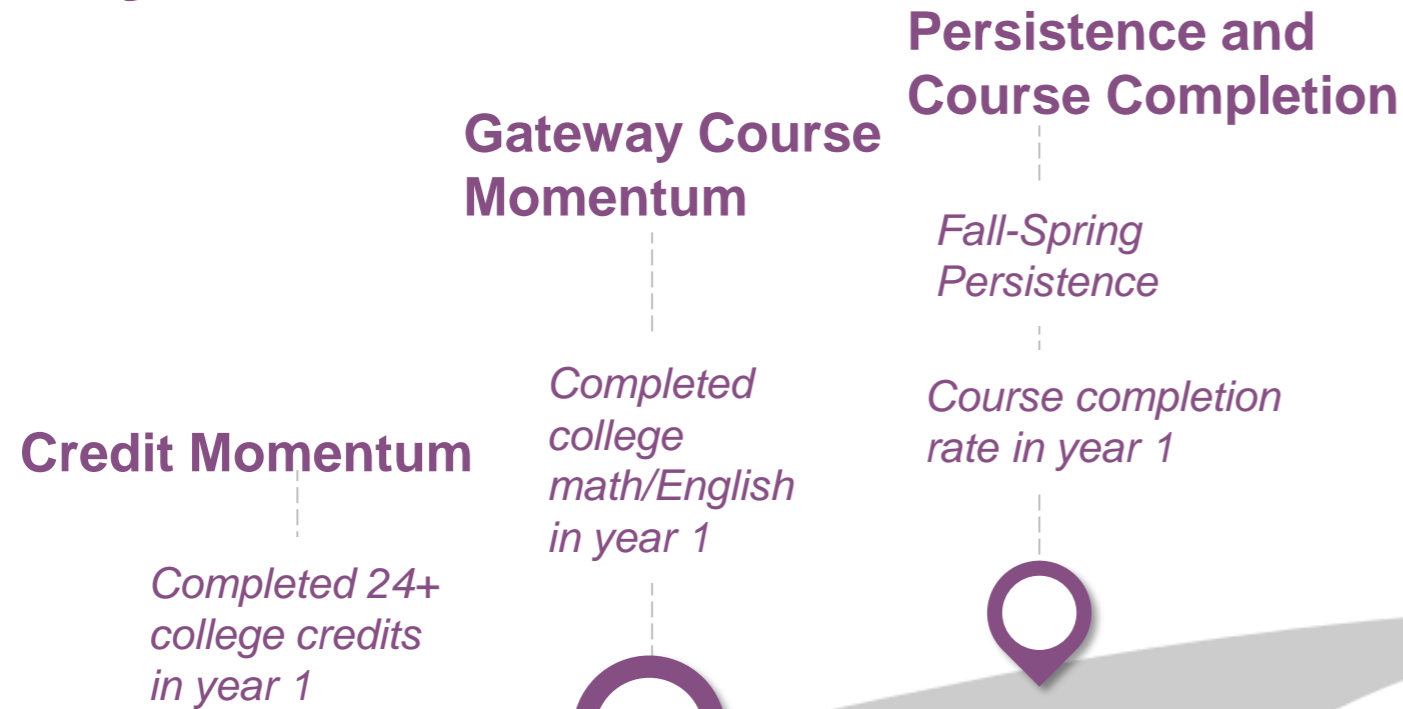
Program Equity Explorer Excel Tool



Early Momentum Metrics as Leading Indicators of Community College Improvement

Metrics for Improvement: Momentum as Leading Indicator

Early Academic Momentum



Benefits of Momentum for Transfer & Bachelor's Completion

Momentum Milestones	Overall Benefit of Milestone	Effects Even Larger for...		
		Black Students	Hispanic Students	Low-income Students
Credit Momentum	1.7-2x	2-3x	4-5x	7-9x
Gateway English/Math	1.6-3x	2-4x	4-5x	4-5x

Yuxin Lin, Maggie Fay, & John Fink. (2021). CCRC analysis using statewide administrative data on 573,806 community college entrants between 2009-2018, tracked up to 10 years. Estimated odds ratios from hazard models controlling for students characteristics, college fixed effects and cohort fixed effects.

CCRC RESEARCH BRIEF

Early Momentum Metrics Leading Indicators for Community College Improvement

By Clive R. Belfield, Davis Jenkins, and John

As community colleges across the country improve student success, they need timely metrics to track their progress. This brief, we examine how well nine metrics used to measure student completion in subsequent years are leading indicators of the metrics used to measure student success. Based on analysis of student data from all states, we find that EMMs do predict long-term success. Also, we find that a key factor in low completion rates is that many students do not complete their first year. College outcomes would be improved if more students met EMMs. Our findings indicate that reforms to community college organizational structures that help students gain early momentum on their first year are critical.

First-Year Indicators

Throughout the nation, two-year and four-year institutions are working to address the "needle" on college-wide measures of success. The entire institution may be required to ensure that the institution is designed and aligned to promote student success. The country is adopting whole-college reforms (Bailey, Jaggars, & Jenkins, 2015). As part of these reforms, institutions are exploring options for programs of study so that students can transfer more easily. Redesigning the on-campus and off-campus support systems and developing an academic calendar that supports students in making timely progress working together across disciplines to ensure success in employment and transfer in the workforce. Because they involve a redesign of college programs, it is important to have a plan for years to implement (Jenkins, Lahr, Fink, &

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Stratified Trajectories: Charting Equity Gaps in Program Pathways Among Community College Students

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December 2020

CCRC Working Paper No. 126

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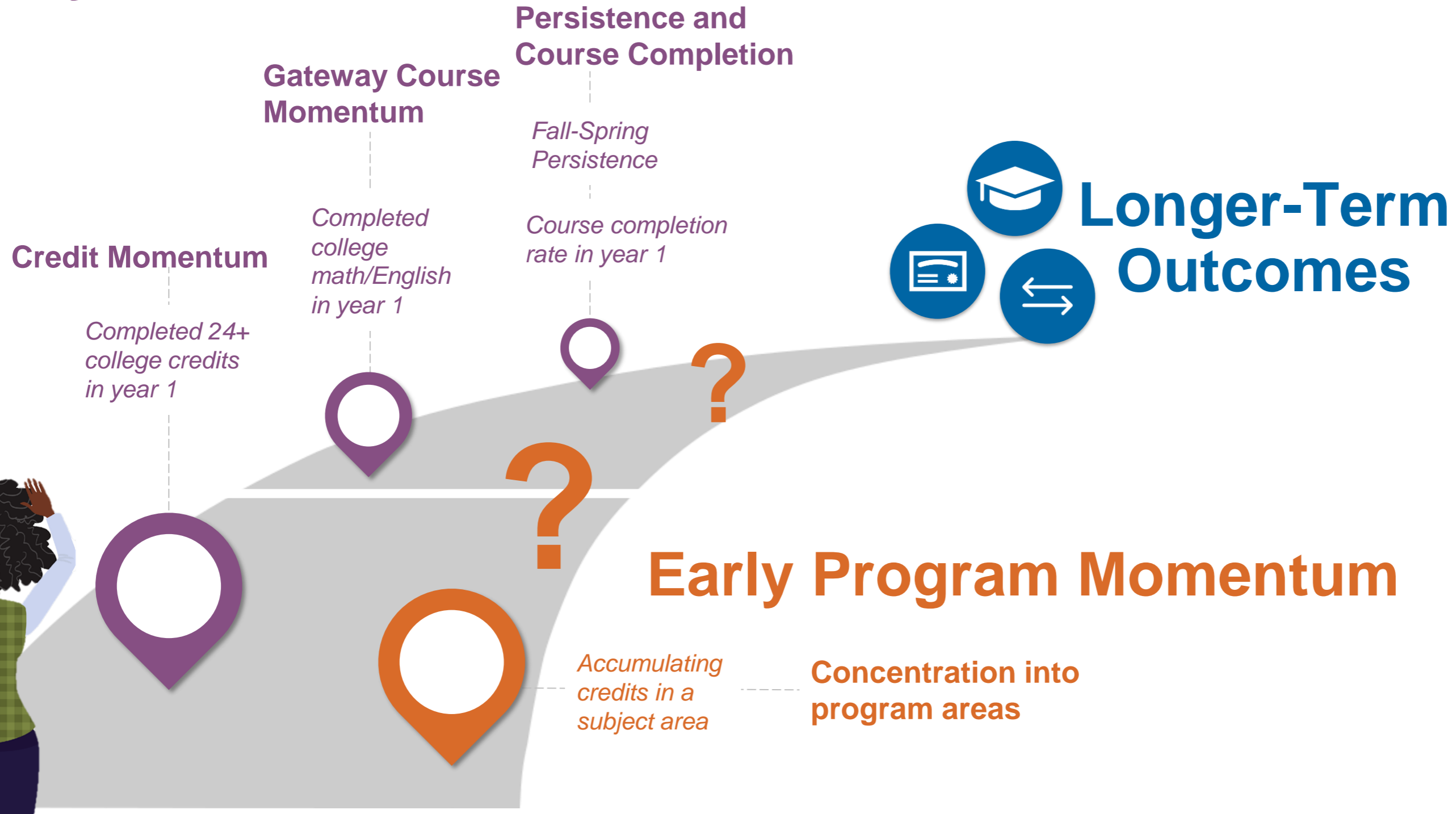
Funding for this study was provided by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the foundation. We are grateful for excellent feedback from Davis Jenkins, Kevin Dougherty, Elizabeth Kopko, Hans Lahr, and attendees of the 2020 Association for Education Finance Policy Annual Conference. Any errors are those of the authors.

<https://ccrc.tc.columbia.edu/publications/early-momentum-metrics-leading-indicators.html>



Metrics for Improvement: Momentum as Leading Indicator

Early Academic Momentum



CCRC RESEARCH BRIEF
COMMUNITY COLLEGE RESEARCH CENTER | JULY 2019

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Leading Indicators for Community College Improvement

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Capturing Early STEM Transfer Program Momentum

STE Course Type
(Excluding Math)

STE Pathway – State Pathways
(e.g., Chem I/II; Bio I/II)

STE Foundation
(Pre-Reqs to STEM Transfer, e.g., intro chem/bio courses)

Other STE, Likely Transferable

Other STE, Likely Terminal

Any STEM



Math Course Type

Calculus

Foundations to Calculus
(Pre-Calculus, Trigonometry/Geometry, College Algebra)

Statistics

Other Math Subjects (College Level)

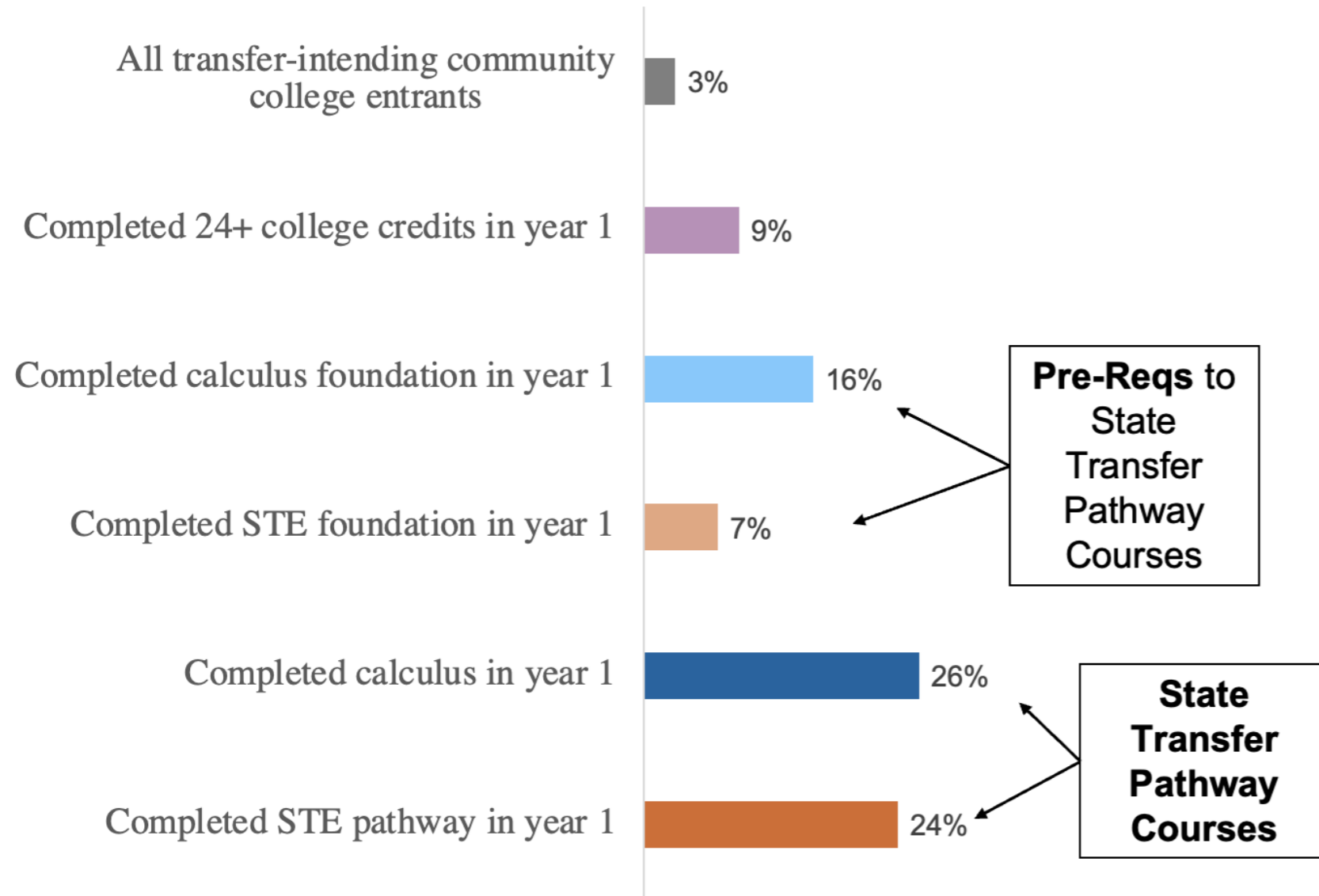
Developmental Math

Key Takeaways

- 1) Findings point to 4 key indicators of STEM Momentum:
 - *STE-Transfer*, STE-Foundation, *Calculus*, Calculus Foundations
- 2) ***STEM Momentum benefits students***: Correlation with longer-term STEM outcomes reliable across states and student subgroups.
 - Paper further tests findings among subgroups of students who may be STEM-intending
- 3) Findings provide ***cross-validation*** of faculty-recommended courses on state transfer pathways
 - STEM indicators appear to capture momentum beyond signaling STEM intent
 - Roadmap for operationalizing transfer program momentum in other fields beyond STEM?
- 4) ***Few students gain STEM Momentum*** : Gender & racial/ethnic gaps present in access to/completion of STEM Momentum courses in year 1

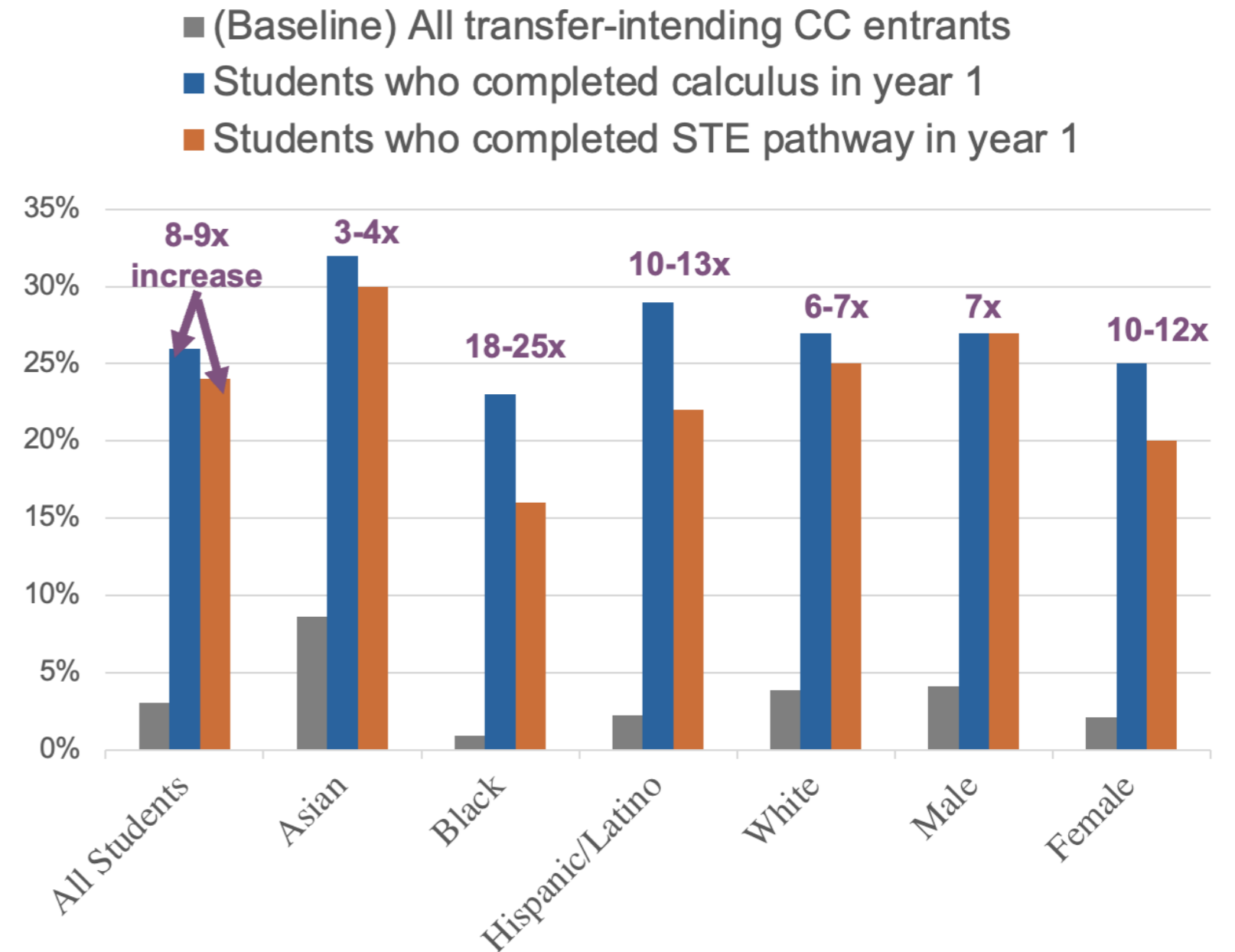
Transfer Pathway Courses Help Students Gain Program Momentum

STEM Bachelor's Completion Rates in 6 years (State A)



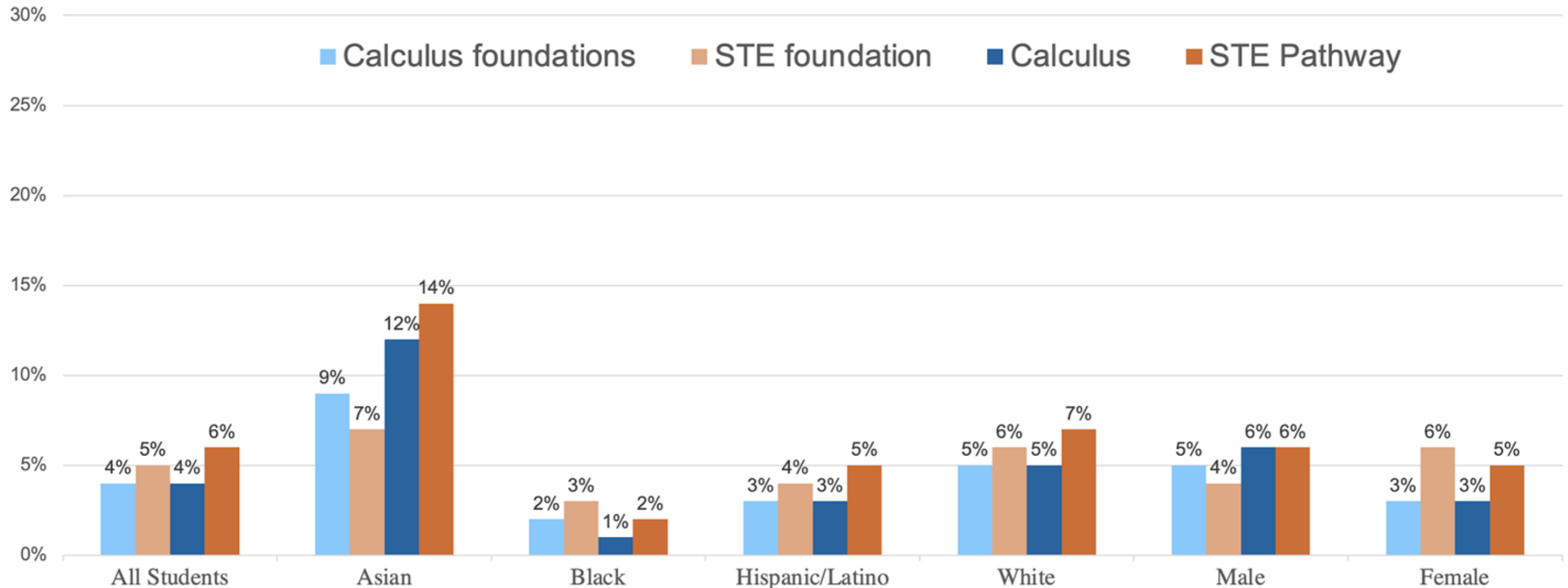
Benefits of Early STEM Momentum Reliable across Student Groups

STEM Bachelor's Completion Rates in 6 years (State A)



Few Students Gain STEM Momentum, Equity Gaps Present Early

Disaggregated Completion of STEM Coursework in Year 1 at Community College (State A)

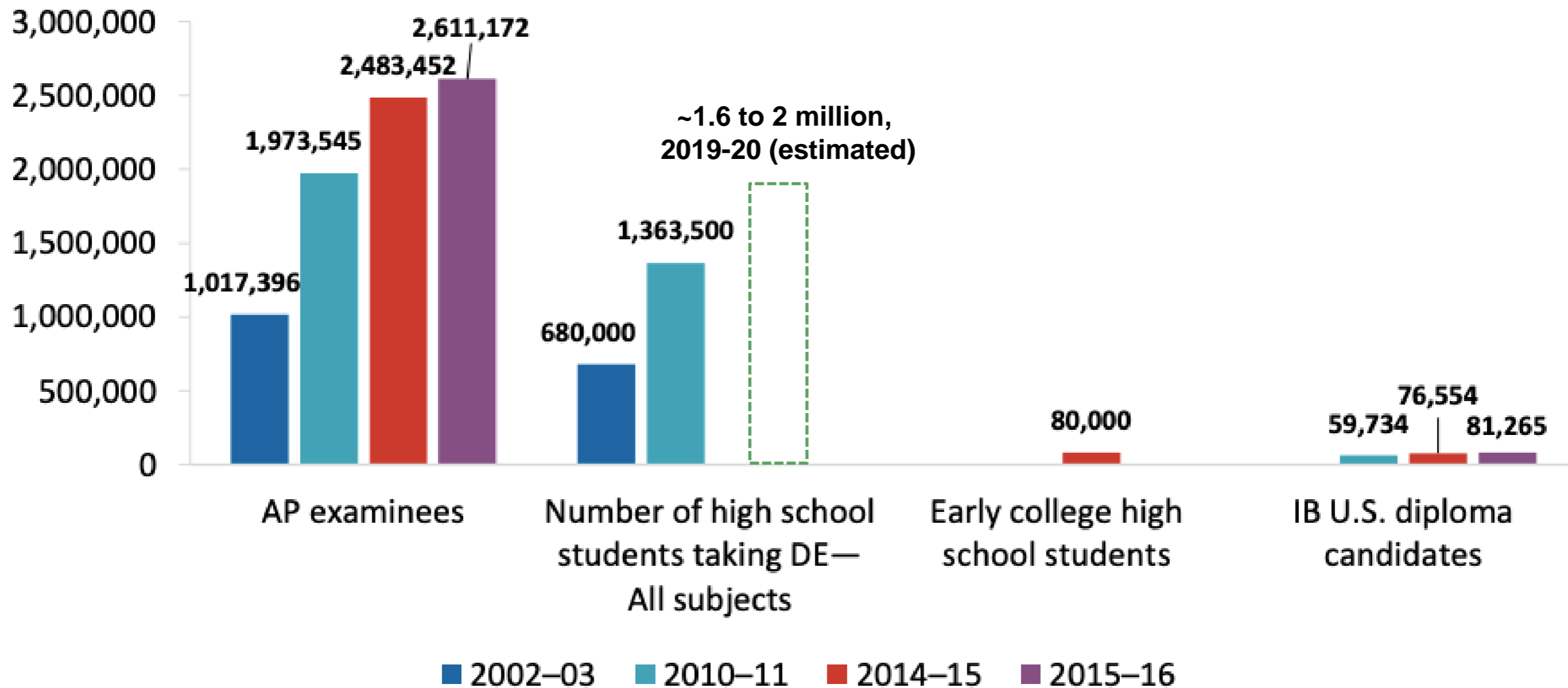


From "Random Acts" and "Programs of Privilege" to Dual Enrollment Equity Pathways

Key Takeaways

1. Conventional approach to dual enrollment has resulted in inequitable access and earned the monikers of “**Programs of Privilege**” and “**Random Acts of DE**”
2. Dual enrollment has great potential but is **currently underutilized** as strategy to expand access to high-opportunity postsecondary pathways
3. Exclusionary policies, practices, and mindsets have resulted in **inequitable access** to dual enrollment courses
4. **Improvement is possible** – and essential to further expanding opportunity for students and building back enrollments for colleges

AP and Dual Enrollment/Credit most common college acceleration opportunities for high school students



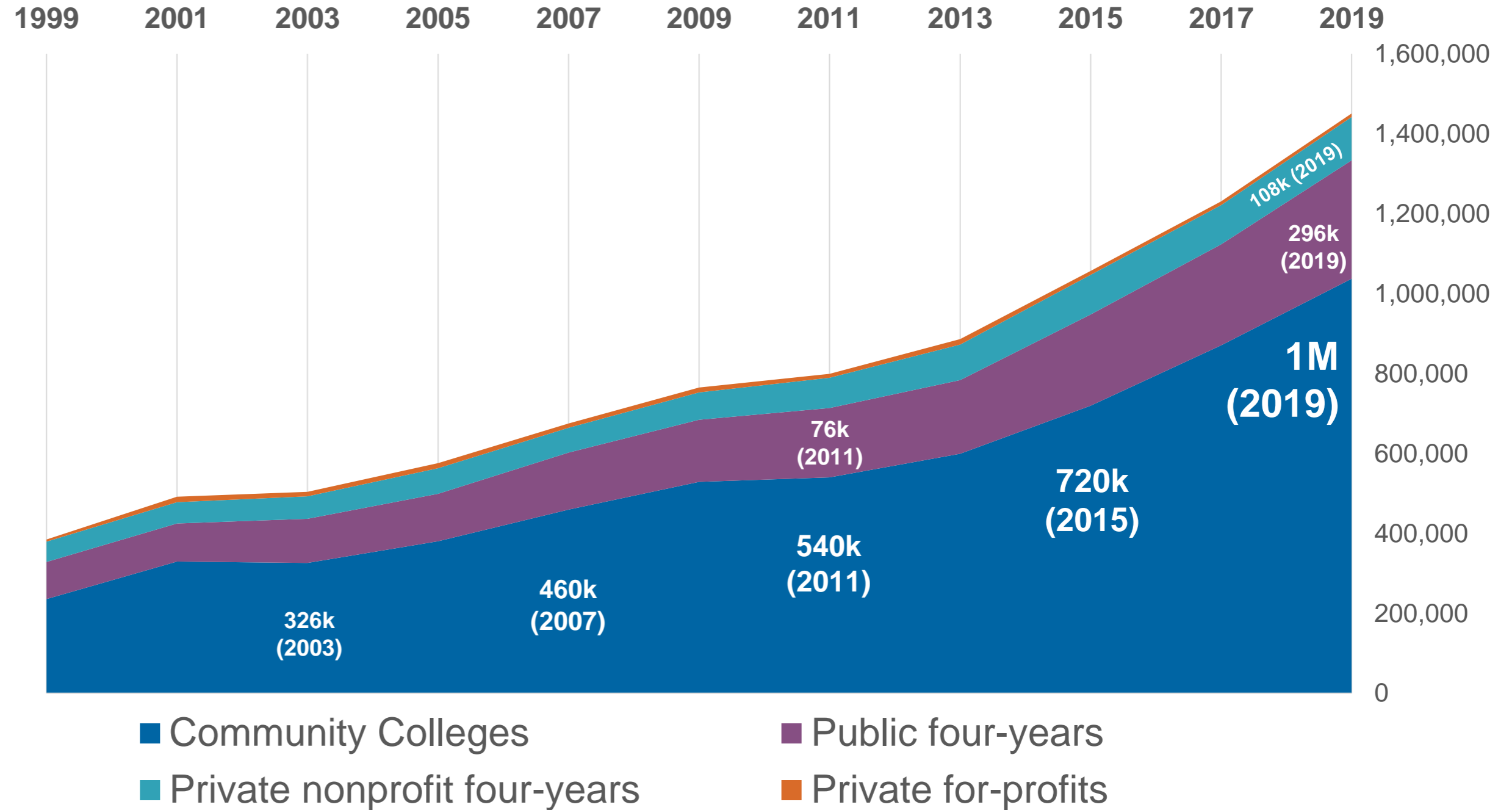
Note (from original figure): National enrollment data do not exist for DE and CTE beyond 2010-11.

Source: College Board, 2017, p. 9, Figure 1. (Figure A1 reproduces all data from the original figure.)

Growth of Dual Enrollment 1999-2019

IPEDES Fall Enrollments

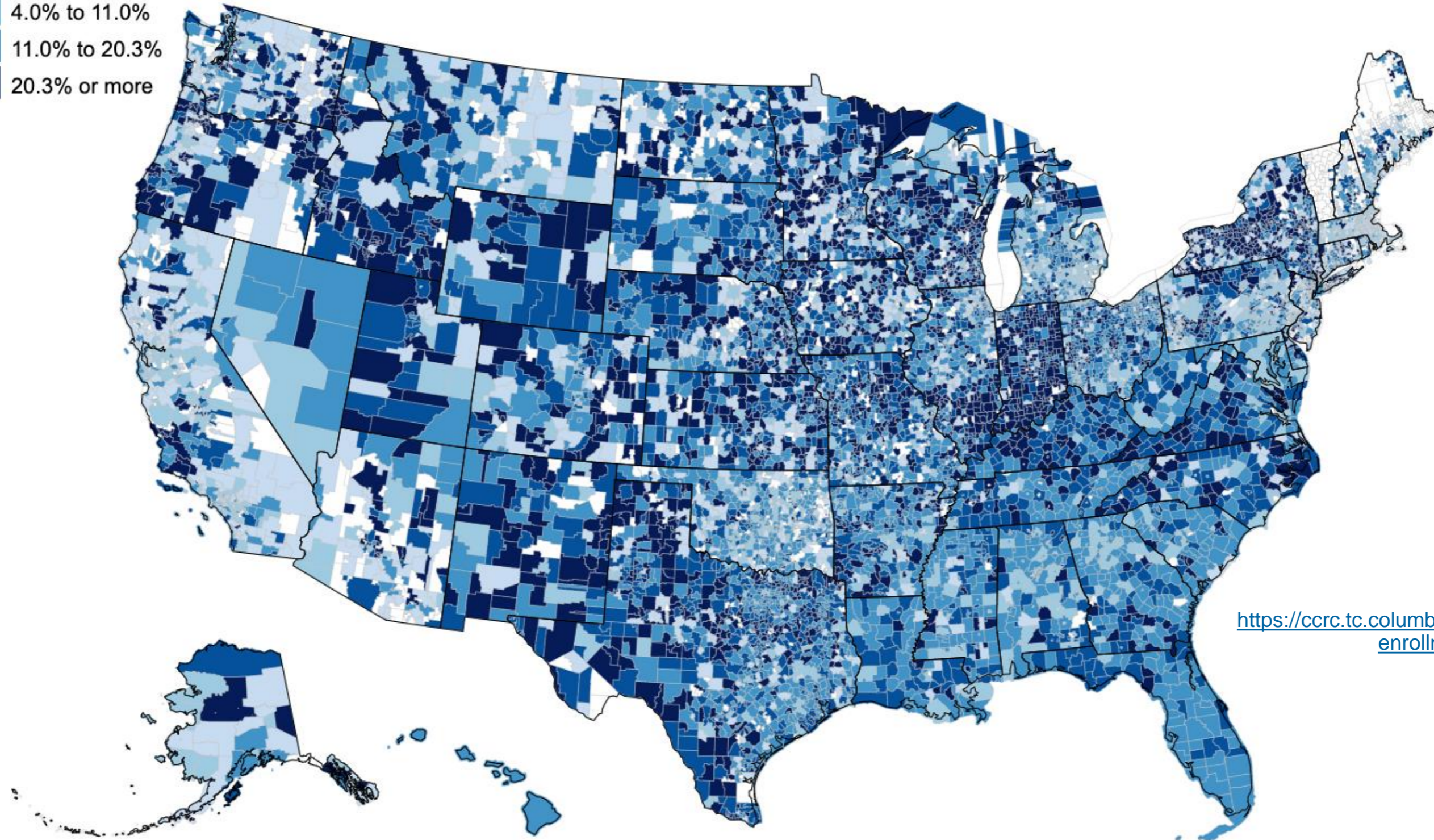
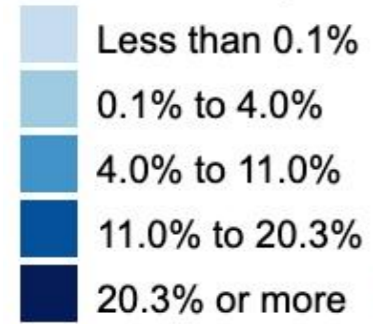
Fall Undergraduate Enrollments among Students Aged 17 or Younger



Expansion of Dual Enrollment Concentrated at Community Colleges

2017-18 High School Student Participation in Dual Enrollment by School District

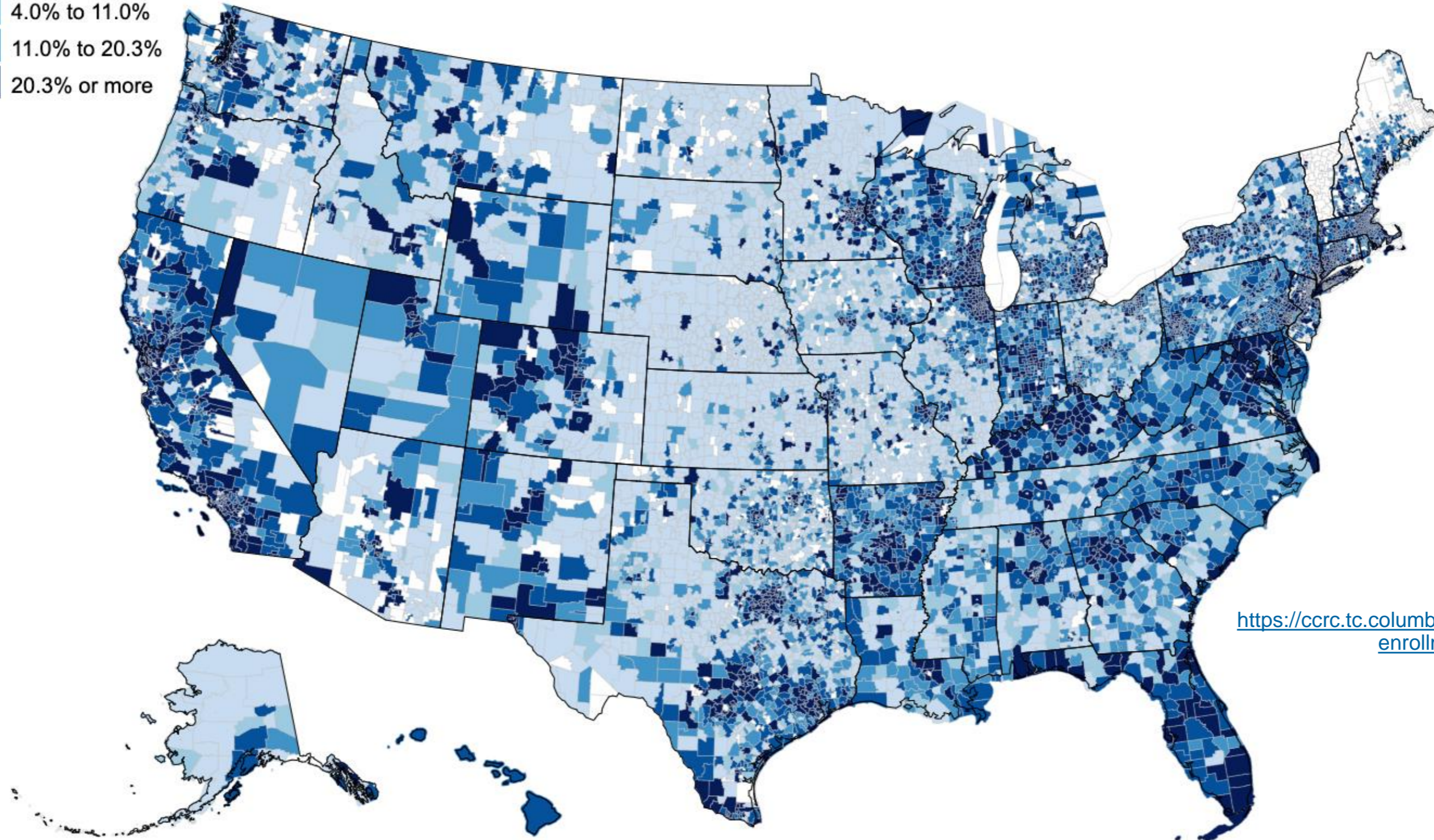
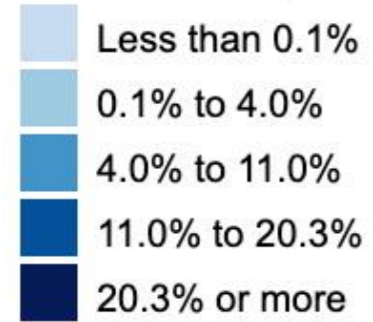
DE-Participation Rate



View an interactive map:
<https://ccrc.tc.columbia.edu/easyblog/ap-dual-enrollment-access-update.html>

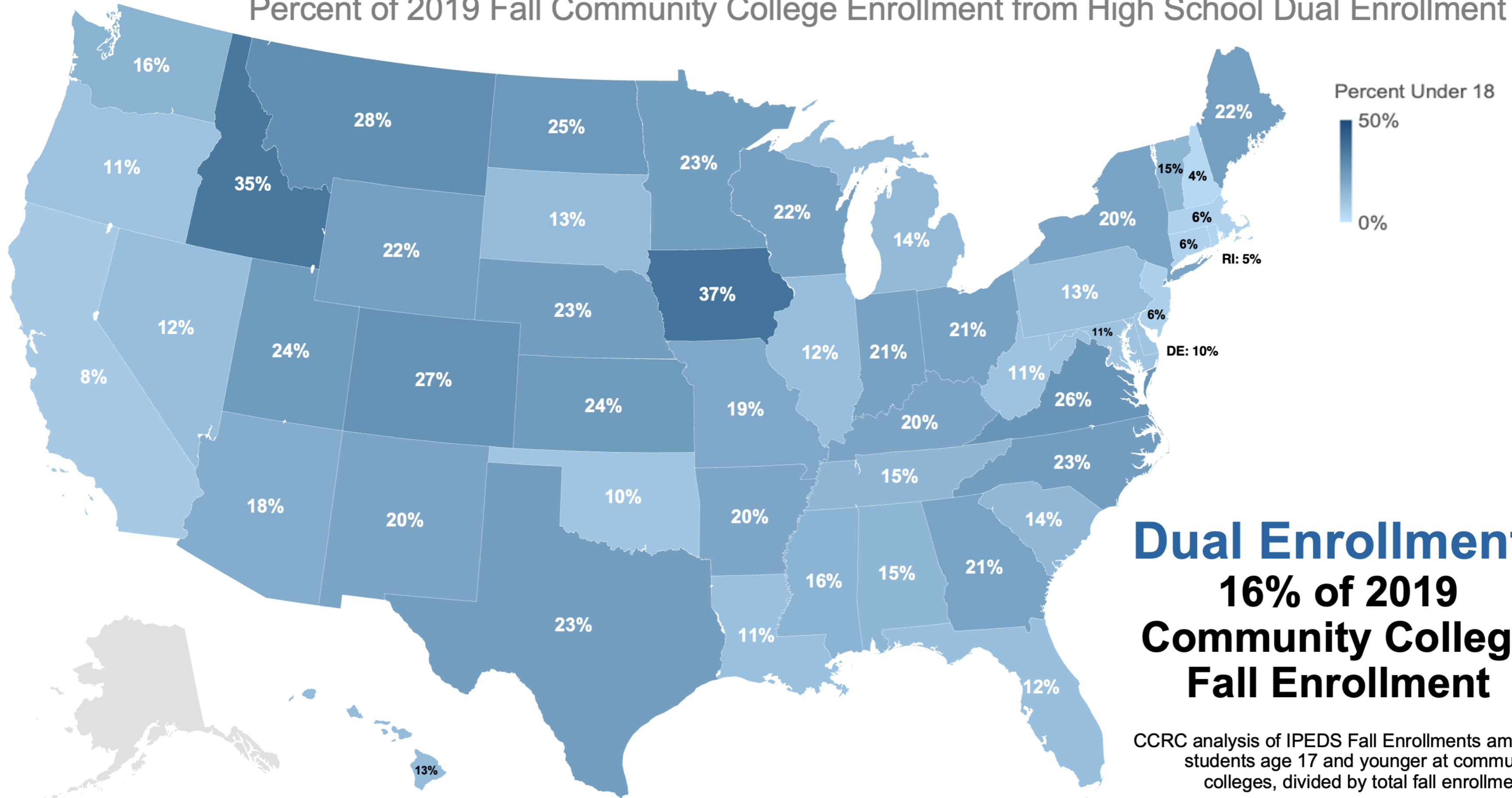
2017-18 High School Student Participation in Advanced Placement by School District

AP-Participation Rate



View an interactive map:
<https://ccrc.tc.columbia.edu/easyblog/ap-dual-enrollment-access-update.html>

Percent of 2019 Fall Community College Enrollment from High School Dual Enrollment



**Dual Enrollment:
16% of 2019
Community College
Fall Enrollment**

CCRC analysis of IPEDS Fall Enrollments among students age 17 and younger at community colleges, divided by total fall enrollments.

Findings on the Effects of HS Dual Enrollment

- Accumulation of descriptive and quasi-experimental evidence for dual enrollment, stronger experimental evidence on effects of ECHS
- WWC Report: Positive effects of taking college courses in HS include stronger HS grades, more HS completion, more college enrollment, more credit accumulation, more degree completion.
- Equitable access to and benefits from dual enrollment? Mixed findings. (An, 2013; Taylor, 2015; AIR, 2018).

CCRC COMMUNITY COLLEGE

What Works Clearinghouse™ U.S. DEPARTMENT OF EDUCATION

WWC Intervention Report ies INSTITUTE OF EDUCATION SCIENCES
A summary of findings from a systematic review of the evidence

Transition to College February 2017

Dual Enrollment Programs

Report Contents	
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Program Description¹
Dual enrollment programs allow high school students to take college courses and earn college credits while still attending high school. Such programs, also referred to as dual credit or early college programs, are designed to boost college access and degree attainment, especially for students typically underrepresented in higher education. Dual enrollment programs support college credit accumulation and degree attainment via at least three mechanisms. First, allowing high school students to experience college-level courses helps them prepare for the social and academic requirements of college while having the additional supports available to high school students; this may reduce the need for developmental coursework. Second, students who accumulate college credits early and consistently are more likely to attain a college degree. Third, many dual enrollment programs offer discounted or free tuition, which reduces the overall cost of college and may increase the number of low socioeconomic status students who can attend and complete college.²

Research³
The What Works Clearinghouse (WWC) identified five studies of dual enrollment programs that both fall within the scope of the Transition to College topic area and meet WWC group design standards. Two studies meet WWC group design standards without reservations, and three studies meet WWC group design standards with reservations. Together, these studies included 77,249 high school students across the United States.

The WWC considers the extent of evidence for dual enrollment programs to be medium to large for the following student outcome domains—degree attainment (college), college access and enrollment, credit accumulation, completing high school, and general academic achievement (high school). The WWC considers the extent of evidence for dual enrollment programs to be small for the following student outcome domains—staying in school, college readiness, attendance (high school), and general academic achievement (college). There were no studies that meet WWC group design standards in the five other domains eligible in the Transition to College topic area, so this intervention report does not report on the effectiveness of dual enrollment programs for those domains. (See the Effectiveness Summary on p. 6 for more details of effectiveness by domain.)

Effectiveness⁴
Dual enrollment programs were found to have positive effects on students' degree attainment (college), college access and enrollment, credit accumulation, completing high school, and general academic achievement (high school), with a medium to large extent of evidence. For the staying in high school, college readiness, and attendance (high school) domains, dual enrollment programs had potentially positive effects with a small extent of

Dual Enrollment Programs February 2017 Page 1

Click on a state for state-specific subgroup details

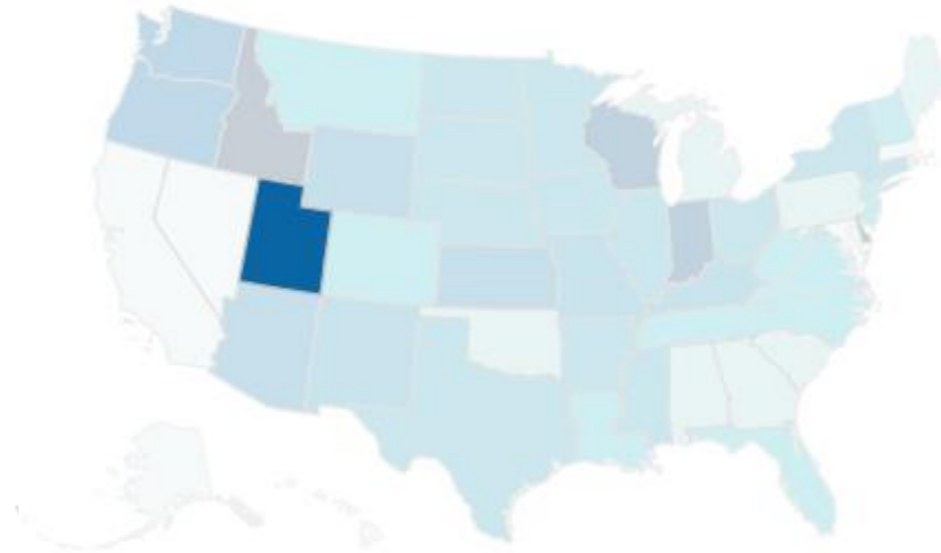
White high school students participated in DE at about 2x the rate of Black & Hispanic high school students

Source: CCRC analysis of 2017-18 Civil Rights Data Collection data

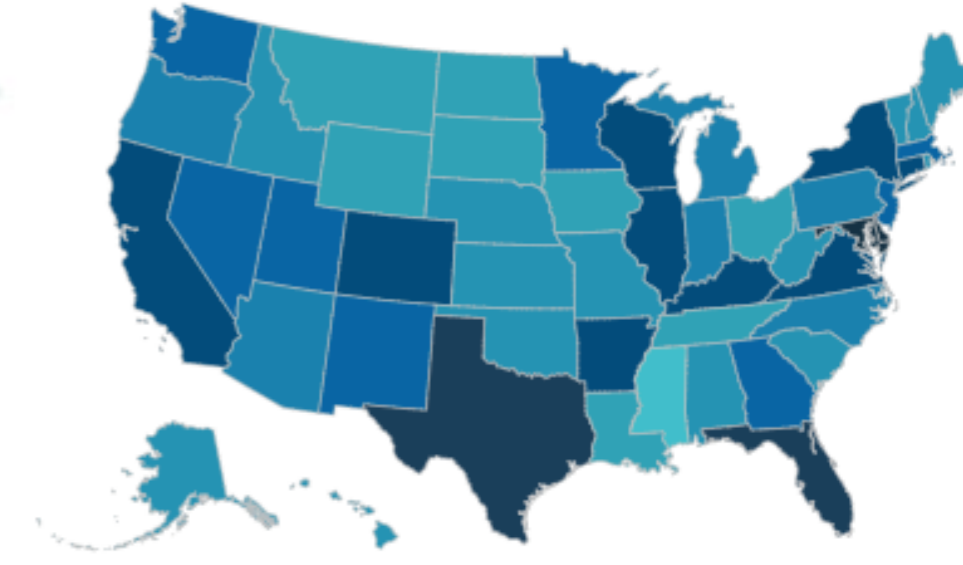
See state-by-state results:
<https://ccrc.tc.columbia.edu/easyblog/ap-dual-enrollment-access-update.html>



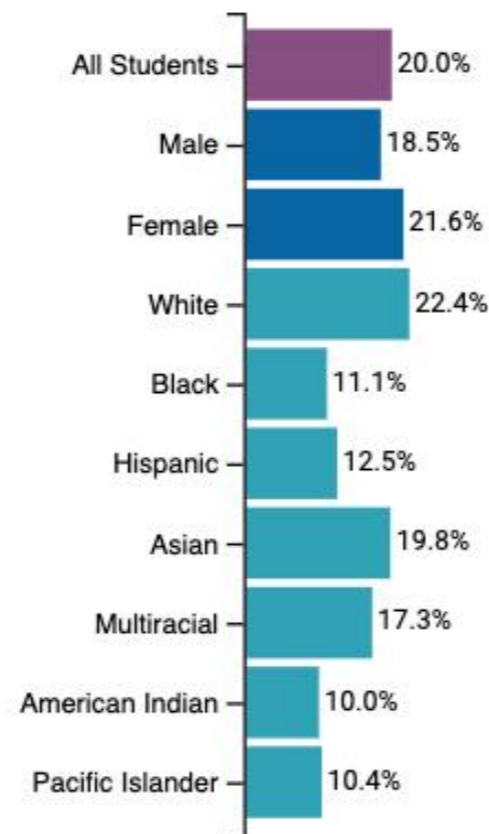
Dual Enrollment (DE)



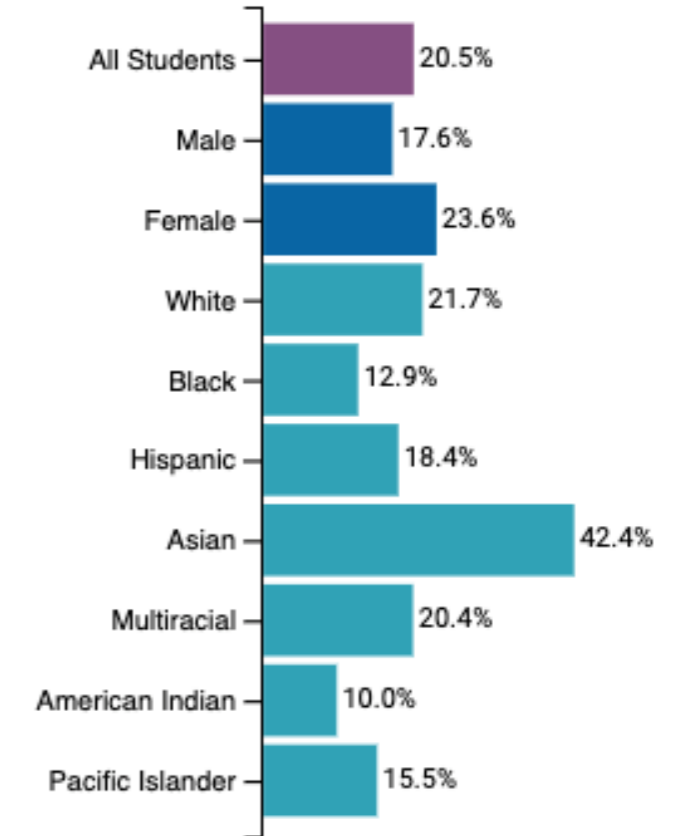
Advanced Placement (AP)



Participation in DE by Student Group
 Utah

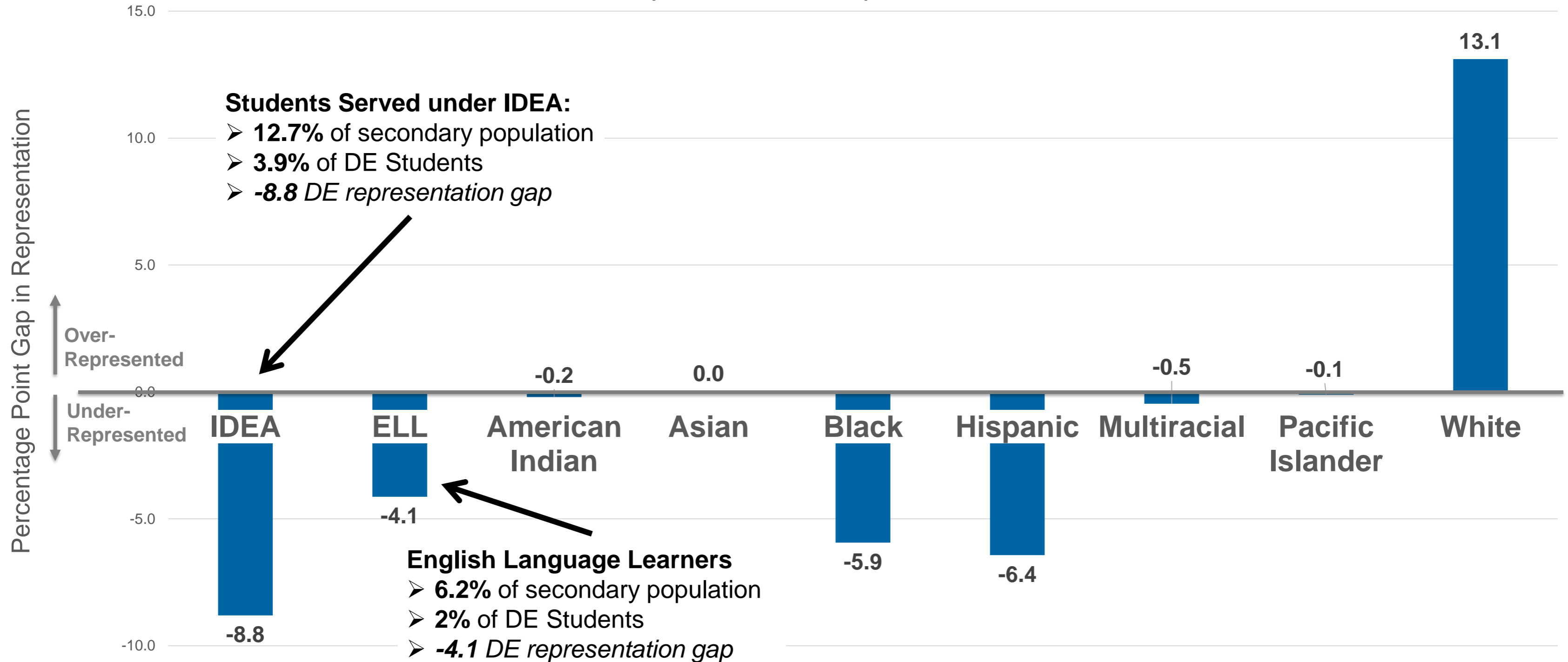


Participation in AP by Student Group
 U.S. Overall



Is Representation in Dual Enrollment Proportionate?

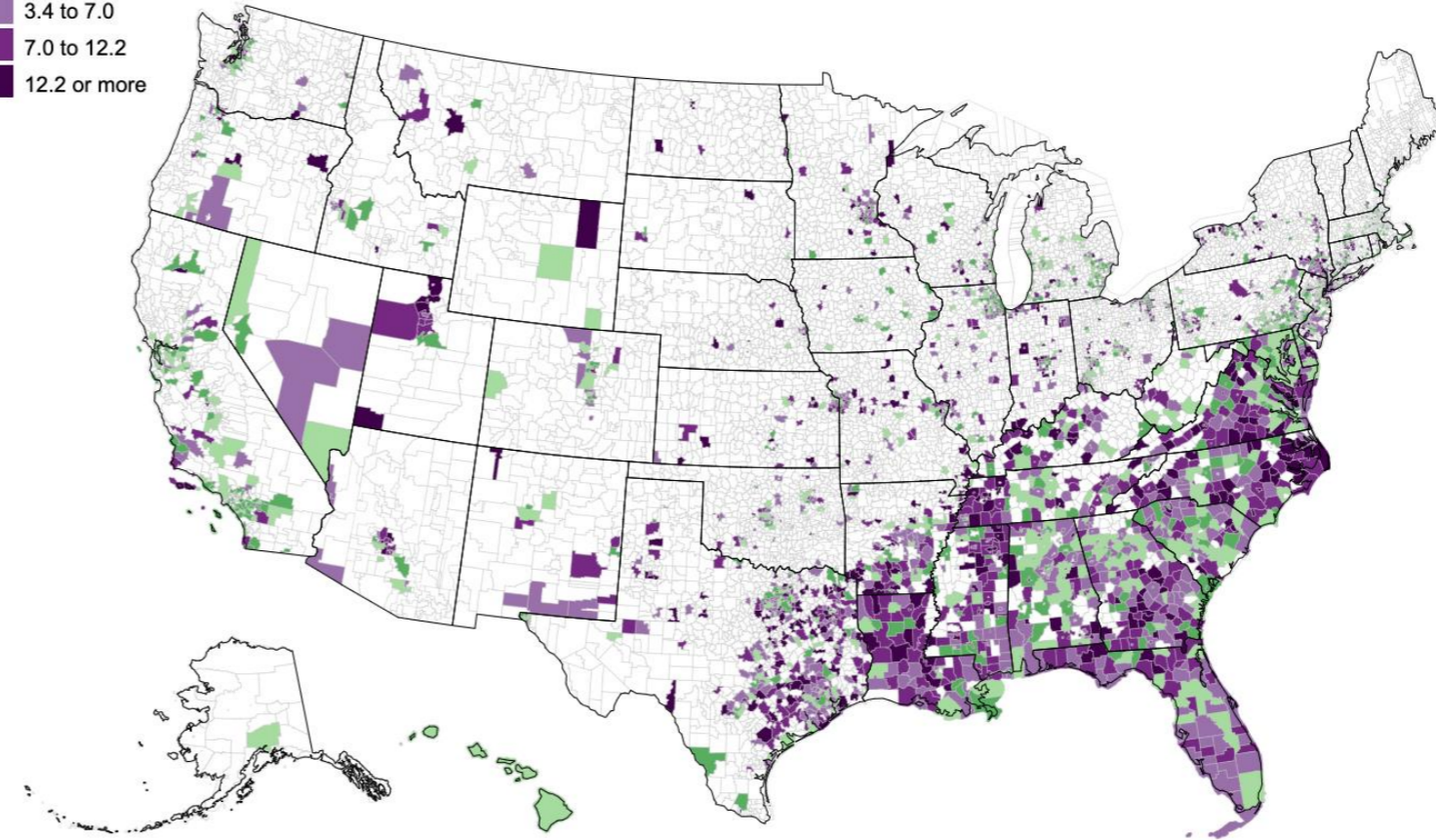
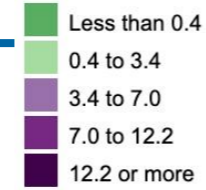
■ DE Representation Gap: US Overall



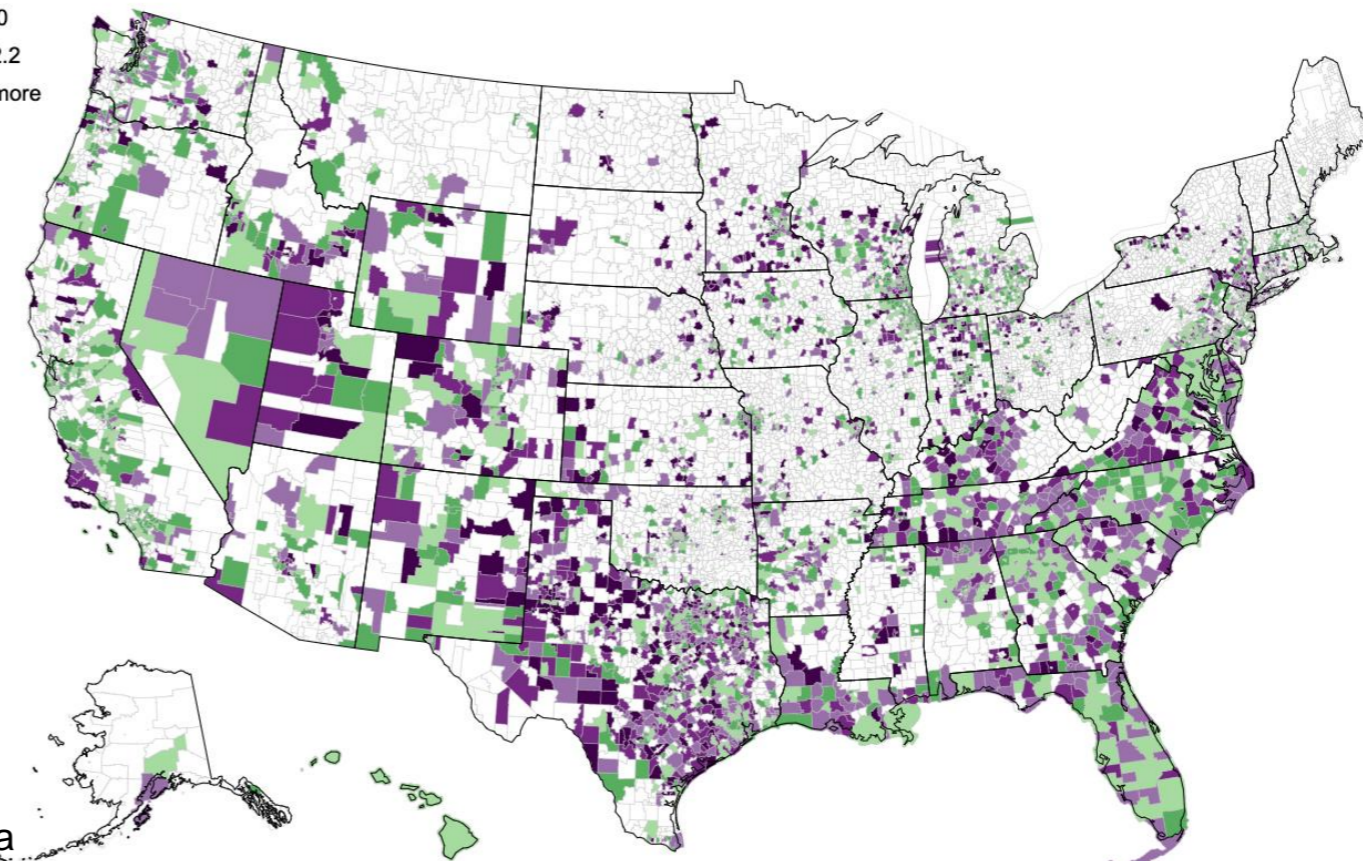
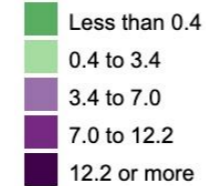
Substantial **national variation in racial equity gaps in DE participation among US school districts...**

...but one in five school districts across the country have closed racial equity gaps in access to dual enrollment courses

DE-White-Black Gap (pp)

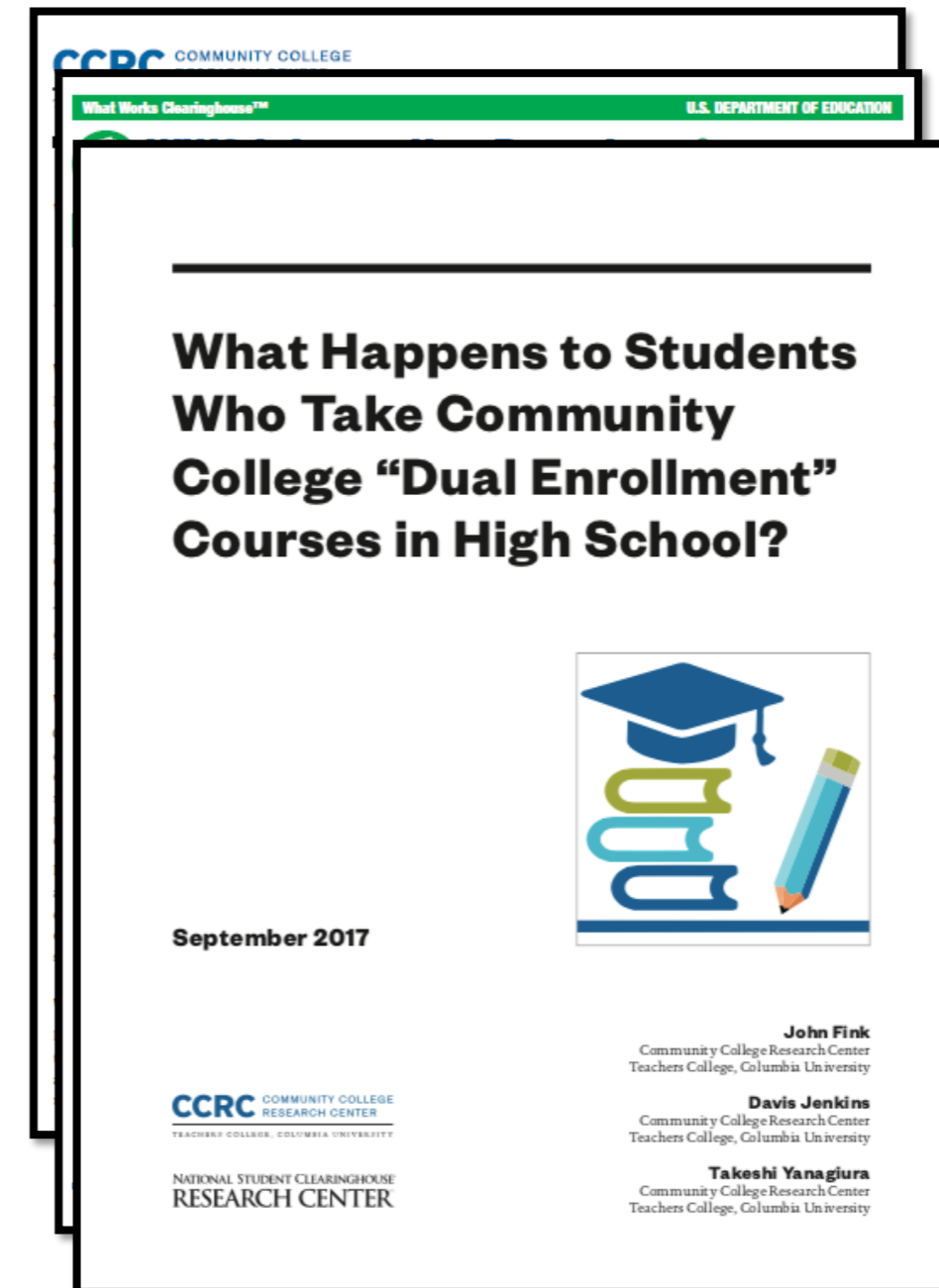


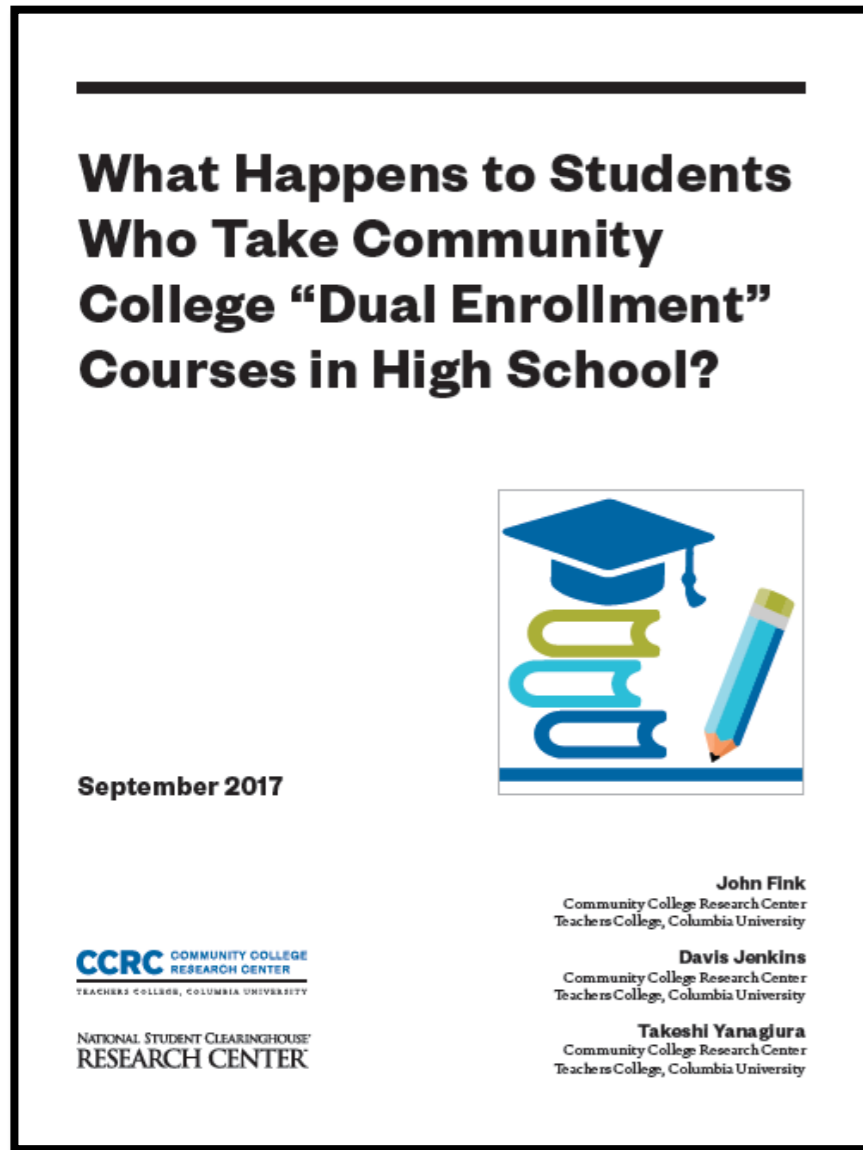
DE-White-Hispanic Gap (pp)



Findings on the Effects of HS Dual Enrollment

- Accumulation of descriptive and quasi-experimental evidence for dual enrollment, stronger experimental evidence on effects of ECHS
- WWC Report: Positive effects of taking college courses in HS include stronger HS grades, more HS completion, more college enrollment, more credit accumulation, more degree completion.
- Equitable access to and benefits from dual enrollment? Mixed findings. (An, 2013; Taylor, 2015; AIR, 2018).
- Substantial state and institutional variation in post-HS college outcomes among former DE students (Fink, Jenkins, & Yanagiura, 2017)





Variation in post-HS college *outcomes* among former community college dual enrollment Students

Where and if students attend college,

Whether and what type of credential they complete,

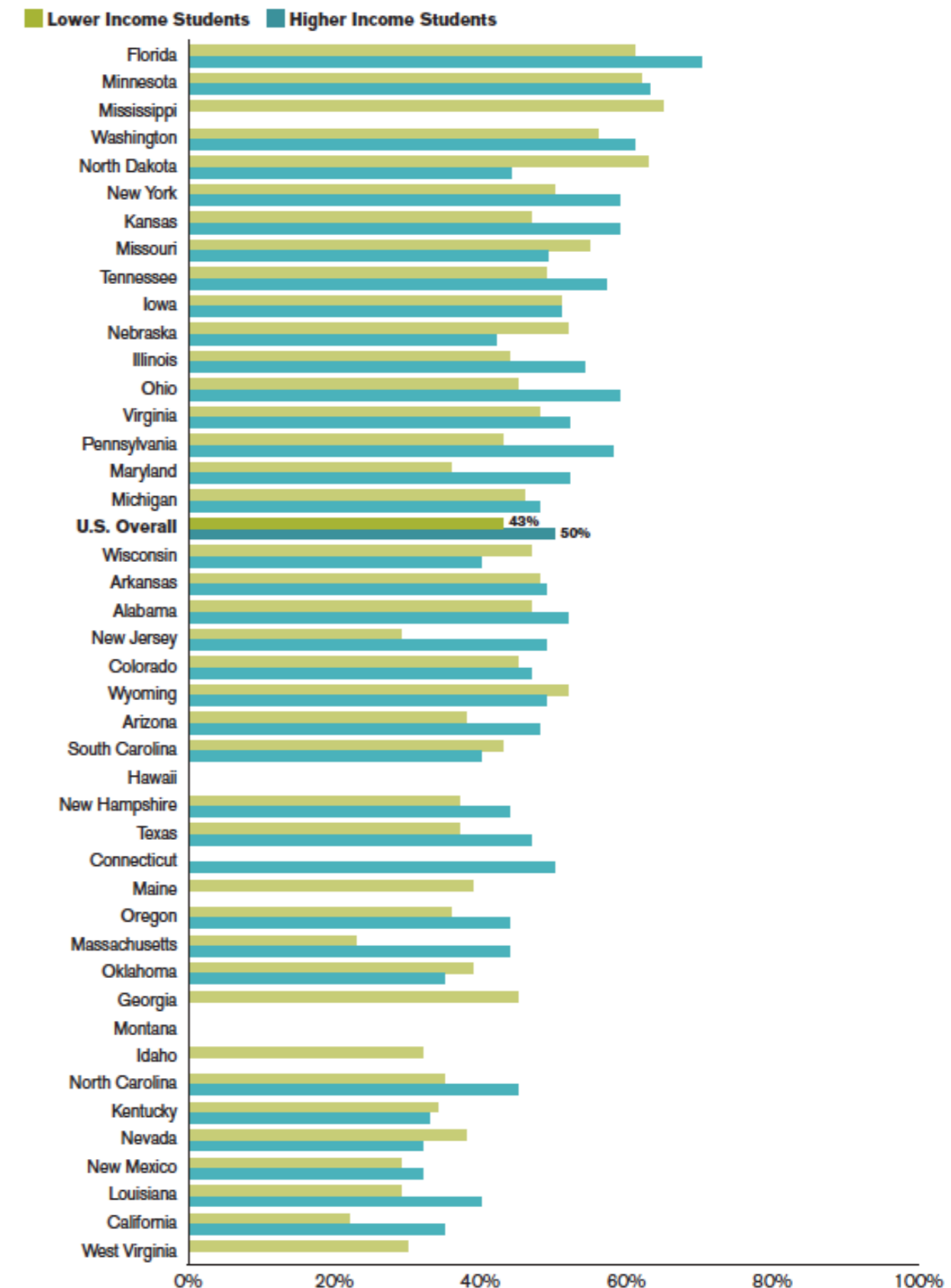
and the magnitude of equity gaps in completion rates.

See findings for your state here: <https://ccrc.tc.columbia.edu/dual-enrollment.html>

(Fink, Jenkins, & Yanagiura, 2017)

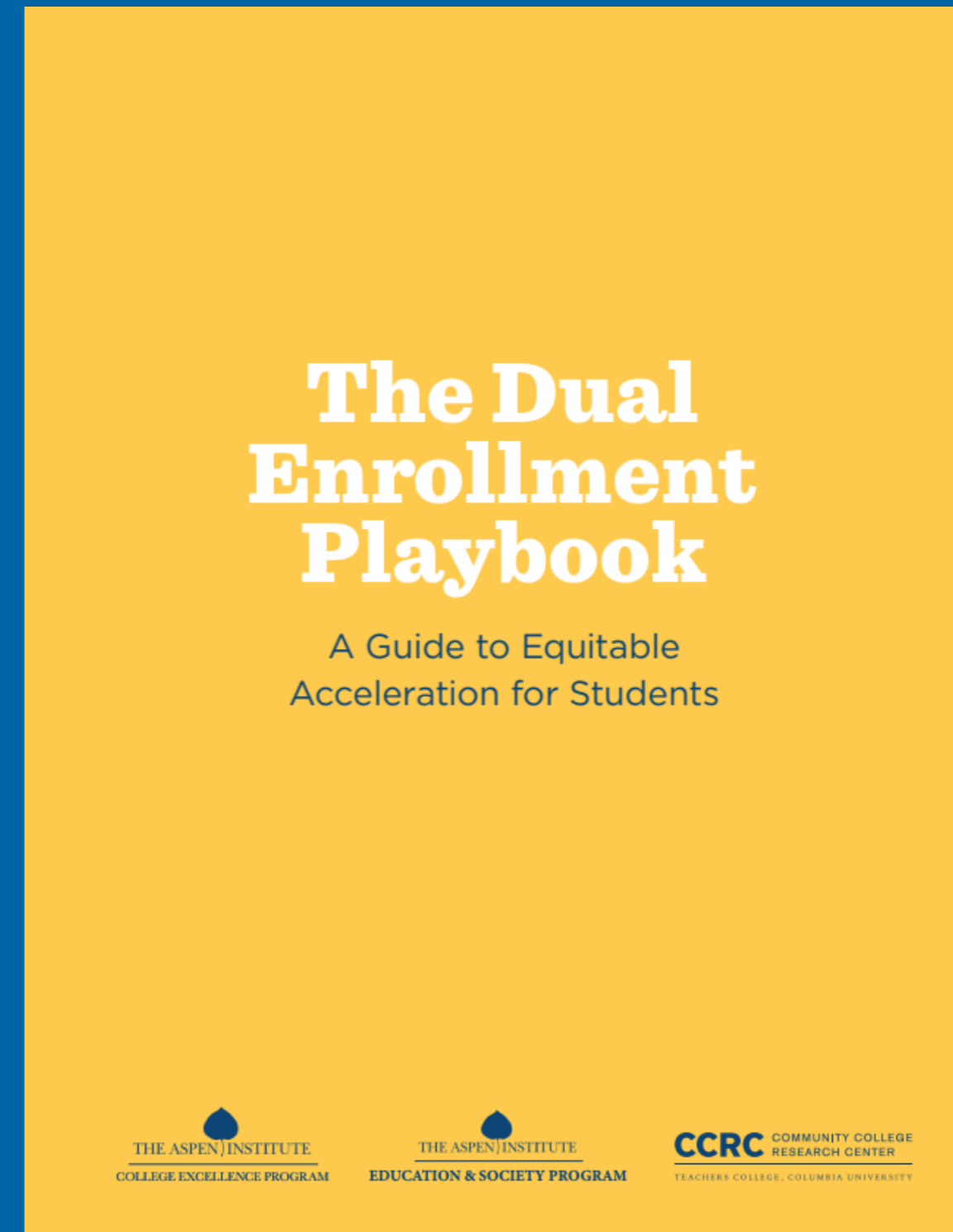
- NSC data on 1.4 million first-time community college students in fall 2010
- DE definition: First-time students age 17 or younger (N=214k)

Figure 8. Completion of Any Award by Income Among Students Who Participated in Dual Enrollment at Age 17 and First Matriculated at a Community College at Ages 18–20



Given the substantial variation nationally in access to and success in dual enrollment,

What can be learned from high schools and colleges that are more effective in serving students of color through dual enrollment?



Playbook Overview



- Quantitative Research: Analysis of statewide data from FL, OH, and WA to identify high school-community college pairings with above-average participation rates and strong outcomes for historically underrepresented students of color*
- Screening Calls: Phone calls with potential sites identified through quantitative research
- Fieldwork: 9 site visits in FL, OH, and WA to colleges, high schools, and district offices**

* Included Black/African American, Hispanic/Latinx, American Indian, Native Hawaiian, Pacific Islander, and Alaska Native students

** Two visits conducted remotely due to the pandemic

The Dual Enrollment Playbook: A Guide to Equitable Acceleration for Students

Five Principles to Advance Equity in High-Quality Dual Enrollment

Principle

I

SET A SHARED VISION AND GOALS THAT PRIORITIZE EQUITY

Principle

II

EXPAND EQUITABLE ACCESS

Principle

III

CONNECT STUDENTS TO ADVISING AND SUPPORTS THAT ENSURE EQUITABLE OUTCOMES

Principle

IV

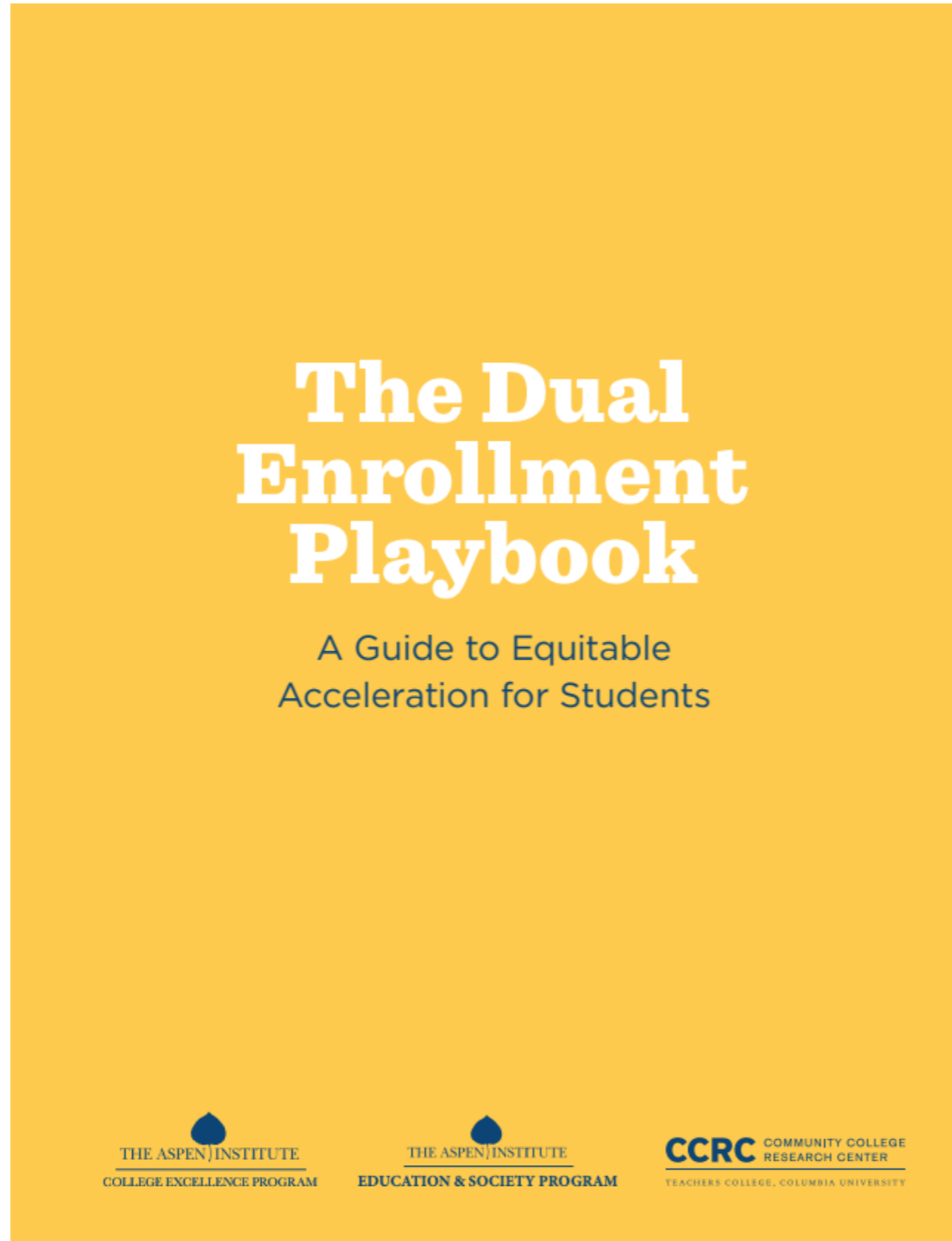
PROVIDE HIGH-QUALITY INSTRUCTION THAT BUILDS STUDENTS' COMPETENCE AND CONFIDENCE

Principle

V

ORGANIZE TEAMS AND DEVELOP RELATIONSHIPS TO MAXIMIZE POTENTIAL

Playbook Resources



Highlights from the Dual Enrollment Playbook: A Guide to Equitable Acceleration for Students



A Guide to Getting Started for Institutional Leaders



Tool for Evaluating Equitable Practices at Community Colleges



Tool for Evaluating Equitable Practices at High Schools

<https://highered.aspeninstitute.org/dual-enrollment/>

<https://ccrc.tc.columbia.edu/publications/dual-enrollment-playbook-equitable-acceleration.html>