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TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Using Early Momentum KPIs to Evaluate and Improve Guided Pathways Reforms

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OACC SSC Winter 2019 SSLI
February 14, 2019

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What we're learning about Guided Pathways

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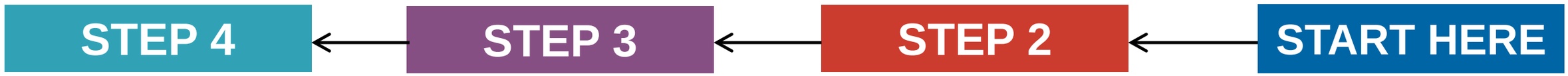
Redesign, Starting with the End in Mind



CONNECTION

From interest and application to first enrollment

- Market program paths
- Build pathways into high schools and adult ed programs

ENTRY

From entry to program choice and entry

- Help students explore options/ make full-program plan
- Integrate academic support into critical program gateway courses

PROGRESS / COMPLETION

From program entry to completion of program requirements

- Clearly map out program paths
- Redesign advising/scheduling around maps/plans
- Monitor student progress, provide feedback and support as needed

ADVANCEMENT

From completion of credential to career advancement and further education

- Align program outcomes with requirements for success in career-path employment and further education

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What We Are Learn About Guided Path

Part 1: A Reform Moves From Theory to Practice

By Davis Jenkins, Hana Lahr, John Fink, and Elizabeth Ganga

In their 2015 book, *Redesigning America's Community Colleges: A Clearer … Success*, CCRC researchers Thomas Bailey, Shanna Smith Jaggars, and Davi… that for community colleges to substantially improve graduation rates and … completion among student groups, isolated programmatic interventions w… Synthesizing two decades of research on community colleges—and drawi… behavioral economics, organizational behavior, and cognitive science—Bai… Jenkins argued that colleges needed to fundamentally redesign their progra… services in ways that create clearer, more educationally coherent pathways to credentials that in turn prepare students for success in the workforce and further education in fields of economic importance to their regions.

These "guided pathways" reforms address a fundamental problem with how community colleges are organized: Because these colleges were founded with the mission of providing broad access to higher educati… on attracting students with dozens or hundreds of programs. But students … their own devices to pick a course of study and piece together their schedul… confusing and incoherent class lists and program information. In these "ca… a majority of students do not complete a credential, and even those who d… time and money on courses that do not count toward a community college … bachelor's degree. Advising and other supports are available, but students l… out, and the students who need these services most are often the least likel… Students from educationally and economically disadvantaged backgrounds … be disproportionately represented at community colleges, are often poorly … navigate the college experience, which exacerbates equity gaps.

At their core, guided pathways reforms involve clearly mapping programs … sequences, progress milestones, and program learning outcomes so that st… what they need to do to prepare for a career and further education and train… of interest. With program maps as guides, students are supported from the … of their college experience to explore career and academic options, choose … study, and develop a full-program educational plan. The program maps sim…

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What We Are Le… About Guided P…

Part 2: Case Studies

By Davis Jenkins, Hana Lahr, John Fink, Elizabeth Ganga, E… Amy E. Brown, and Porshèa Patterson

Guided pathways reforms require colleges to rethink how … students. The case studies below examine how colleges at … are transforming their programs and support services by i… pathways practices: meta-majors, career exploration, and i… colleges are participating in the American Association of C… Project, which is supporting more than 40 colleges nation… pathways reforms at scale.[1]

How Cleveland State Commun… Using Meta-Majors

Meta-majors are clusters of programs in similar academic ar… students and others to understand a college's offerings—wi… programs—and help students explore, choose, and plan a m… meta-majors aligned with local and regional labor market n… for redesigning key aspects of the student experience, inclu… first-year seminar courses, and academic advising. Meta-ma… emerging as a framework for marketing and recruitment, p… improvement, and professional development.

Cleveland State Community College in Tennessee developed … which it calls *career communities*, "from a student's perspecti… programs into seven clusters based on students' career and ac… around the college's four preexisting academic divisions. The … technologies; arts and humanities; business; education; healt… science, technology, engineering, and math (STEM). As the c… communities, student services and institutional research staf… to get feedback about the clusters and ensure that the categori…

The college has organized its website around these career … community an icon and a color.[2] Students can browse the … or by specific program. Career communities also have beer… materials. Welcome events, career fairs, and even commer…

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APRIL 2018

What We Are Learning About Guided Pathways

Part 3: Timeline and Tips for Implementing Pathways Reforms

By Davis Jenkins, Hana Lahr, John Fink, and Elizabeth Ganga

Guided pathways reforms can take several years to implement at scale because they require a thoroughgoing redesign of a college's major functions, including:

- organizing programs into career-focused meta-majors to enhance student recruitment and exploration and program improvement;
- mapping clear paths to degrees, employment, and further education in collaboration with employers and universities;
- structuring advising to help students choose, enter, and complete a program of study;
- rethinking academic support to enable students to take and pass critical program courses in their first year of college; and
- training faculty and staff to facilitate these reforms.

CCRC's research on the implementation of guided pathways has revealed that these reforms often follow a similar pattern of development. Figure 1 shows the general stages of this process and an approximate timeline. In colleges where we have seen substantial improvements in student progression and completion, these improvements became noticeable after colleges began to implement the essential elements of the model in concert with one another.

In colleges where we have seen substantial improvements in student progression and completion, these improvements became noticeable after colleges began to implement the essential elements of the model in concert with one another.

This visualization represents an idealized conceptualization of the process and timeline based on our observations of colleges that were early adopters of the pathways model. No college will follow these stages precisely as outlined here, and the process is much messier (and probably less linear) in practice.

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Guided Pathways Essential Practices

1 Clarify paths to student end goals

- Meta-majors
- Program maps
- Career + transfer information
- Math pathways

2 Help students get on a path

- Early career/transfer exploration
- Academic and financial plan
- Integrated & contextualized academic support

3 Keep students on path

- Monitoring progress on plan
- Intrusive support
- Frequent feedback
- Predictable scheduling

4 Ensure students are learning

- Field-specific learning outcomes
- Active learning throughout
- Field-relevant experiential learning

Idealized Timeline for Implementing Guided Pathways at Scale

LAYING THE GROUNDWORK

3+ Years Prior to Pathways

- Build capacity to collect, report, and use data
- Develop strategic goals and plan, focused on improving student outcomes
- Implement at least one major innovation at scale

BUILDING A SENSE OF URGENCY

Year 1

- Make the case for change
- Scrutinize current practice from student perspective

INTAKE AND ADVISING REDESIGN

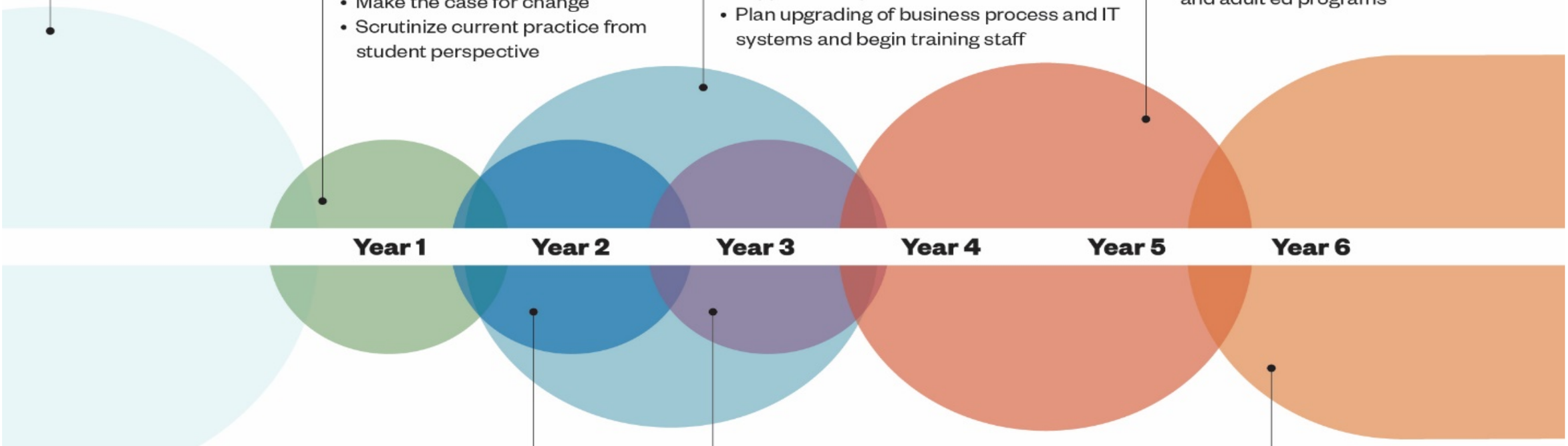
Years 2-3

- Redesign intake to enable students to explore career/academic options and develop full-program plan by end of term 1
- Pilot integrated and contextualized academic support for program gateway courses
- Redesign scheduling and advising to support timely student advancement
- Plan upgrading of business process and IT systems and begin training staff

IMPROVED SCALE IMPLEMENTATION

Years 4-5

- Evaluate and improve pathways implementation
- Build academic and career communities within meta-majors
- Extend program pathways into high schools (start with dual enrollment) and adult ed programs



MAPPING PROGRAM PATHWAYS

Year 2

- Organize programs into career-focused meta-majors
- Backward map all programs to jobs and transfer opportunities

INITIAL SCALE IMPLEMENTATION

Year 3

- Begin scale implementation of new student intake, planning, scheduling, and advising
- Reorganize learning outcomes assessment around meta-majors and maps
- Implement IT systems and business processes to support pathways
- Plan extension of program pathways into high schools and adult ed programs

ONGOING IMPROVEMENT

Ongoing

- Institutionalize program review, improvement, and professional development within and across meta-majors

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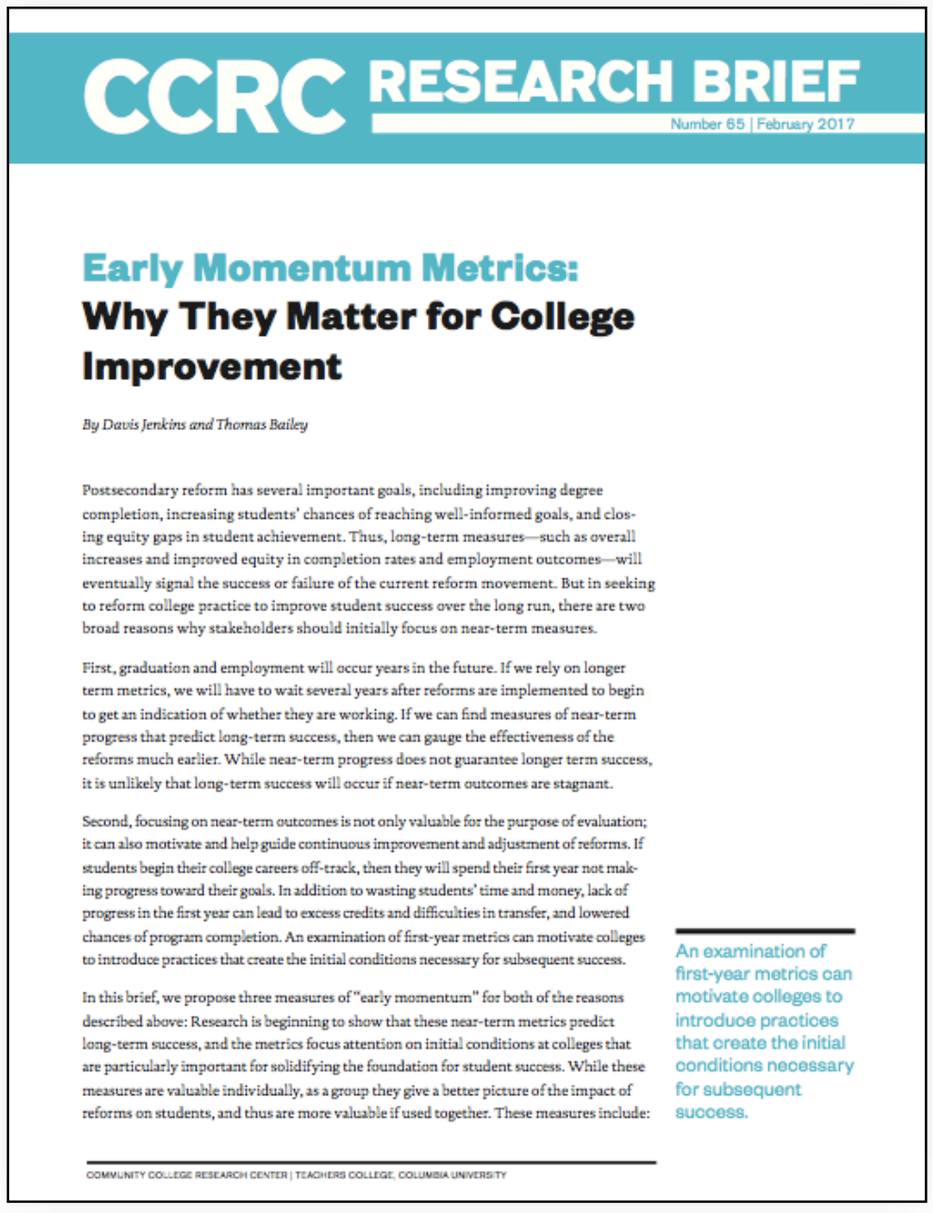
How do we know if our guided pathways reforms are working?

Early Momentum Matters



CCRC RESEARCH BRIEF

Number 65 | February 2017

Early Momentum Metrics: Why They Matter for College Improvement

By Davis Jenkins and Thomas Bailey

Postsecondary reform has several important goals, including improving degree completion, increasing students' chances of reaching well-informed goals, and closing equity gaps in student achievement. Thus, long-term measures—such as overall increases and improved equity in completion rates and employment outcomes—will eventually signal the success or failure of the current reform movement. But in seeking to reform college practice to improve student success over the long run, there are two broad reasons why stakeholders should initially focus on near-term measures.

First, graduation and employment will occur years in the future. If we rely on longer term metrics, we will have to wait several years after reforms are implemented to begin to get an indication of whether they are working. If we can find measures of near-term progress that predict long-term success, then we can gauge the effectiveness of the reforms much earlier. While near-term progress does not guarantee longer term success, it is unlikely that long-term success will occur if near-term outcomes are stagnant.

Second, focusing on near-term outcomes is not only valuable for the purpose of evaluation; it can also motivate and help guide continuous improvement and adjustment of reforms. If students begin their college careers off-track, then they will spend their first year not making progress toward their goals. In addition to wasting students' time and money, lack of progress in the first year can lead to excess credits and difficulties in transfer, and lowered chances of program completion. An examination of first-year metrics can motivate colleges to introduce practices that create the initial conditions necessary for subsequent success.

In this brief, we propose three measures of "early momentum" for both of the reasons described above: Research is beginning to show that these near-term metrics predict long-term success, and the metrics focus attention on initial conditions at colleges that are particularly important for solidifying the foundation for student success. While these measures are valuable individually, as a group they give a better picture of the impact of reforms on students, and thus are more valuable if used together. These measures include:

An examination of first-year metrics can motivate colleges to introduce practices that create the initial conditions necessary for subsequent success.

GP Leading Indicators: Early Momentum

a) **Credit momentum** – % of FTEIC students who attempt 15/30 credits in one term/year

b) **Gateway momentum** – % of FTEIC students who pass college-level English/math (or both) in one year

c) **Program momentum** – % of FTEIC students who pass at least 9 college-credit hours in the student's field of study in one year

d) **Persistence** – % of FTEIC students who persist to term 2.

Early Momentum Mindsets

Credit momentum:

- From full-time vs. part-time to “on-plan” vs. “off-plan

Math and English gateway momentum:

- From academic assessment to holistic assessment
- From pre-requisite remediation to co-requisite support

Program gateway momentum:

- From job/transfer help for near completers to career exploration and planning from the start
- From gen ed to meta-majors
- From algebra and English gateways to critical program courses

Persistence:

- From next term schedule to full program plan
- From scheduling available courses to scheduling plan courses

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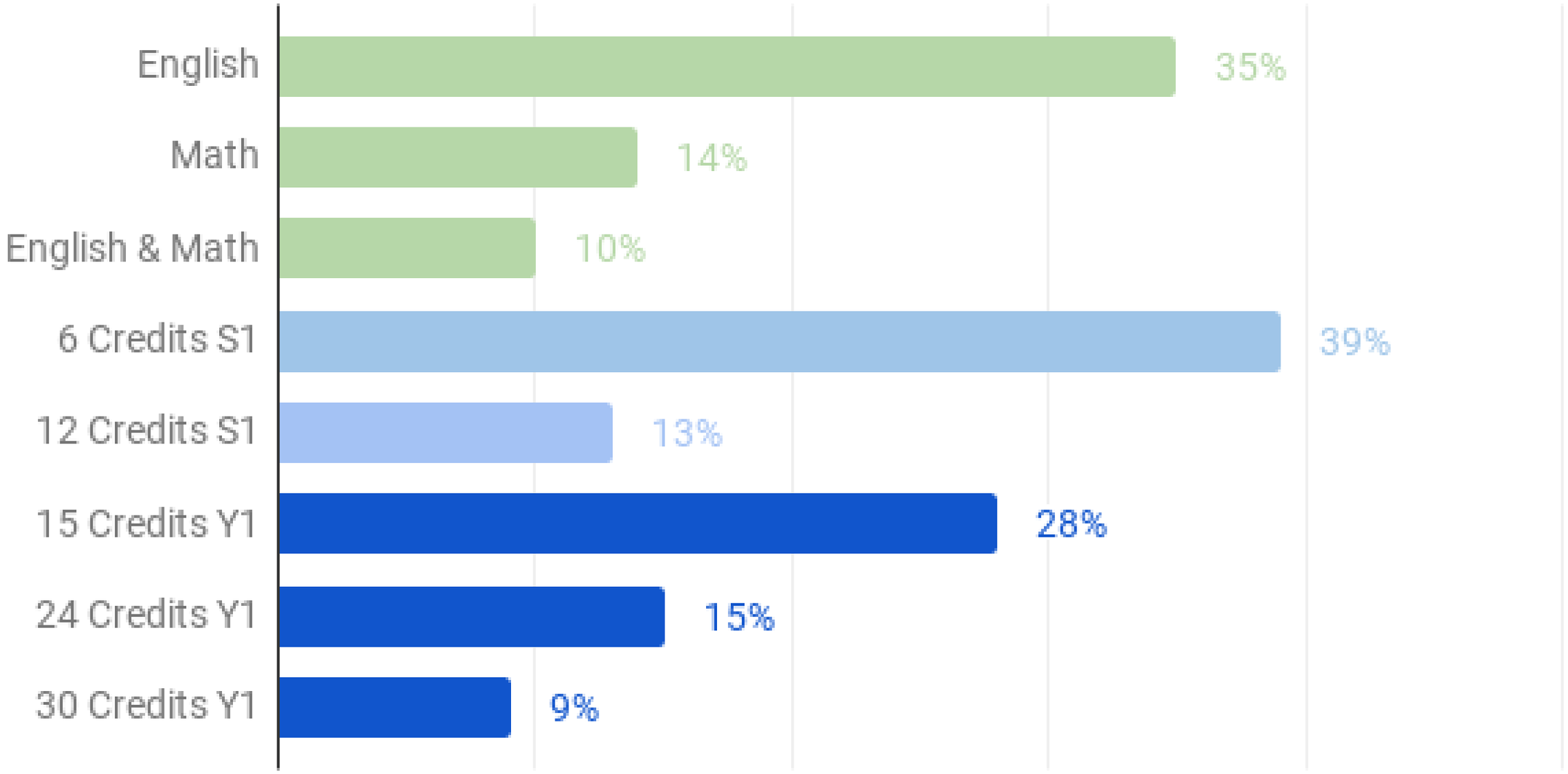
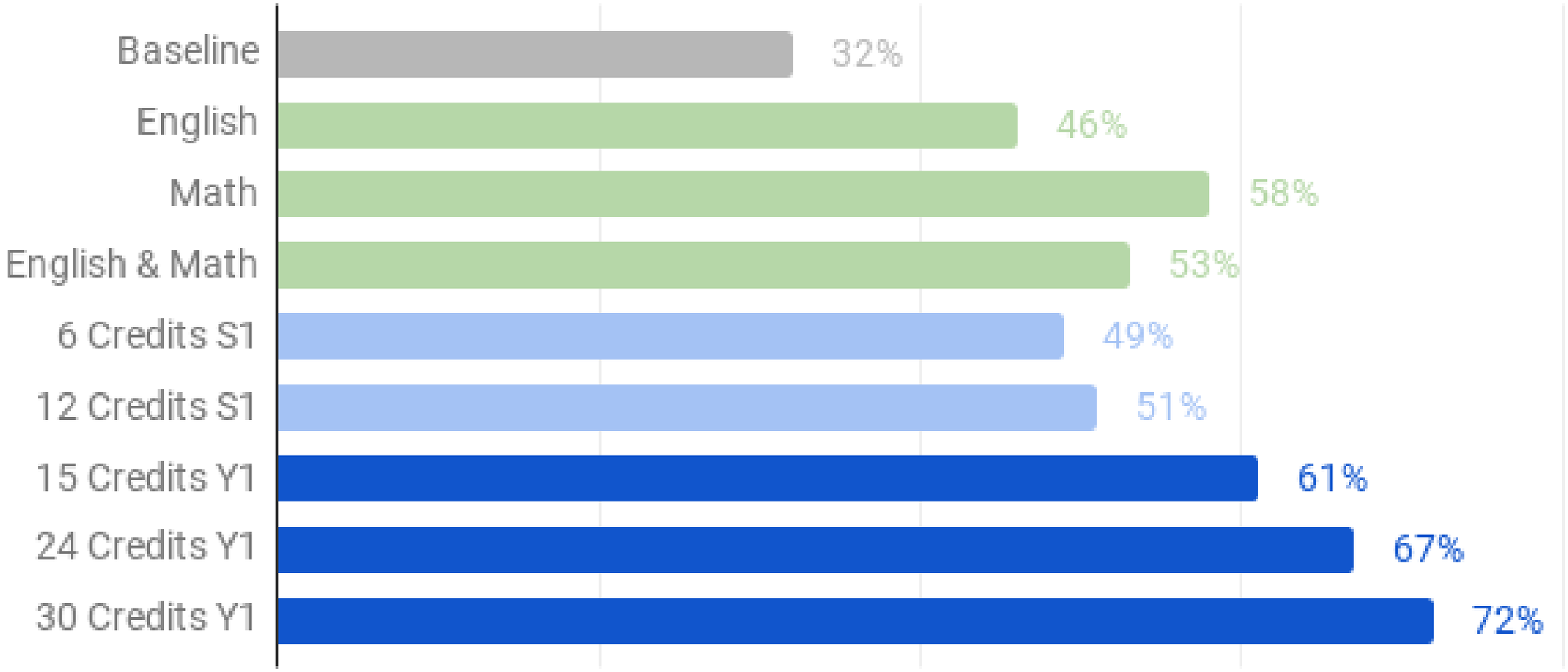
Do early momentum KPIs predict longer term outcomes for Ohio community college students?

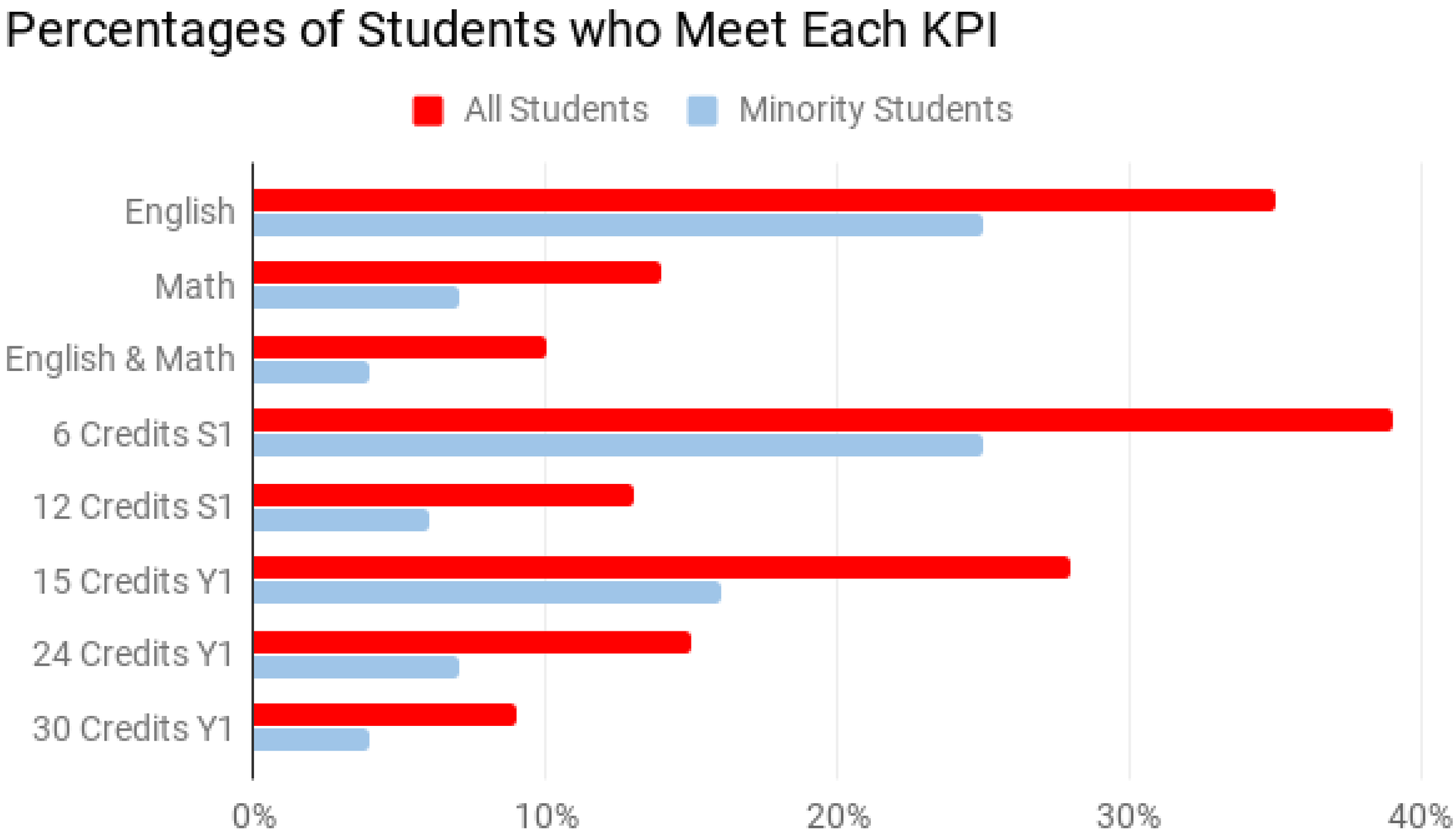
Percentages of Students who Meet Each KPI



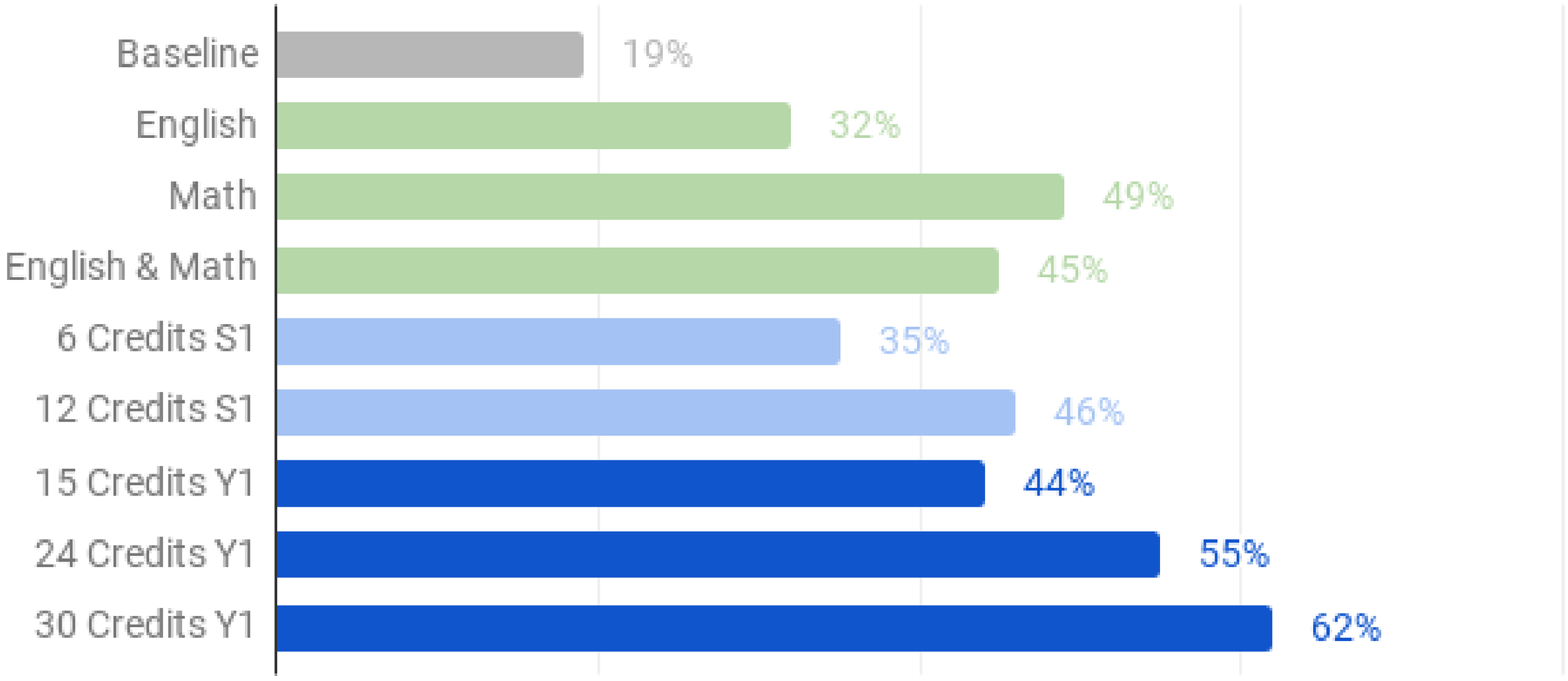
Adjusted* Six-Year Award Rate by KPI Status: All Students



*KPI outcomes are adjusted controlling for student characteristics


Percentages of Students who Meet Each KPI
All Students
Minority Students
English
Math
English & Math
6 Credits S1
12 Credits S1
15 Credits Y1
24 Credits Y1
30 Credits Y1
0%
10%
20%
30%
40%

Adjusted* Six-Year Award Rate by KPI Status: Minority Students



*KPI outcomes are adjusted controlling for student characteristics

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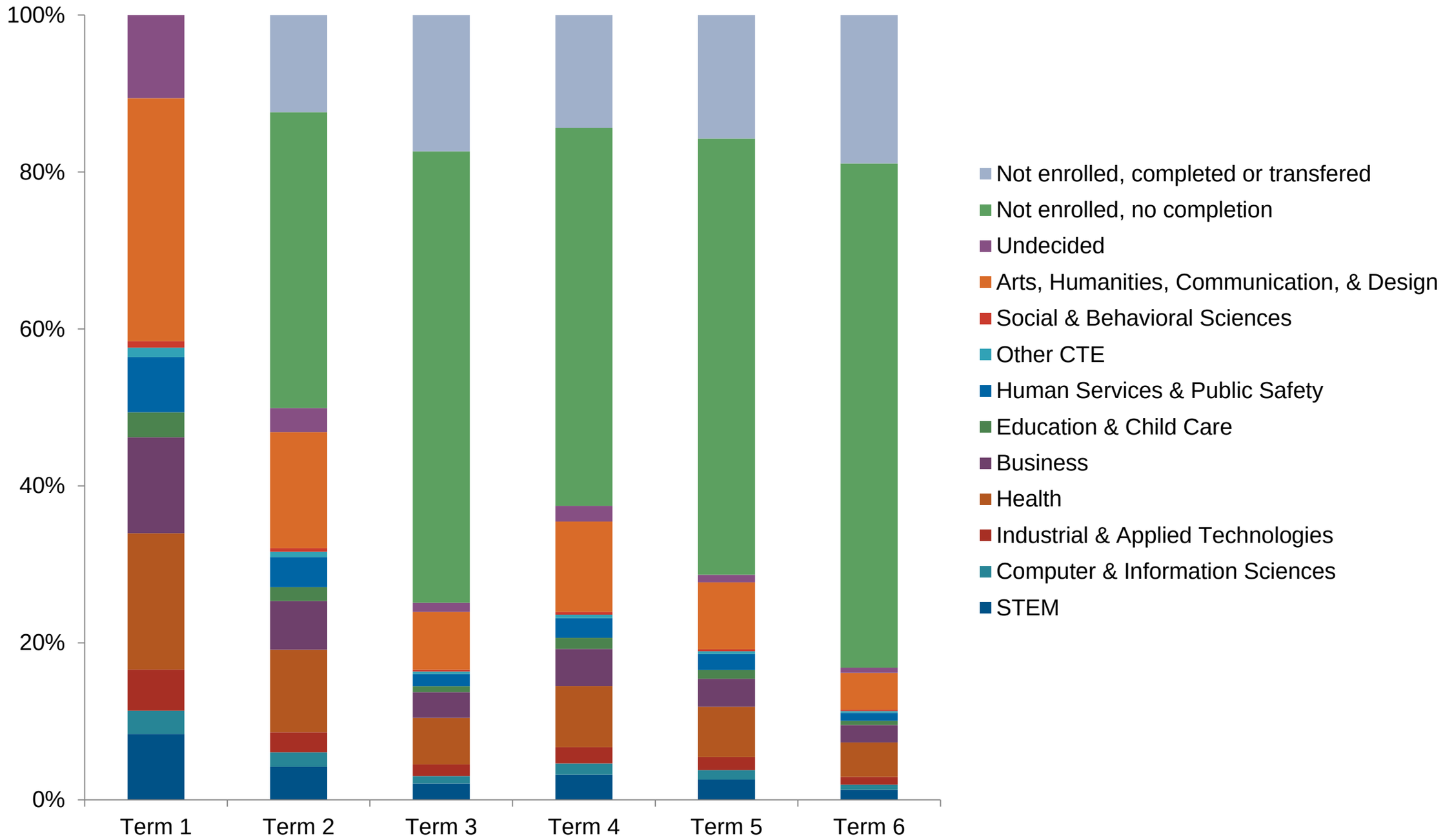
Key Findings on Relationship between KPIs & Credential Completion in Ohio Community Colleges

- Low rates of attainment of KPIs:
  - 40% get 6 college credits in first semester
  - 10% pass English and Math in first year
- Controlling for student characteristics, very strong associations of KPIs with six-year award rates (AA degree, certificate or BA degree):
  - Baseline rate 32%; passing English raises it to 46%; getting 6 credits in semester 1 raises it to 49%
- Minority (Black and Hispanic) students have rates of KPI attainment approximately half of the rates of all students
- Controlling for student characteristics, there are very strong associations of KPIs with three-year and six-year award rates for minority students (similar sized gains to all students)

Program Sorting Chart
FTEIC students Fall 2014- Summer 2015



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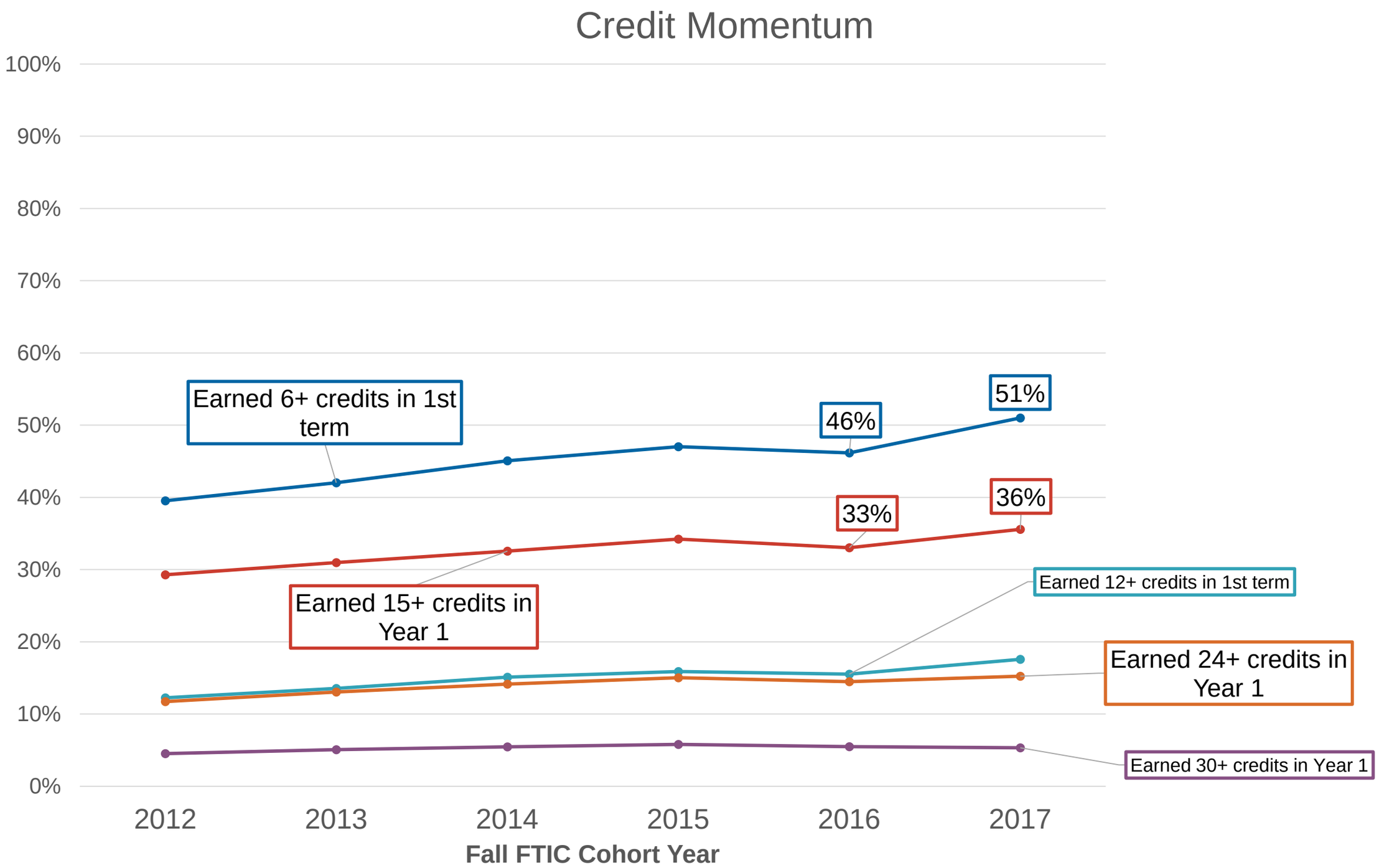
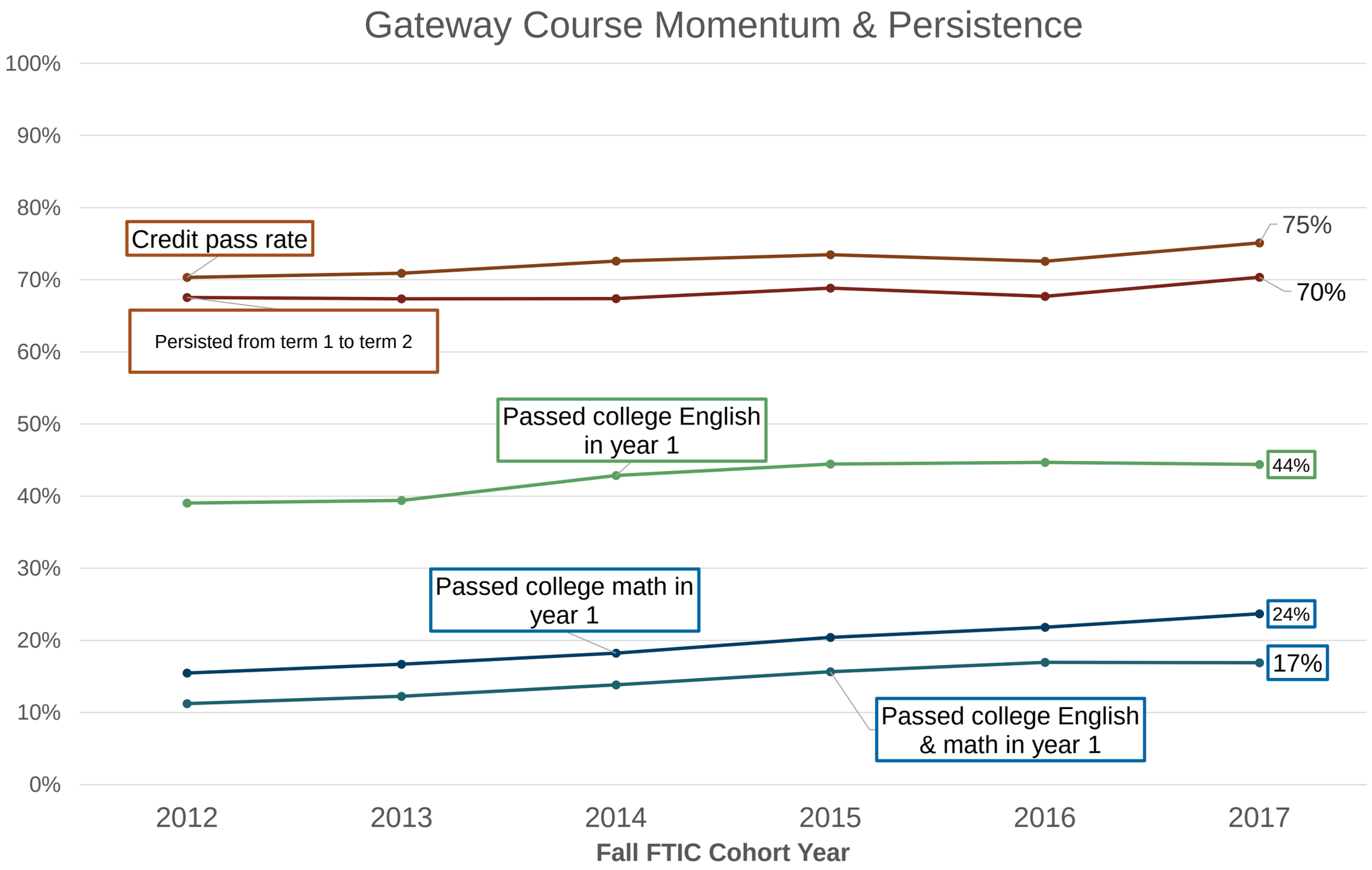
What are the trends in early momentum KPIs across Ohio community colleges?

Early Momentum KPIs: OACC Average



Early Momentum KPIs: OACC Average



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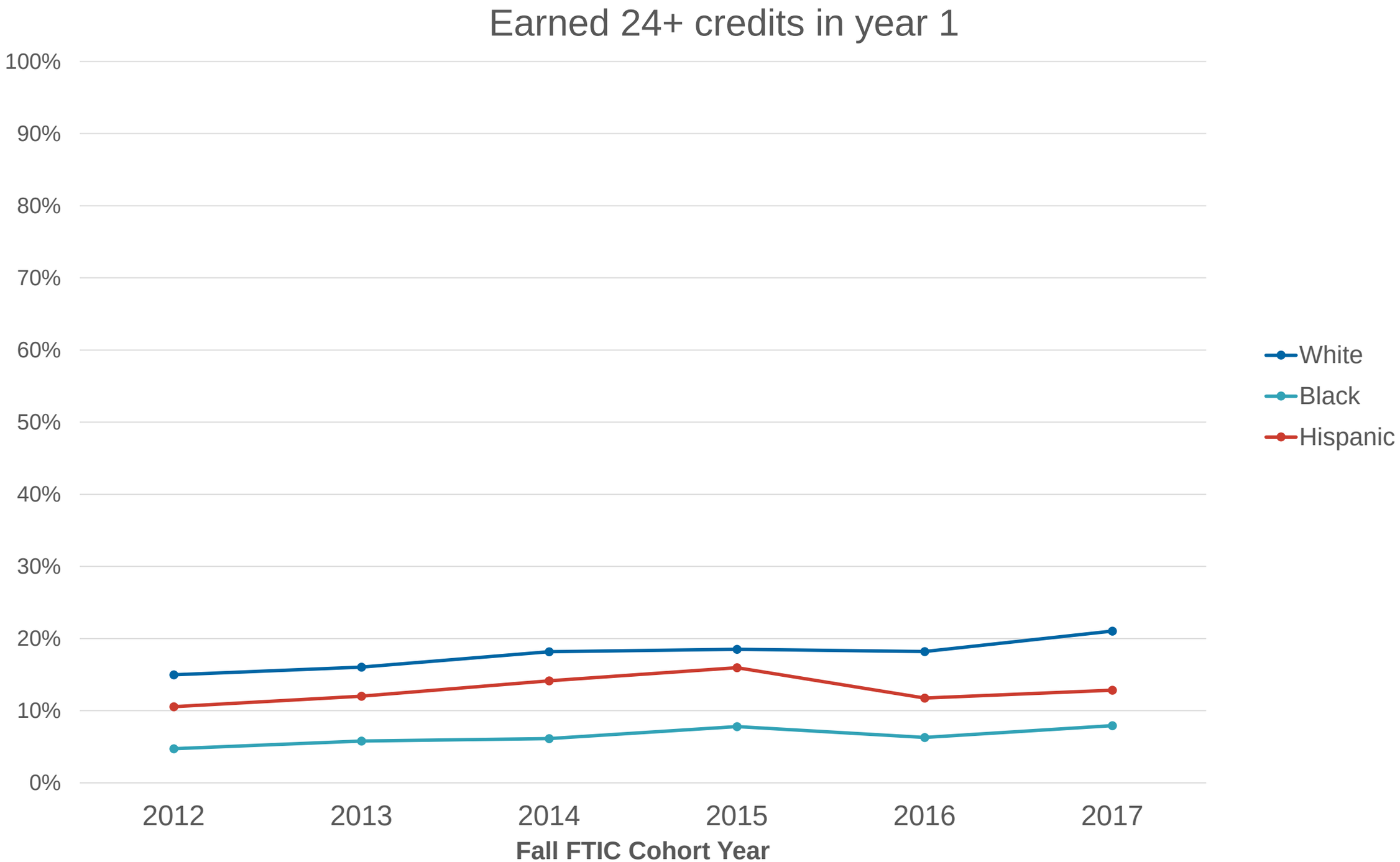
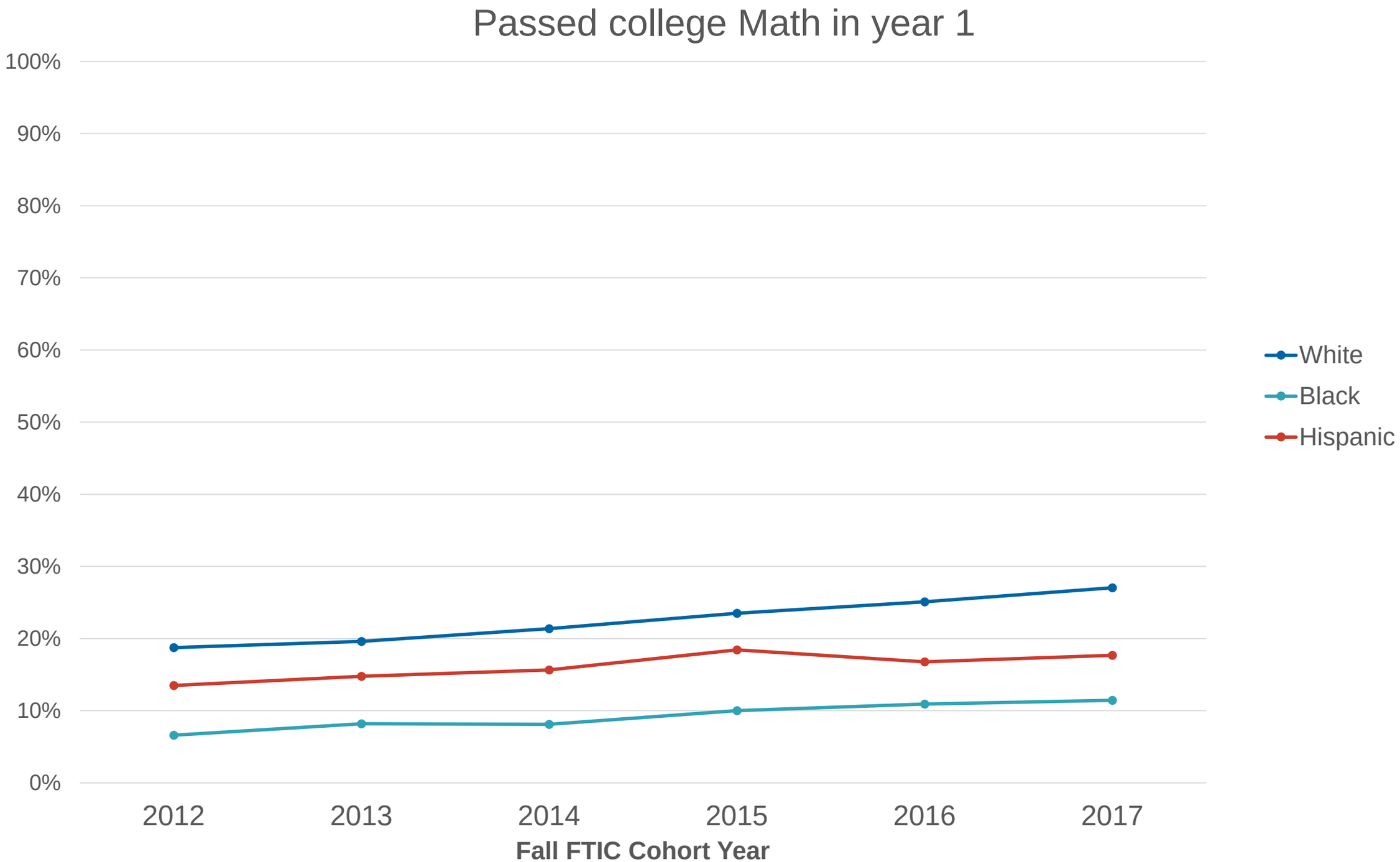


Early Momentum KPIs: OACC Average



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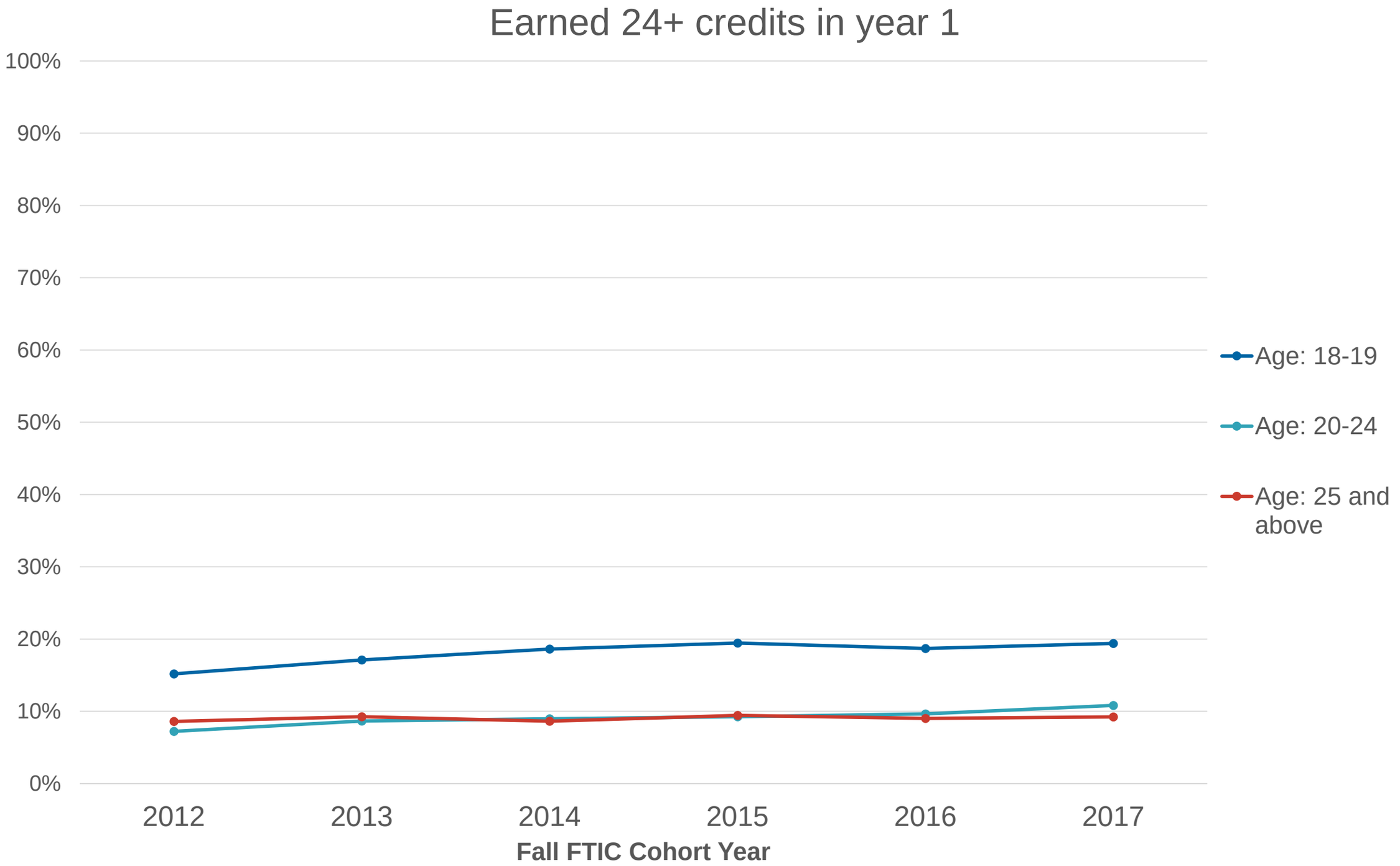

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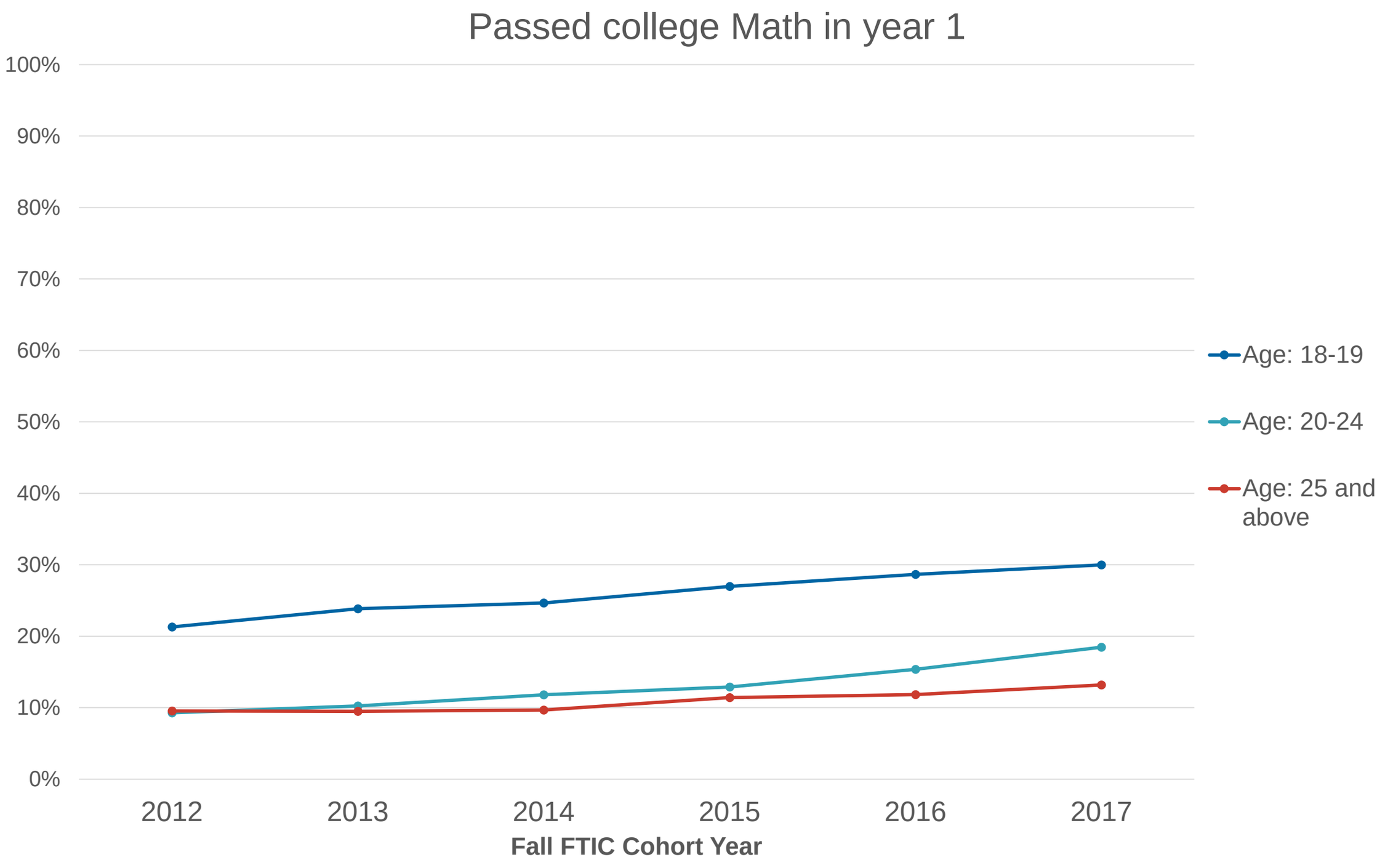
Early Momentum KPIs: OACC Average



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What are your college's KPI results?

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Early Momentum KPI Trends for Ohio Community Colleges

[redacted]

February 2019

As part of the Ohio Student Success Leadership Institute (SSLI), the following are data on trends in student demographics and "early momentum KPIs" that the Community College Research Center (CCRC) ran for every Ohio public two-year college to help colleges monitor the effects of the student success reforms they are implementing. The early momentum KPIs are based on metrics on student performance in their first year of college that research indicates are correlated with higher completion rates over a longer time frame. CCRC calculated these metrics using data shared by ODHE for cohorts of first-time-ever-in-college (FTEIC) student cohorts (including full- and part-time students and non-degree/certificate seeking students but excluding current or former dual enrollment students) who entered your college in the fall of the given year and tracked for an academic year (the definition for students' first academic year is based on their first fall, spring, and **lagging** summer terms). More definitions are provided at the end of the report. For questions, please contact: John Fink at John.Fink@tc.edu.

Contents

FTEIC Cohort Demographics

The following show trends in demographic characteristics across the cohorts used in calculating the KPIs. Substantial changes in the cohort composition could account for changes in outcomes over time.

Clark State Community College

	Fall 2012	Fall 2013	Fall 2014	Fall 2015	Fall 2016	Fall 2017
Total FTEIC Students	884	750	611	537	499	455
Did not enroll in dev ed	17.8%	24.3%	38.8%	40.2%	40.5%	47.3%
Enrolled in 1 subject of dev ed	48.5%	45.1%	40.9%	40.8%	38.5%	36.5%
Enrolled in 2 subjects of dev ed	32.9%	29.6%	20.0%	19.0%	21.0%	16.3%
Female	53.6%	54.7%	51.7%	51.4%	52.7%	54.7%
Attempted 12+ credits in 1st term (Full-time)	37.1%	39.7%	37.3%	47.7%	39.3%	42.9%
Age at Entry						
18-19	51.8%	47.1%	45.0%	55.9%	48.9%	56.3%
20-24	19.1%	20.8%	23.4%	19.6%	22.4%	23.3%
25+	29.1%	32.1%	31.6%	24.6%	28.7%	20.4%
Race/Ethnicity						
White	62.3%	71.3%	75.9%	74.5%	74.5%	72.7%
Black	12.2%	21.9%	16.5%	17.9%	18.6%	18.7%
Hispanic	1.6%	1.2%	0.7%	1.9%	2.0%	2.2%

	Student Group	Cohort Total	Earned 6+ credits in 1st term	Earned 12+ credits in 1st term	Earned 15+ credits in Year 1	Earned 24+ credits in Year 1	Earned 30+ credits in Year 1	Passed college English in Year 1	Passed college math in Year 1	Passed college English & math in Year 1	Persisted from term 1 to term 2	Total college credits attempted	Total college credits completed	Credit pass rate	Total college credits attempted in Year 1 per FTEIC student	Total college credits completed in Year 1 per FTEIC student
2	All	896	42%	16%	34%	19%	9%	39%	22%	16%	70%	14964	10320.83	69%	16.70	11.52
2	White	520	52%	22%	42%	26%	13%	47%	27%	21%	76%	10008.33	7369.167	74%	19.25	14.17
2	Black	287	24%	6%	18%	6%	3%	25%	11%	7%	62%	3412.833	1926.833	56%	11.89	6.71
2	Hispanic	20	40%	15%	35%	15%	5%	42%	32%	30%	60%	344.3333	218.3333	63%	17.22	10.92
2	Asian	11	36%	0%	36%	9%	9%	64%	27%	18%	64%	153	117	76%	13.91	10.64
2	Other races	98	50%	19%	36%	19%	9%	42%	25%	16%	65%	1760.833	1143.167	65%	17.97	11.66
2	Age: 18-19	487	50%	22%	38%	24%	12%	45%	28%	21%	72%	9053.5	6449.833	71%	18.59	13.24
2	Age: 20-24	179	34%	11%	26%	13%	8%	31%	14%	11%	61%	2605.333	1584	61%	14.55	8.85
2	Age: 25 and	230	32%	6%	29%	12%	5%	35%	15%	10%	72%	3305.167	2287	69%	14.37	9.94
2	Female	389	38%	14%	32%	18%	8%	41%	19%	14%	71%	6195.333	4224.333	68%	15.93	10.86
2	Male	507	45%	18%	35%	19%	10%	38%	25%	19%	69%	8768.667	6096.5	70%	17.30	12.02
3	All	1606	33%	10%	27%	13%	6%	34%	18%	12%	66%	23156.5	15103.5	65%	14.42	9.40
3	White	831	42%	14%	35%	18%	8%	43%	23%	16%	68%	13882.67	9699.5	70%	16.71	11.67
3	Black	584	20%	5%	14%	5%	2%	19%	9%	5%	62%	6541	3548.667	54%	11.20	6.08
3	Hispanic	45	24%	9%	27%	9%	4%	33%	22%	11%	62%	627.3333	392.3333	63%	13.94	8.72
3	Asian	16	44%	6%	44%	13%	0%	38%	38%	19%	88%	235.3333	201.3333	86%	14.71	12.58
3	Other races	176	35%	10%	28%	13%	5%	35%	22%	15%	67%	2529.167	1690.667	67%	14.37	9.61
3	Age: 18-19	868	39%	14%	30%	15%	7%	38%	23%	15%	68%	13697.5	9127.5	67%	15.78	10.52
3	Age: 20-24	344	22%	4%	17%	8%	3%	25%	11%	7%	56%	3911	2254	58%	11.37	6.55
3	Age: 25 and	394	31%	7%	28%	13%	5%	31%	15%	10%	69%	5548	3722	67%	14.08	9.45
3	Female	717	31%	8%	27%	12%	6%	35%	16%	11%	68%	10053.33	6802	68%	14.02	9.49
3	Male	889	35%	12%	26%	13%	6%	32%	20%	12%	64%	13103.17	8301.5	63%	14.74	9.34
4	All	1481	32%	8%	26%	11%	5%	36%	16%	12%	63%	21050.47	13312.8	63%	14.21	8.99

Questions to ask re: Your College's KPIs

- Which KPIs are improving? Which ones are not?
- Where do we see large gaps by race, gender, age?
- What reforms are we implementing to improve early momentum? Are they being implemented at scale?
  - Credit momentum?
  - Gatekeeper math and English momentum?
  - Program momentum?
  - Persistence?
- How might these reports be useful to student success discussions and work back at our college?

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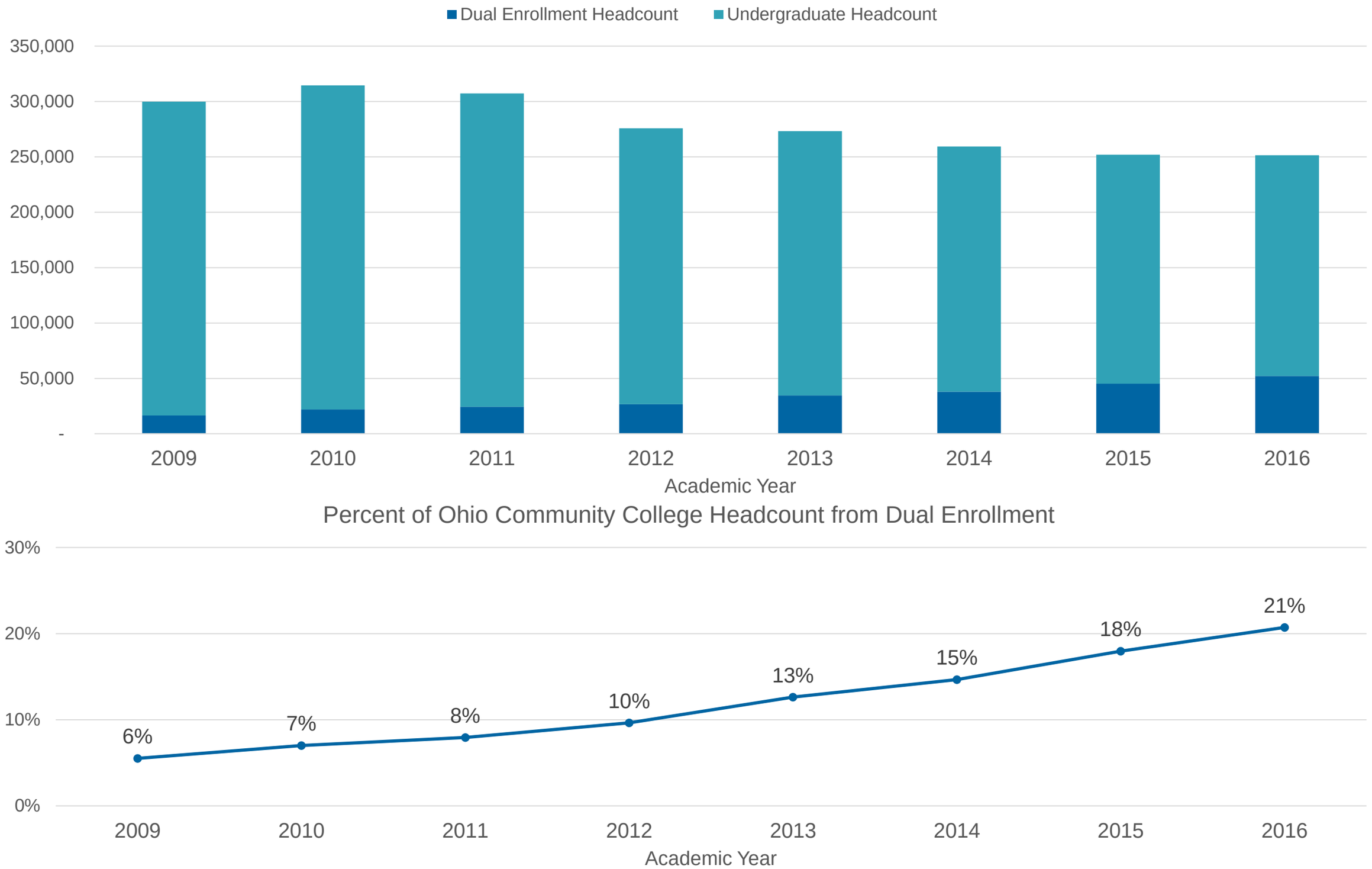
What metrics should colleges use to improve dual enrollment outcomes?

Ohio Community Colleges

Dual Enrollment Students as a percent of Community College Headcount, 2009-2016



Data source: CN File (counting all students who took at least one course at an Ohio community college during the academic year)

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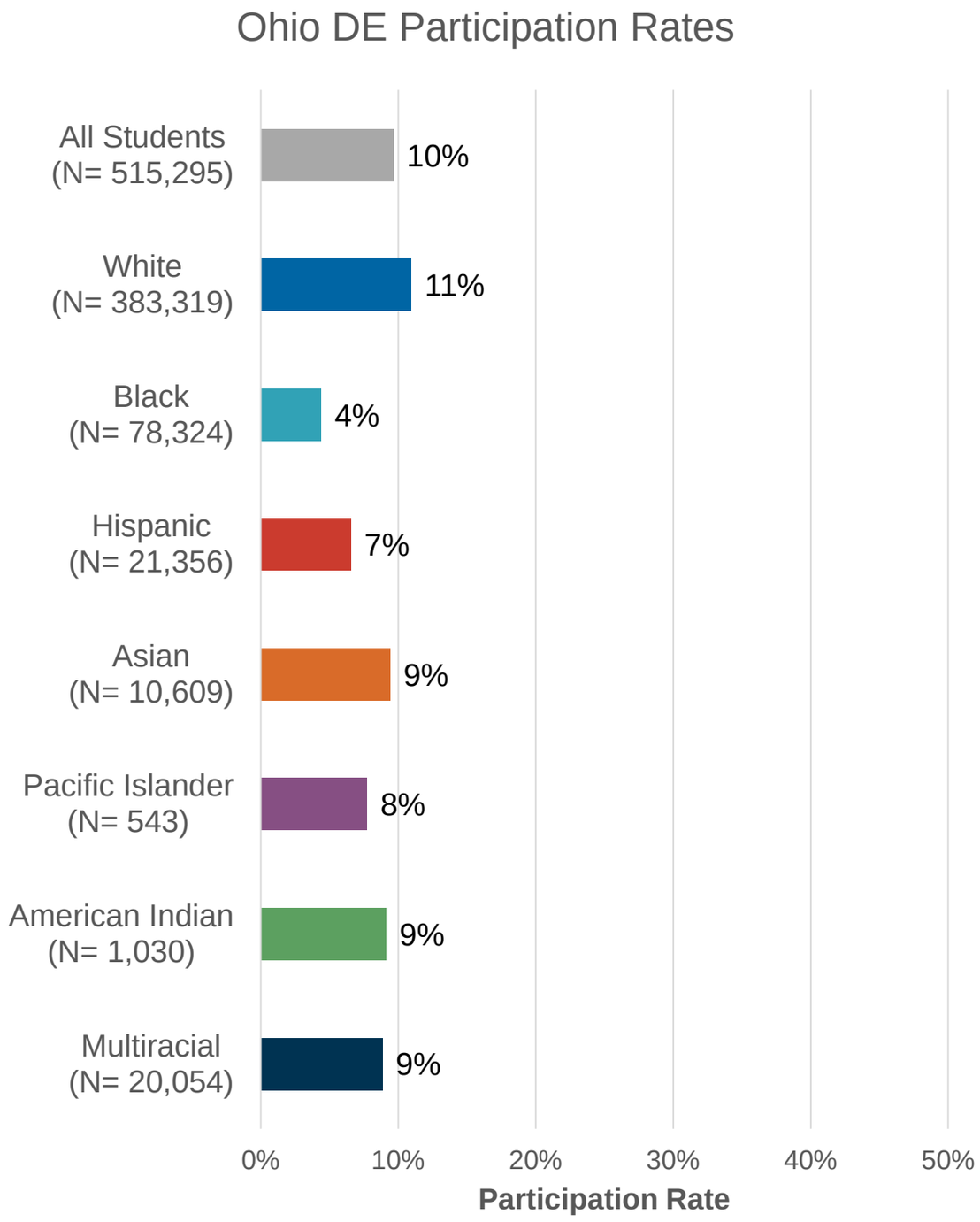
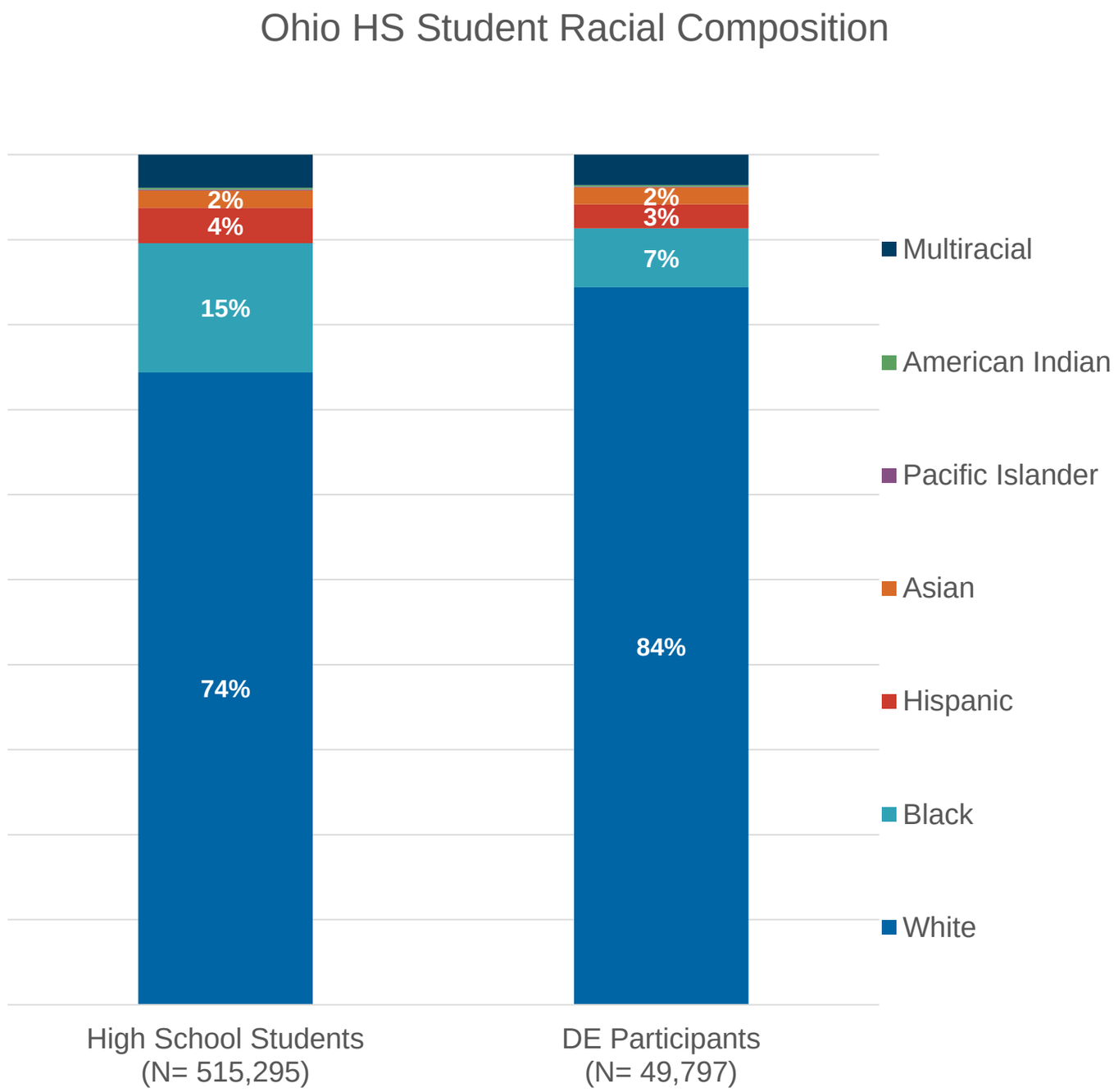
New US Dept. of Education Data: Black and Latino HS Student Underrepresented in DE





Source: CCRC analysis of Civil Rights Data Collection data on the 2015-16 school year.

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Key Questions from Community College Leaders on Improving Dual Enrollment using Guided Pathways Framework

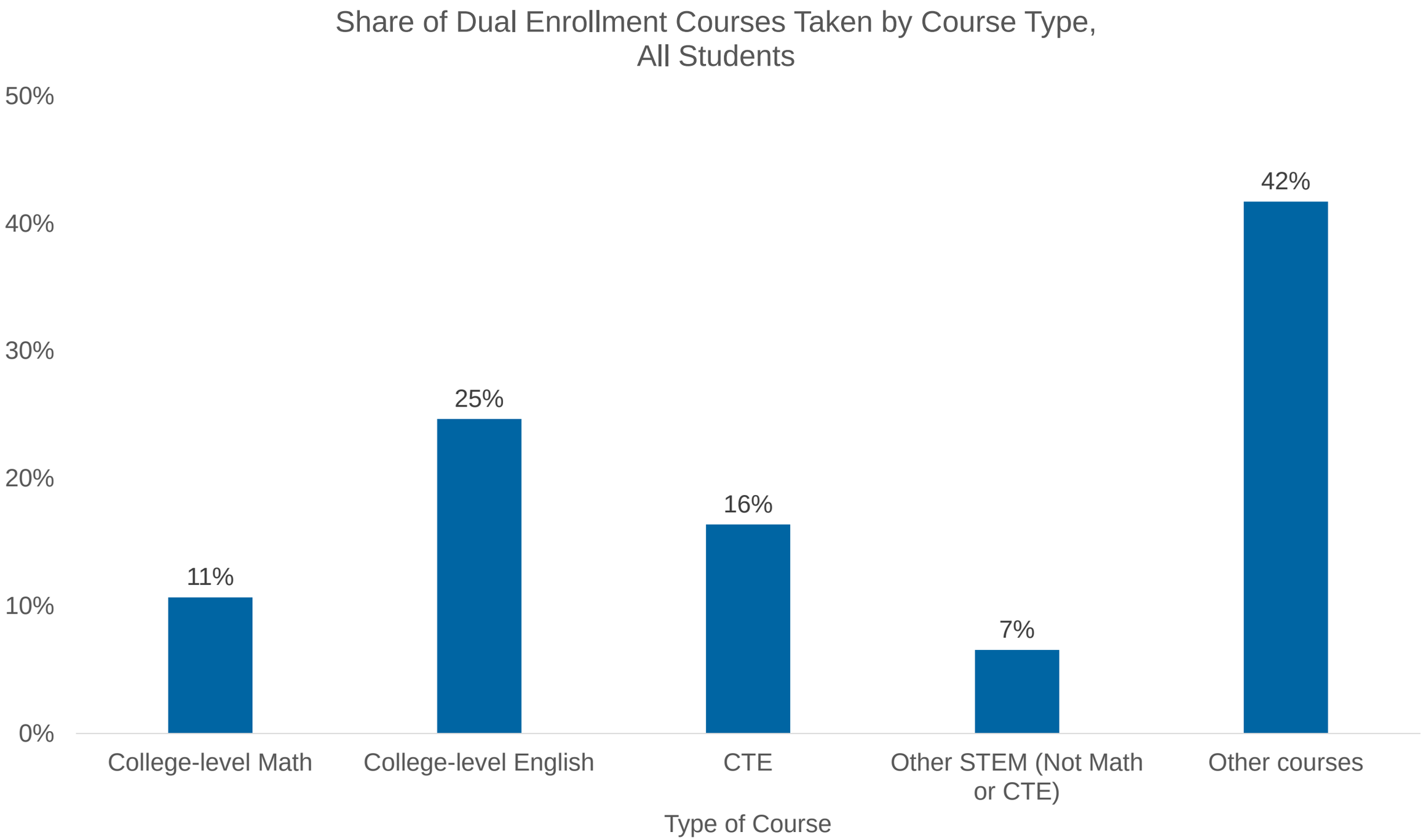
- What courses are our DE students taking & how are they selecting them?
- Are our DE students gaining momentum in a program of study in HS?
- Where do our DE students go to college after HS, how many return to our college, and what's happening with DE students who don't go to college?
- How many end up earning college credentials, from which institutions, and in what majors?
- What are the course-taking patterns and outcomes among DE students who continued at our college after HS?
- Are DE students passing college-level math and critical program courses either in HS or in their first year in college (after HS)?
- Are DE credits being applied to students' degree programs?
- How do results vary by HS and program of study?
- How do results vary for students by race, income, gender, & geography?

Top Ohio Community College Dual Enrollment Courses, by CIP Code Categories

Top 20 Categories (4-digit CIP Codes)	Pct. of Courses Taken	Course Pass Rate (C or better)	GPA
Rhetoric and Composition/Writing Studies	18%	91%	3.24
Mathematics	8%	84%	2.95
Psychology, General	6%	88%	3.12
Sociology	4%	89%	3.17
Political Science and Government	4%	88%	3.14
English Language and Literature, General	4%	92%	3.24
History	4%	92%	3.20
Biology, General	3%	65%	2.91
Chemistry	3%	73%	3.11
Liberal Arts and Sciences, General Studies and Humanities	2%	90%	3.26
Literature	2%	94%	3.23
Health and Physical Education/Fitness	2%	78%	3.49
Romance Languages, Literatures, and Linguistics	2%	91%	3.31
Economics	2%	89%	3.10
Cell/Cellular Biology and Anatomical Sciences	2%	68%	2.78
Basic Skills and Developmental/Remedial Education	1%	73%	3.09
Statistics	1%	90%	3.09
Computer and Information Sciences, General	1%	89%	3.23
Physics	1%	83%	3.16
Business/Commerce, General	1%	94%	3.39
Beyond top 20	27%		

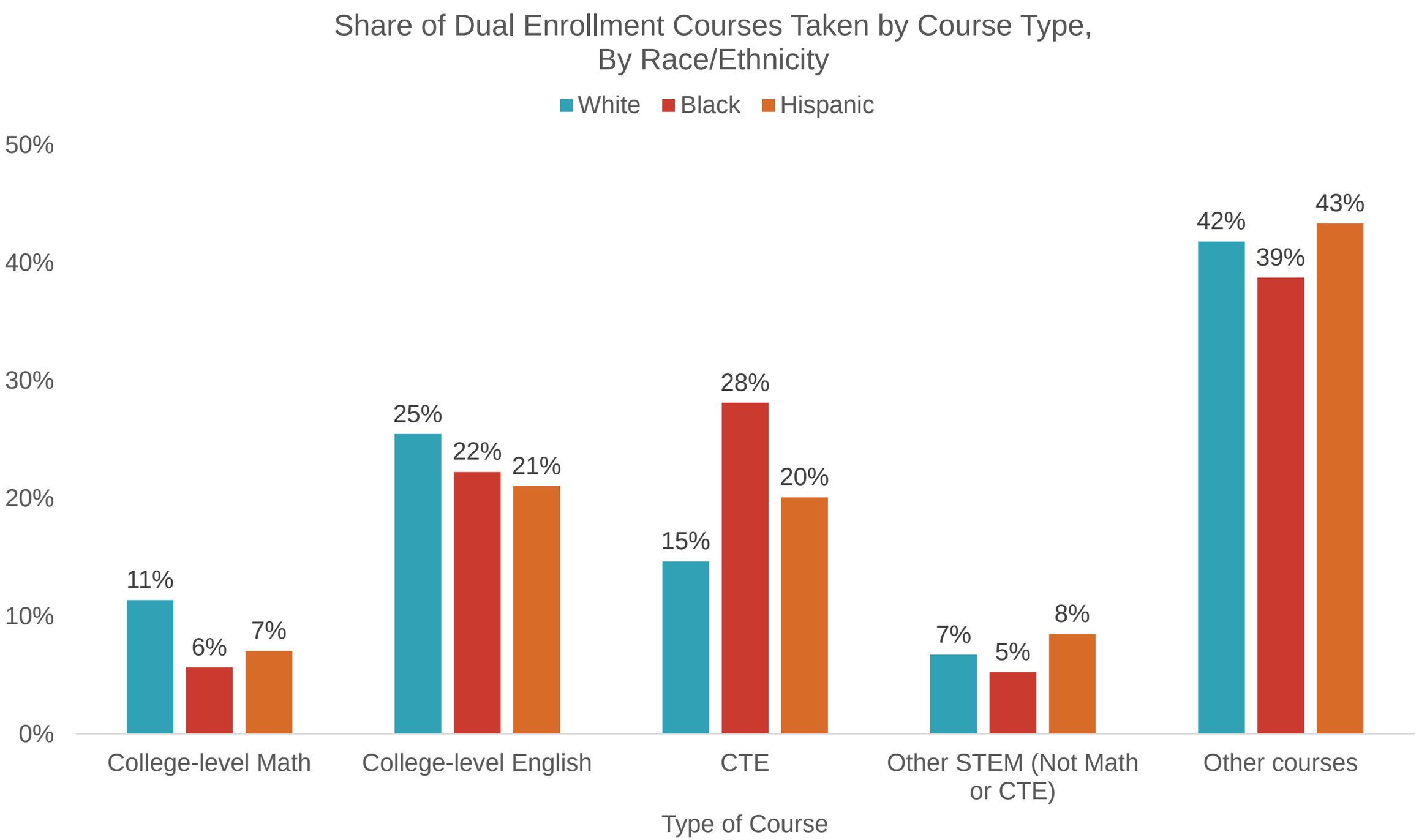
Note. Showing community college dual enrollment courses taken in AYs 2014-2016. Courses are categorized using 4-digit CIP codes (CIP code category titles listed).

Access to Community College Dual Enrollment Courses



Note. Showing dual enrollment courses taken at Ohio community colleges in AYs 2014-2016

Access to Community College Dual Enrollment Courses



Note. Showing dual enrollment courses taken at Ohio community colleges in AYs 2014-2016

CCRC

Tracking College Effectiveness in Serving Dual Enrollment Students

Access

- Extent of 'reach' to HSs in service area
- Disaggregated participation rates
- Extent of course offerings
- Over/under representation in certain types of coursework by student group

Leading Indicators

- Success in particular courses & course sequences
- Credit Momentum in HS
- Gateway Course Momentum in HS
- Coursework dispersion and concentration
- Program Momentum in HS

Short-Term Outcomes

- Post-HS college matriculation (including rates of return/yield)
- Credit, Gateway Course, & Program Momentum in first year post-HS
- Credit transfer and applicability to student degree programs
- Transfer and community college award completion

Long-Term Outcomes

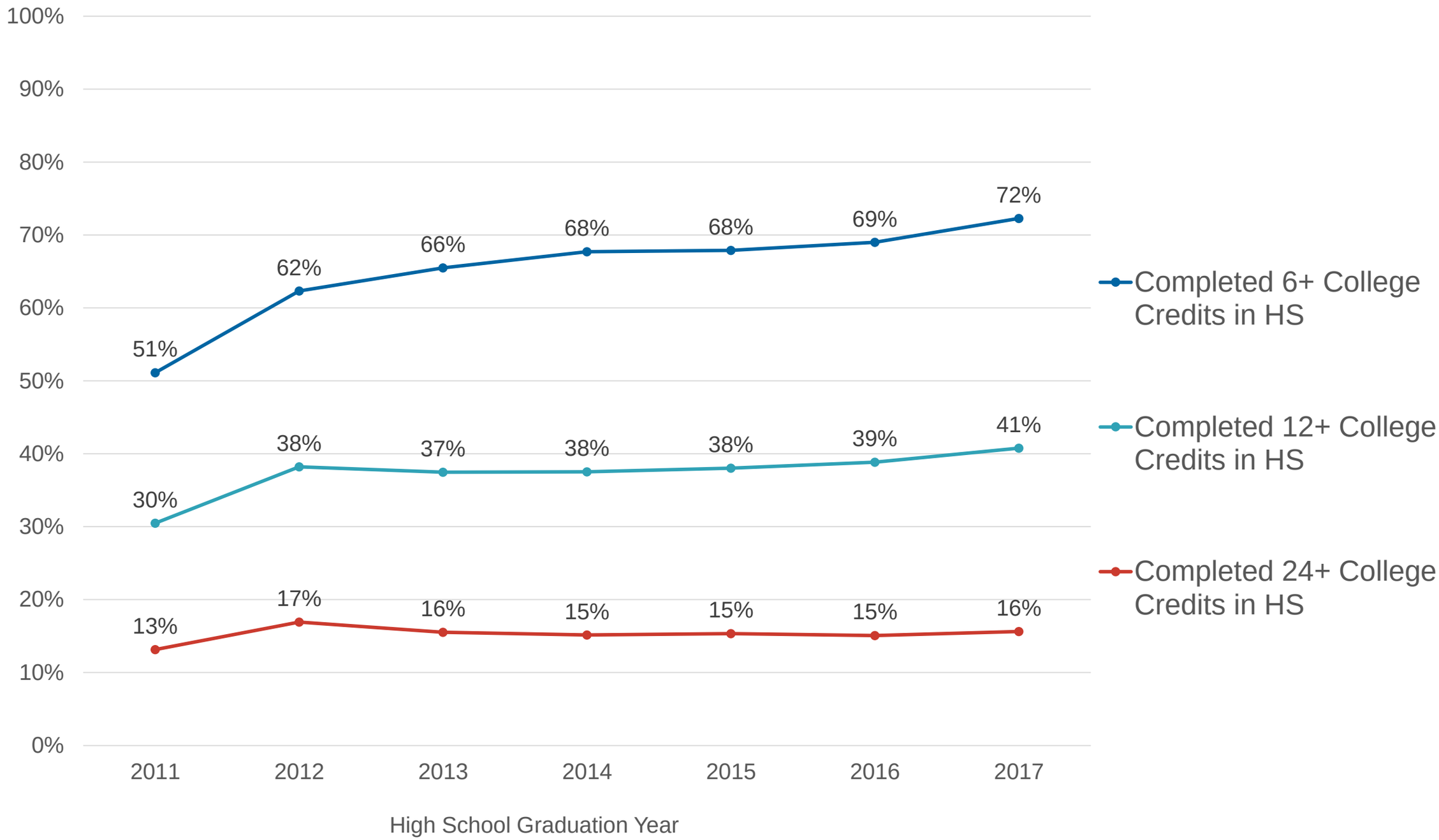
- "Highest Outcomes" six-year post-HS (e.g., degree completion, transfer, still enrolled)
- Program areas among completers
- Excess credits among completers
- Time to degree
- Loan default rates
- Wages

Cross-cutting questions:

- How do results differ by student characteristics (race/ethnicity, income, gender, etc.)?
- How do results differ by type of DE offering (location and/or instructor type, CTE)?
- How do results vary by our college's main high school partners?

CCRC

Ohio Community College Dual Enrollment: Credit Momentum in High School



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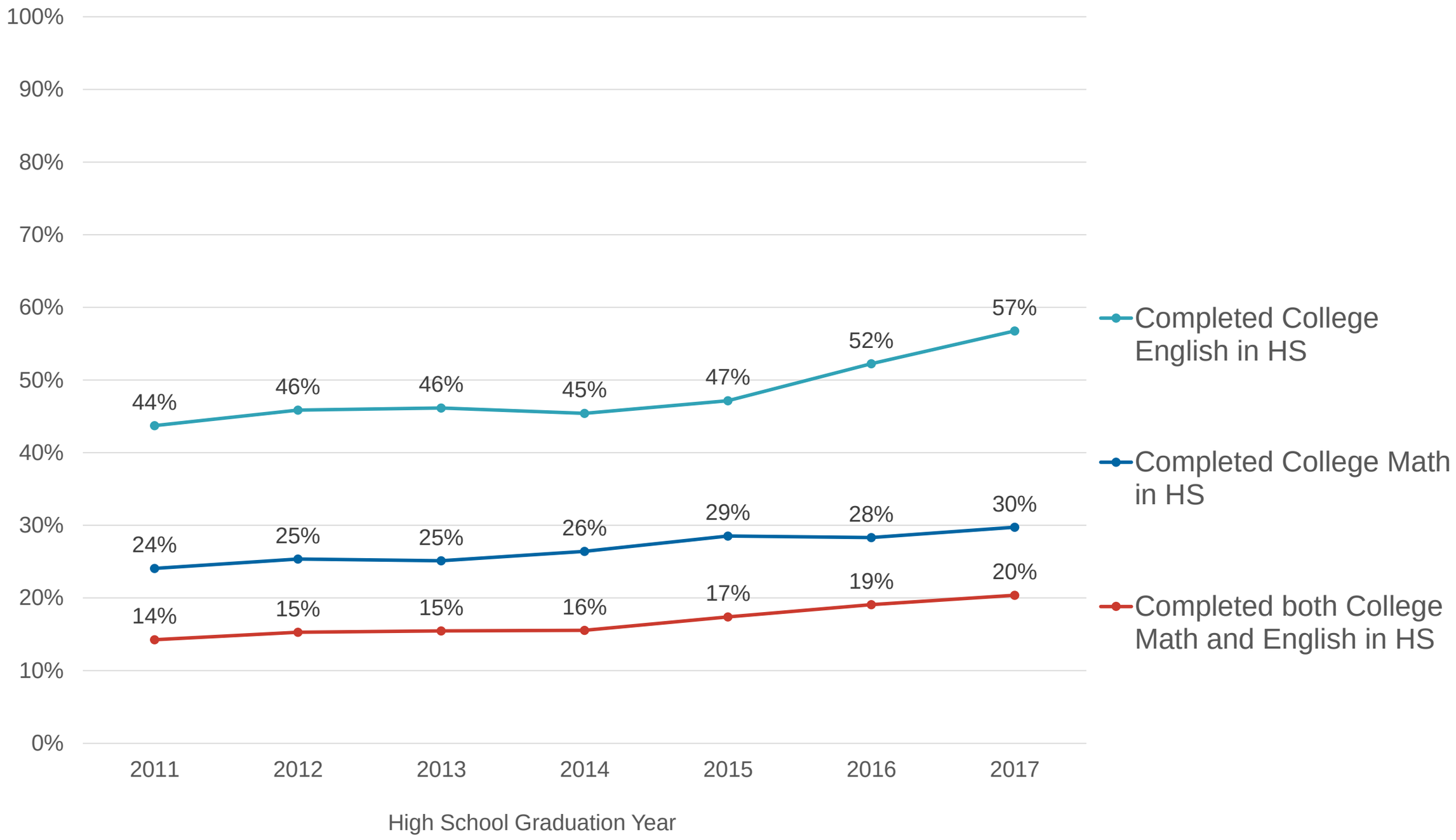
Ohio Community College Dual Enrollment: Gateway Course Completion in High School



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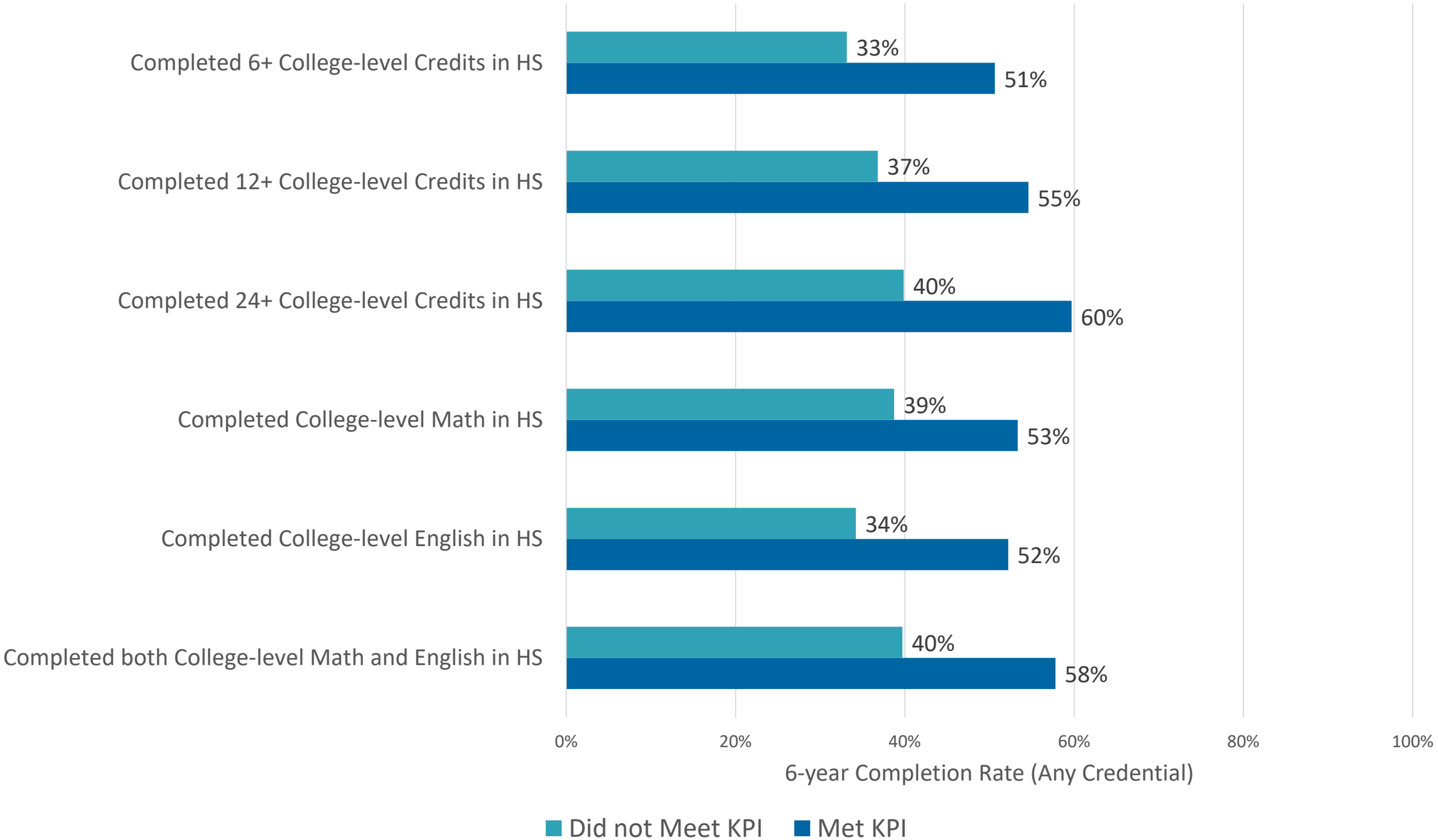
Association between “Dual Enrollment Momentum” and Credential Completion

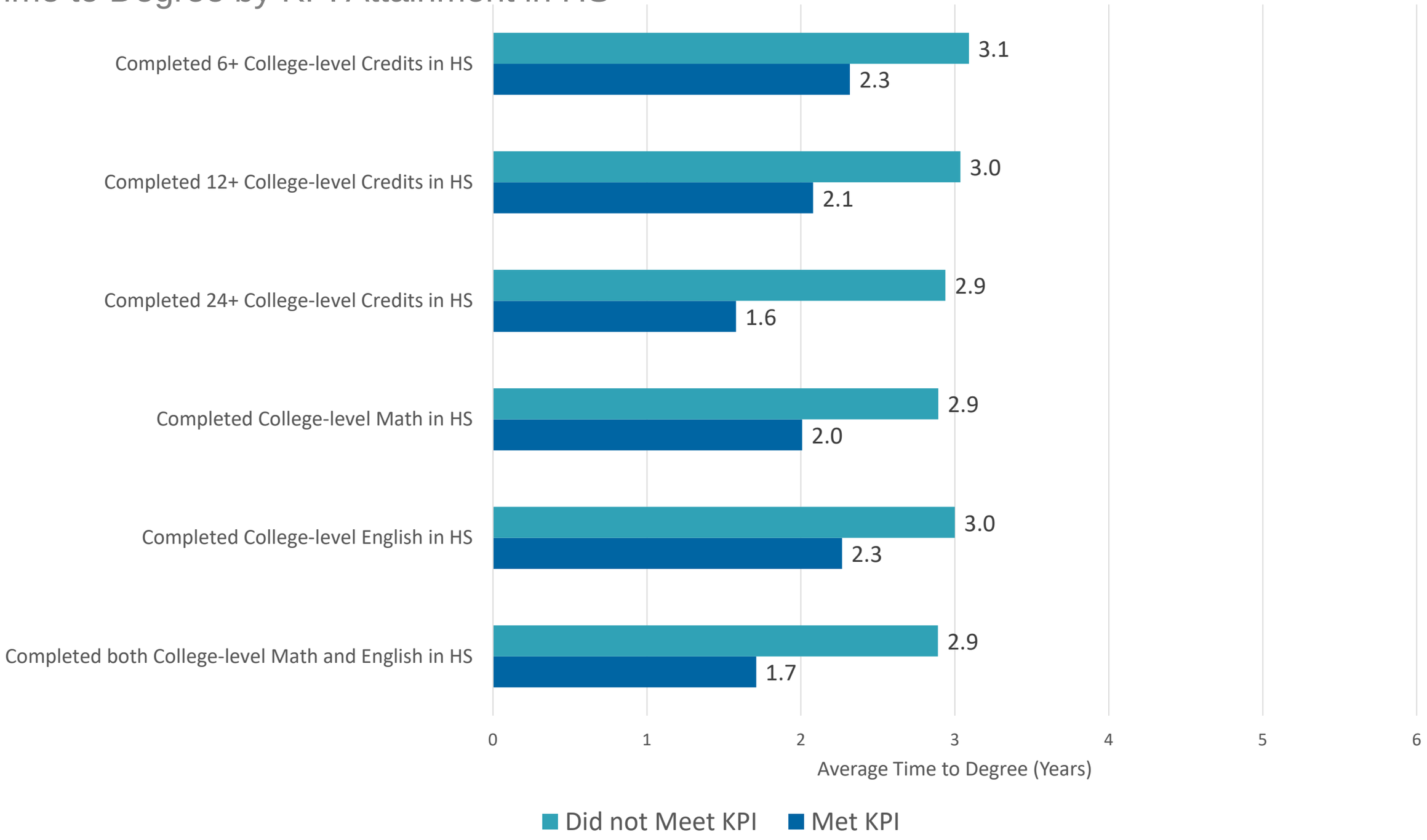
Former Ohio Community College DE students who completed HS in 2011 (N= 14,364)
6-year Completion Rates (any credential) by KPI Attainment in HS



Note. Former community college dual enrollment students who completed high school in 2011, tracked six calendar years. Completion rate for all students regardless of KPI Attainment was 43%. Data source: NSC and HEI

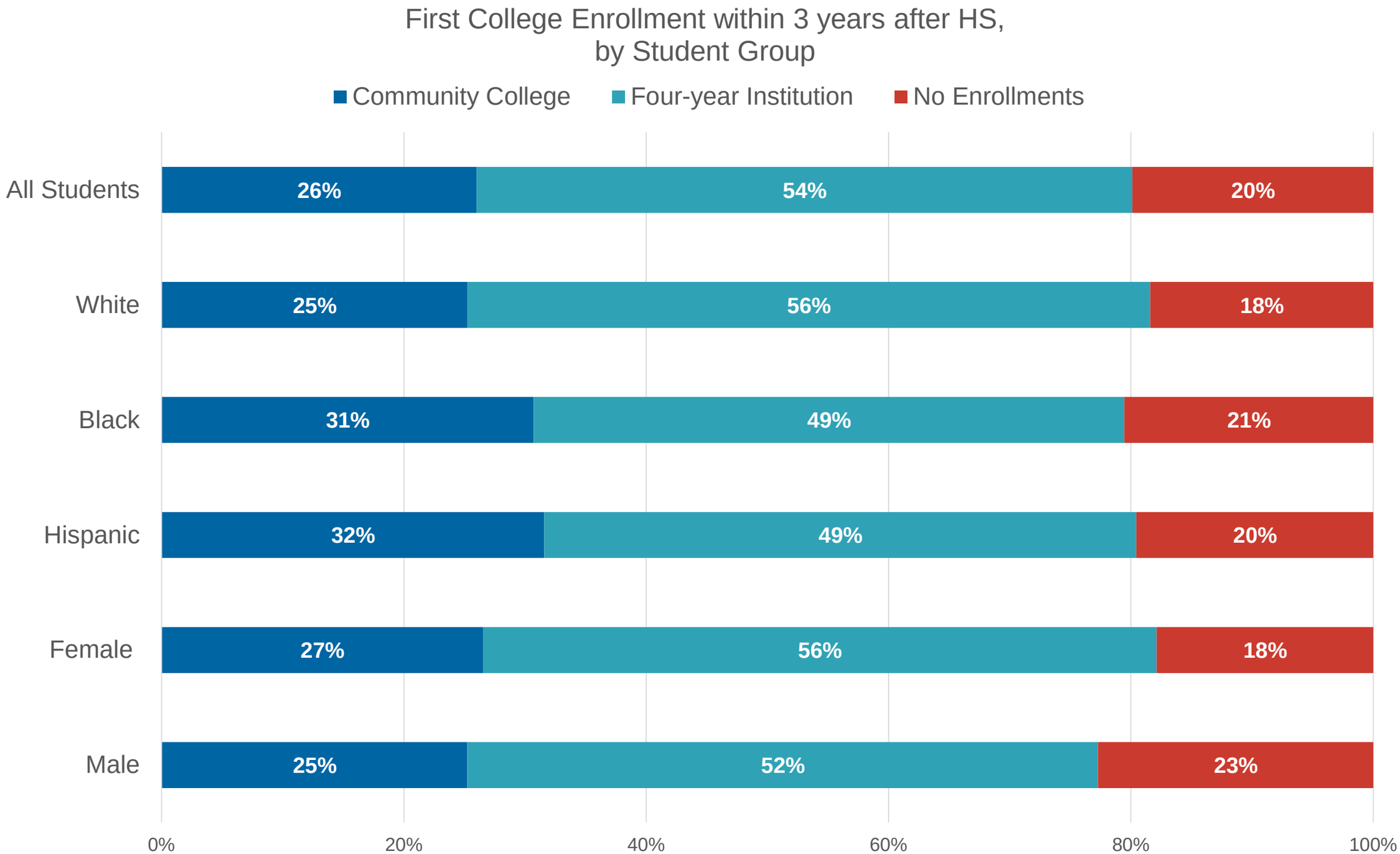
Association between “Dual Enrollment Momentum” and Time-to-Degree: Associates Degrees

Former Ohio CC DE students who completed Associates Degree within six-years post-HS
Time to Degree by KPI Attainment in HS



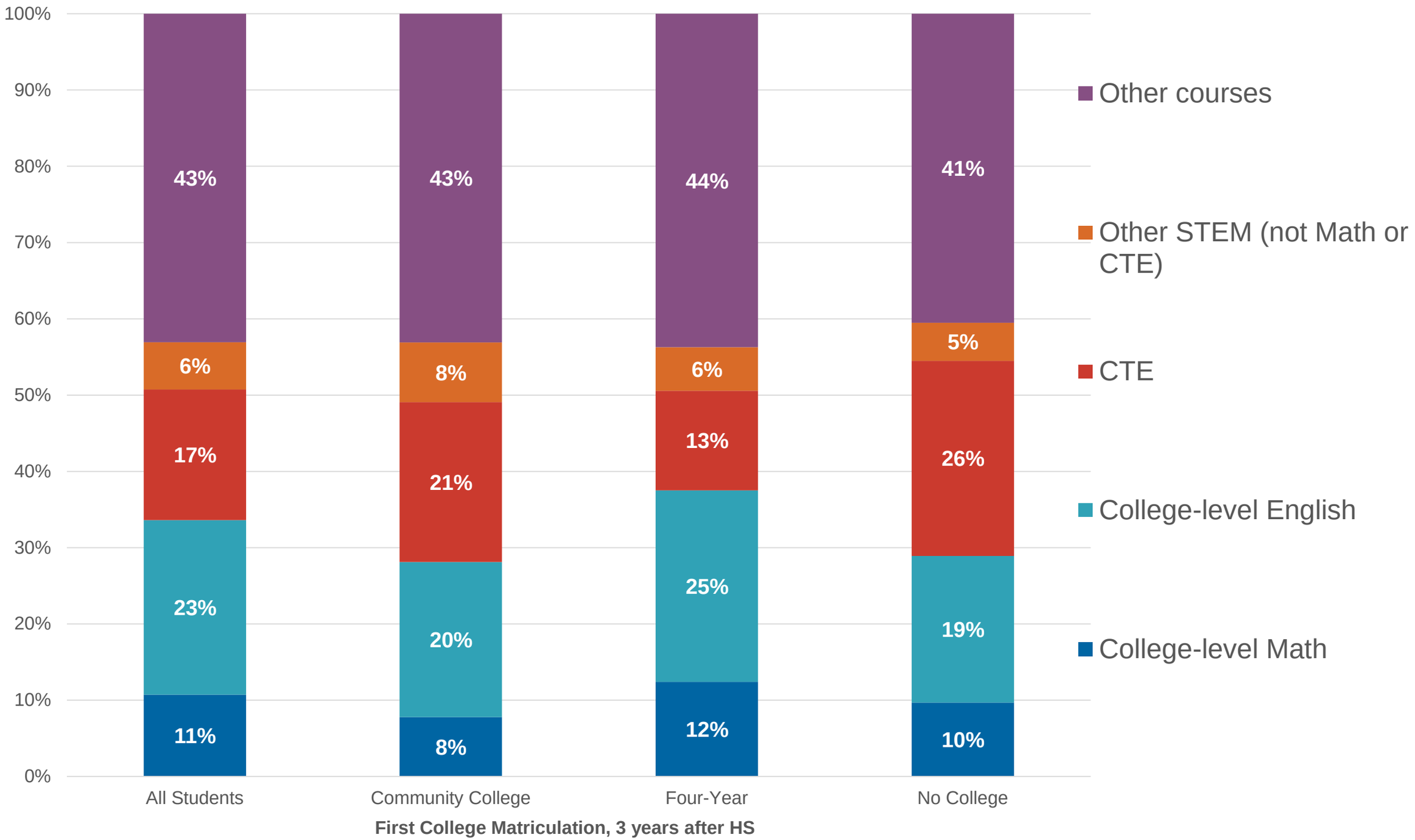
Note. Former CC dual enrollment students who completed high school in 2011, tracked six calendar years. N = 1,490 students who completed an associates at any institution. Time to degree for all associates completers regardless of KPI Attainment was 2.6 years. Data source: NSC and HEI

Preliminary Findings: College Matriculation among Former Ohio Community College Dual Enrollment Students



Note. First college enrollments using HEI and NSC data among students who completed HS in 2011-2014 (N=52,109), Excluding <.1% of students who first enrolled at a private two-year institution after high school

Ohio Community College Dual Enrollment Courses Taken (AYs 2012-2014), by post-HS College Matriculation



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Thank you!

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