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TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Update on Early Academic Momentum Trends at Ohio Community Colleges

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OACC SSLI 2022

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Metrics for Improvement: Momentum as Leading Indicator

Early Academic Momentum

Credit Momentum
Completed 24+ college credits in year 1

Gateway Course Momentum
Completed college math/English in year 1

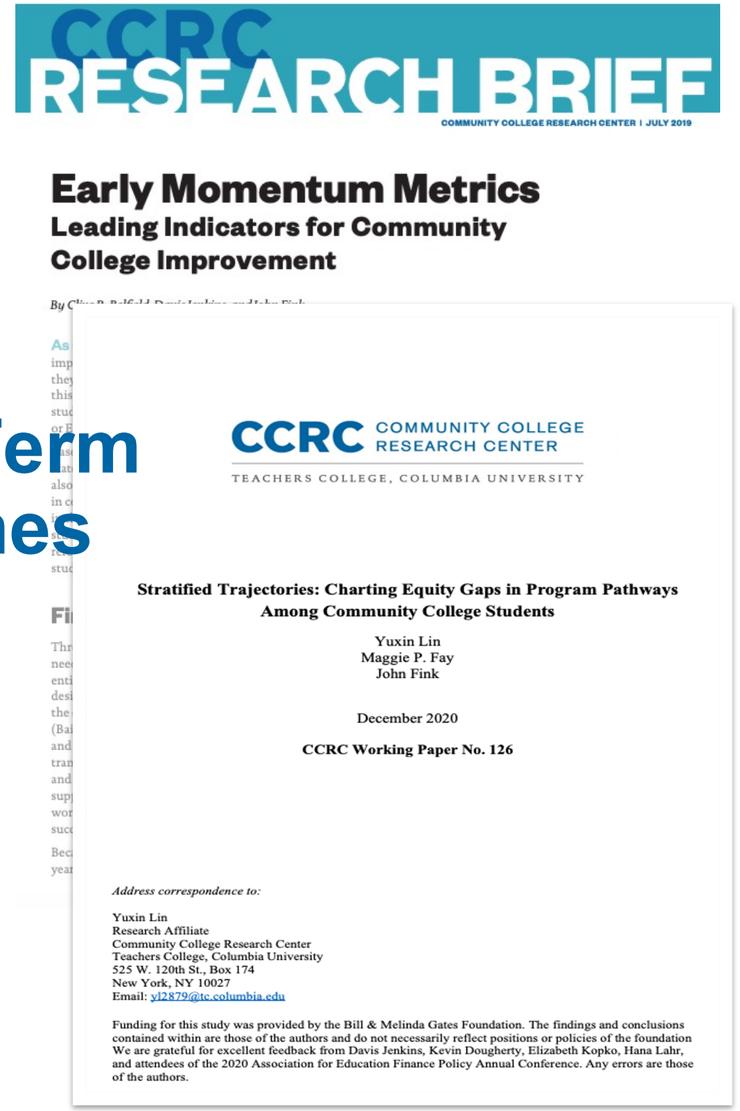
Persistence and Course Completion
Fall-Spring Persistence
Course completion rate in year 1

Longer-Term Outcomes

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.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Early Momentum Metrics
Leading Indicators for Community College Improvement

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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, Hana 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/stratified-trajectories-program-pathways.html

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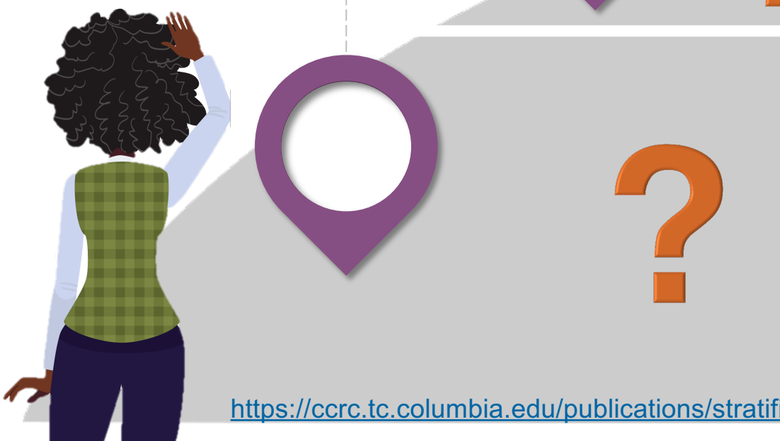

Early Program Momentum

Longer-Term Outcomes

CCRC RESEARCH BRIEF

COMMUNITY COLLEGE RESEARCH CENTER | JULY 2019

Early Momentum Metrics

Leading Indicators for Community College Improvement

By Clive R. Belfield, Davis Jenkins, and John Fink

As community colleges across the country implement large-scale reforms to improve student success, they need timely and actionable metrics to determine if the changes they are making in a given year or term will likely improve student outcomes in the long run. In this brief, we examine how well nine measures of students' progress in their first year predict student completion in subsequent years and thus how suitable these early momentum metrics, or EMMs, are as leading indicators of the effectiveness of institutional reforms.

[illegible] is of student data from all community colleges in three [illegible] that EMMs do predict longer term success for students. We also find that a key factor in low completion rates, as well as in equity gaps in completion rates, is that many students do not gain early momentum [illegible] first year. College outcomes would be substantially higher if more [illegible] met EMMs. Our findings indicate the need for comprehensive [illegible] to community college organization and practice to help more students gain early momentum on their way to earning a credential.

> **Based on analysis in three states, we find that measures of student progress in the first year predict student completion in subsequent years.**

First-Year Indicators of Longer-Term Success

Throughout the nation, two-year and four-year colleges are recognizing that to "move the needle" on collegewide measures of success (e.g., completion rates) major redesign across the entire institution may be required to ensure that its programs, policies, and practices are well designed and aligned to promote student success. Hundreds of community colleges across the country are adopting whole-college reforms commonly referred to as "guided pathways" (Bailey, Jaggars, & Jenkins, 2015). As part of these reforms, colleges are mapping requirements and options for programs of study so that they are aligned with desired employment and transfer outcomes, redesigning the onboarding process to help new students explore options and interests and develop an academic completion plan, and revamping advising to better support students in making timely progress toward completion of a credential. Faculty are also working together across disciplines to ensure that curricula and teaching prepare students to succeed in employment and transfer in their field of study.

Because they involve a redesign of college practices at scale, guided pathways reforms take several years to implement (Jenkins, Lahr, Fink, & Ganga, 2018, pp. 2–3). Given that whole-college

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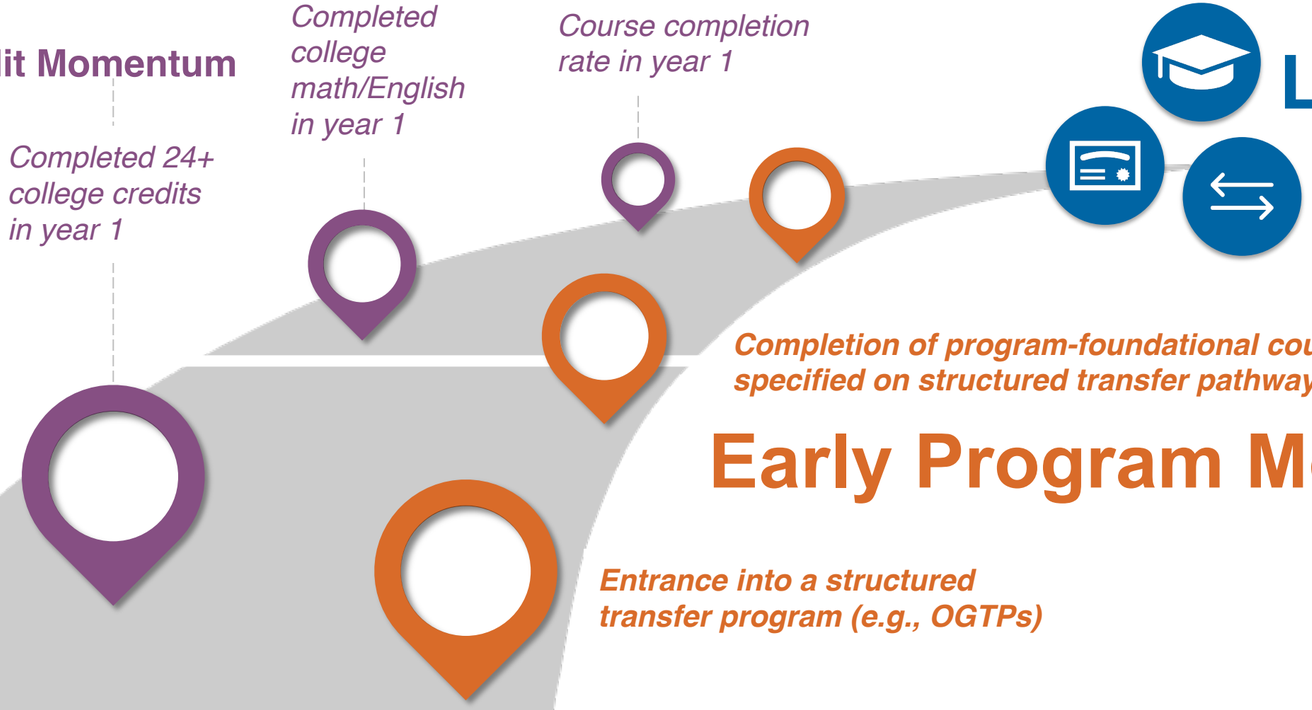

Completion of program-foundational courses specified on structured transfer pathway

Early Program Momentum

Entrance into a structured transfer program (e.g., OGTPs)

Longer-Term Outcomes

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Measuring STEM Momentum

Early Indicators of STEM Transfer Success for Community College Students

By John Fink, Taylor Myers, Daniel Sparks, and Shanna Smith Jaggars

Community colleges across the country are working to implement collegewide reforms—[illegible] student onboarding or advising processes—to improve student success. Given their [illegible] reforms are difficult to evaluate, and their effects on transfer or graduation rates may take years to observe. Yet college leaders need to know whether changes they make in the short run are associated with longer-term student success. Accordingly, college leaders have turned to "early momentum" metrics, which research suggests are leading indicators of longer-term student outcomes (Jenkins & Bailey, [illegible] can be assessed quickly and [illegible] years, early momentum metrics have been particularly useful for the hundreds of community colleges adopting guided pathways, a whole-institution reform model designed to improve how students enter and navigate through programs of study. Early momentum metrics have helped these colleges track improvements and provide formative assessments of student success reforms associated with the guided pathways framework.

However, early momentum metrics are program-agnostic. In one example of a widely used metric, first-year credit accumulation, a student may earn a substantial number of college credits in their first year, but those credits may or may not apply to a degree in their field of interest. This is a substantial limitation in the utility of such metrics, as program-[illegible] mistaking may be the strongest indicator of [illegible] transfer to and graduation from a four-year [illegible] (Hemley, 2016; Jenkins & Cho, 2012, 2014). Moreover, institutional improvement aimed at greater student success requires the involvement of faculty and academic administrators within specific academic areas; these stakeholders often want to know whether or how reforms are benefitting students within their own programs (Bailey et al., 2015).

Overview

This brief summarizes findings from a study in which we examined postsecondary college transcript and degree records from hundreds of thousands of transfer-intending community college students in three states. Our aim was to explore and test metrics that could be useful in the formative assessment of efforts to improve STEM transfer outcomes. Our findings show that first-year completion of a calculus course and first-year completion of a (non-math) science, technology, or engineering (STE) course specified on statewide STEM transfer pathways are both reliable indicators of subsequent STEM transfer success across a wide range of state and institutional contexts. These two metrics are also robust predictors of success among subgroups of students by race/ethnicity and gender. In general, community colleges have relatively low rates of completion of these key STEM courses, and disparities in completion of these courses by race/ethnicity and gender are common. The STEM momentum metrics identified in the study may therefore be useful for colleges seeking to strengthen STEM transfer outcomes and close equity gaps in STEM bachelor's degree attainment.

https://ccrc.tc.columbia.edu/publications/measuring-stem-momentum-early-indicators.html

Research-Based Design Principles for Reimagining Program Onboarding

ASK: Ask every student about their interests, strengths, and aspirations and help them explore relevant programs.

CONNECT: Help all students connect with faculty, students, alumni, others and coursework in a field of interest from the start.

INSPIRE: Ensure every student has light-the-fire learning experience in term 1 and active and experiential learning opportunities throughout.

PLAN: Help every student develop an individualized educational plan by the end of term 1.

Placing equity at the center of program onboarding

In order to achieve equity in outcomes for marginalized and underserved students, it is critical to tailor onboarding support to meet the needs of different student groups, for example:

- African American/Black Students, Native/Indigenous Students, and students from other races/ethnic groups historically excluded from higher education,
- English learners
- Military students
- International students
- Students with disabilities
- Undecided students
- Adult students
- Immigrants
- Dual enrollment students
- Students enrolled in basic skills programs
- Additional priority populations at our college

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Ohio Early Momentum Metrics

2022 OACC Early Momentum Metric Reports

Materials Shared with Colleges

- PDF/Paper Report (10 Pages) – Focuses on traditional “first-time-ever-in-college” cohorts, excluding former dual enrollment students
- Tableau dashboard showing trends in overall EMM improvements and changes in equity gaps for Black, Hispanic, and older adult students
- **Tableau Updates for 2022:**
  - Added cohort filter to show students who were transfer or degree seeking upon entry (vs. all students regardless of degree intent)
  - Updated cohort filter for including / excluding former dual enrollment students:
    - Now includes an option to include former DE students and count their DE coursework in the EMM definition (e.g., Completed college math in high school or by the end of the first year of college after high school)
- Excel files with all of your college’s data for cohorts back to 2012

Key Takeaways

1. Most colleges have made improvements on the EMMs in the past 5 years

2. Many colleges have also improved on EMMs specifically for Black, Hispanic, and adult students, but **equity gaps remain large and widespread**

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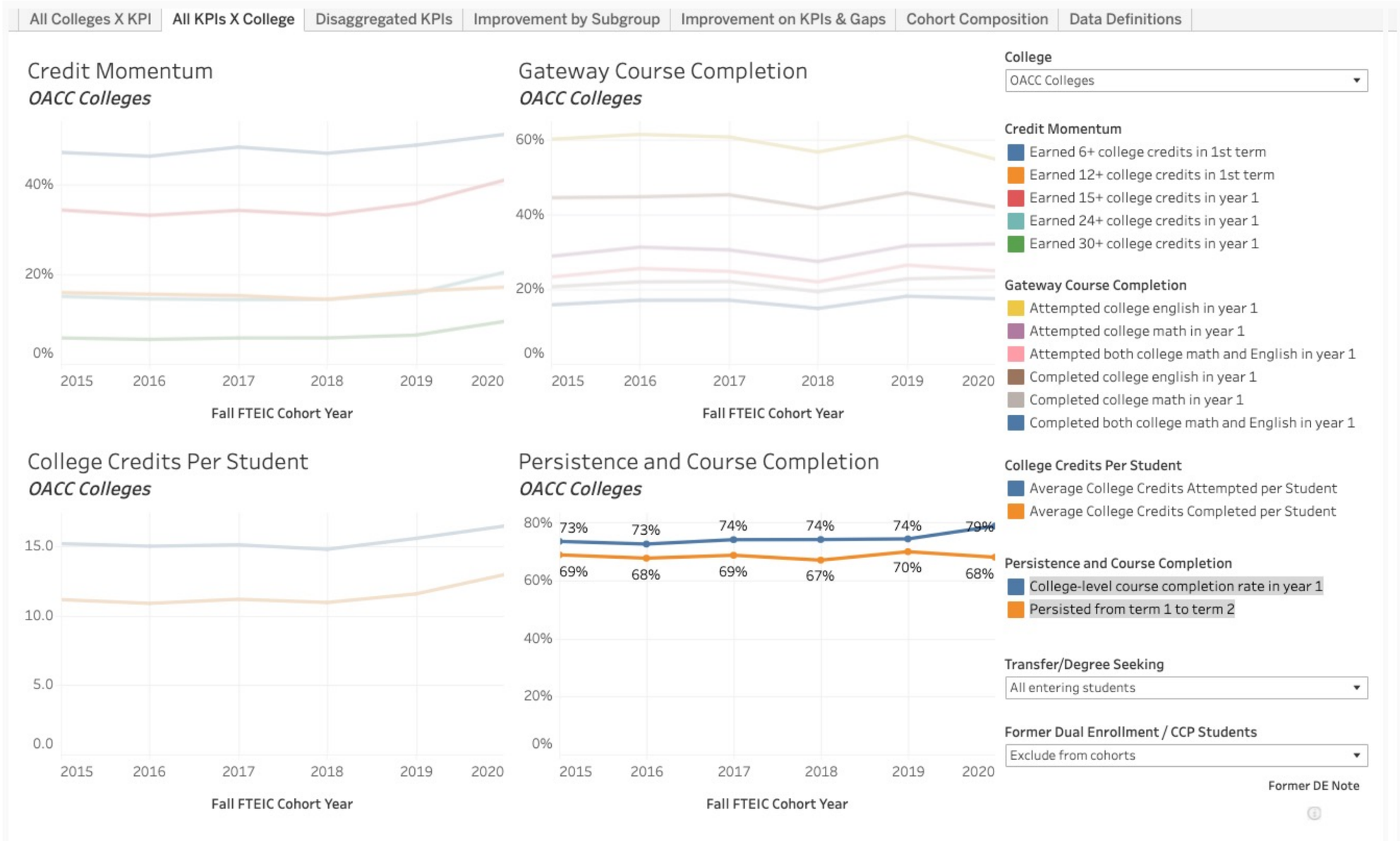
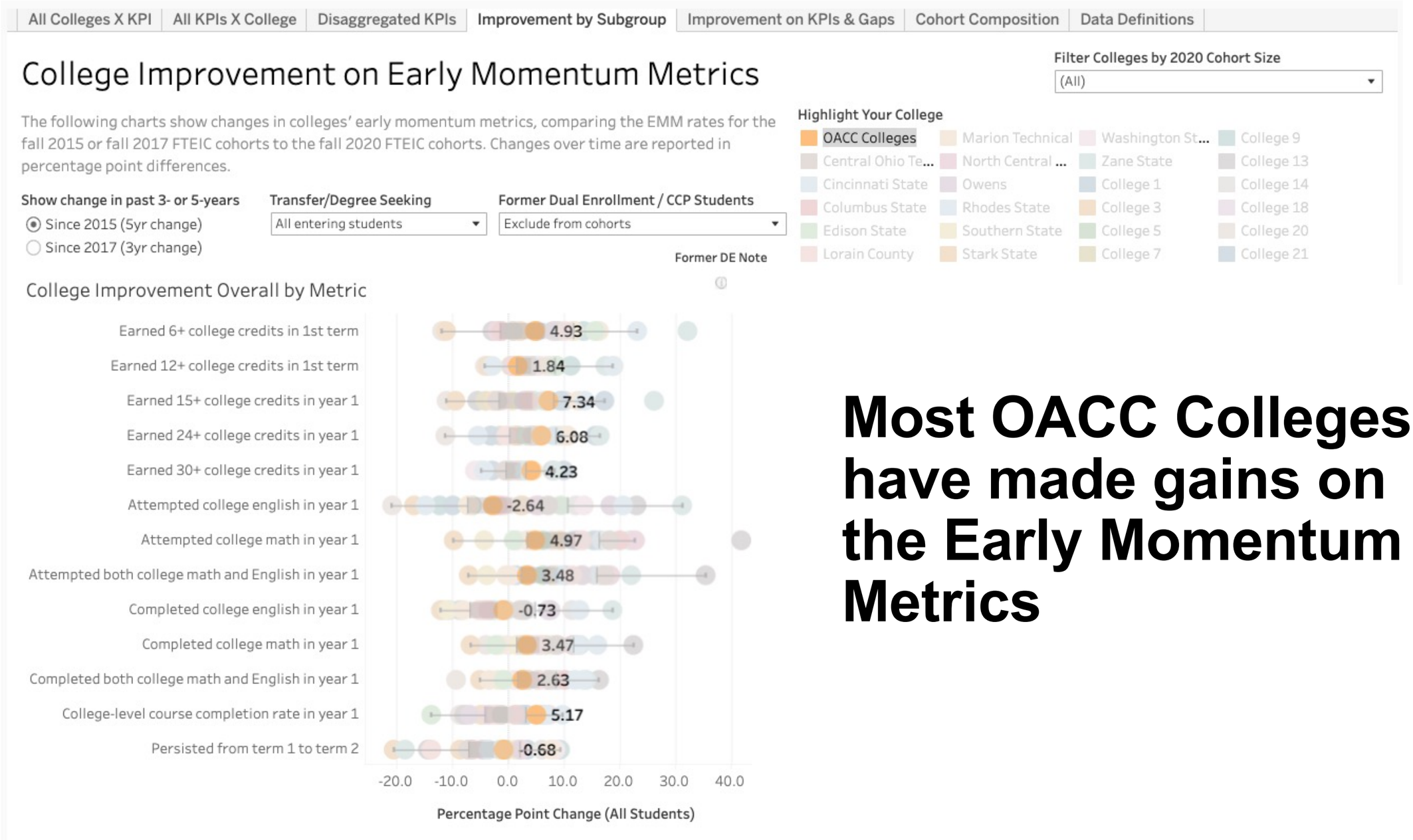
Early Momentum Trends, Ohio Community Colleges





Most OACC Colleges have made gains on the Early Momentum Metrics

OACC Early Momentum Dashboard: https://tabsoft.co/3a0Meay

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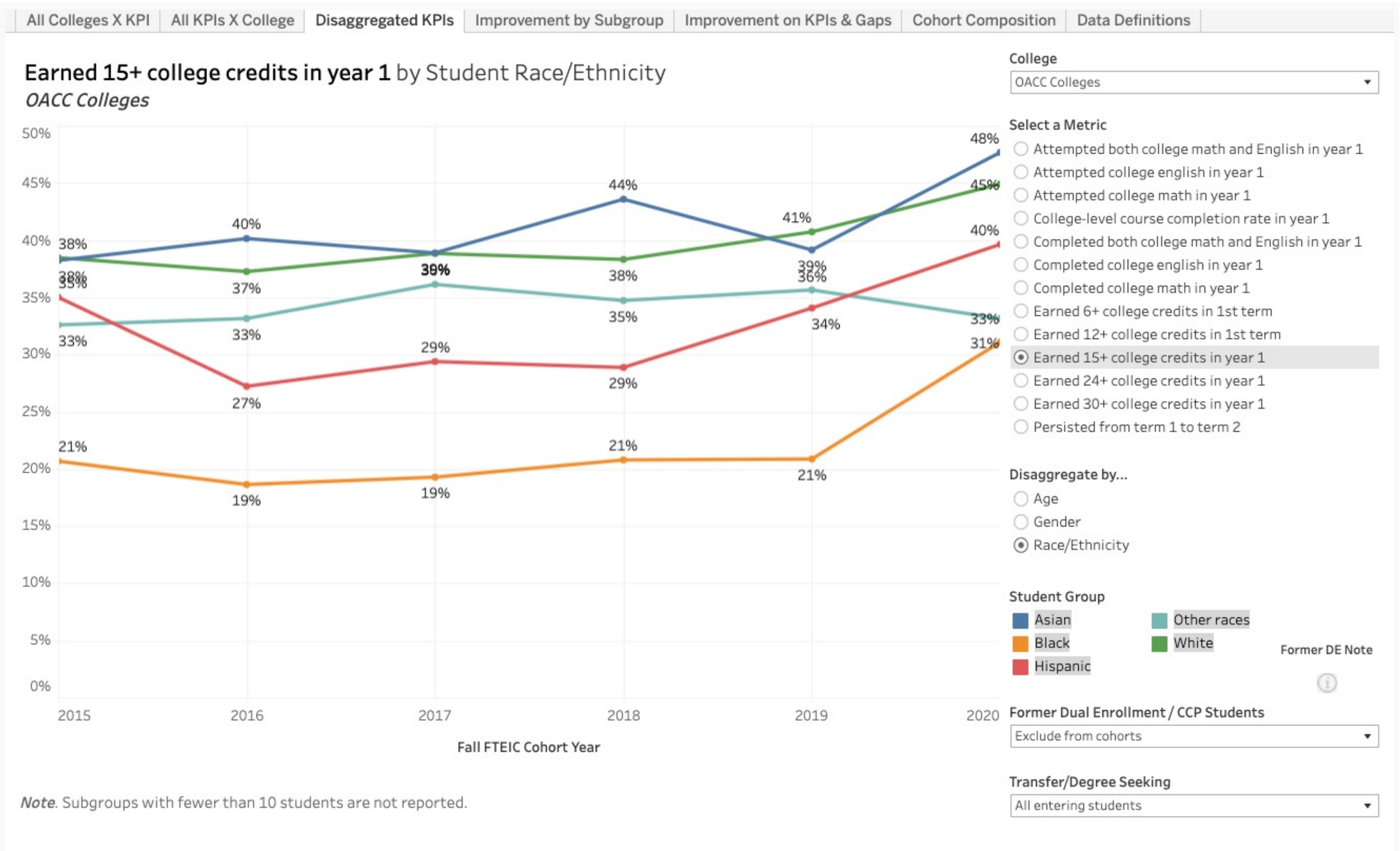
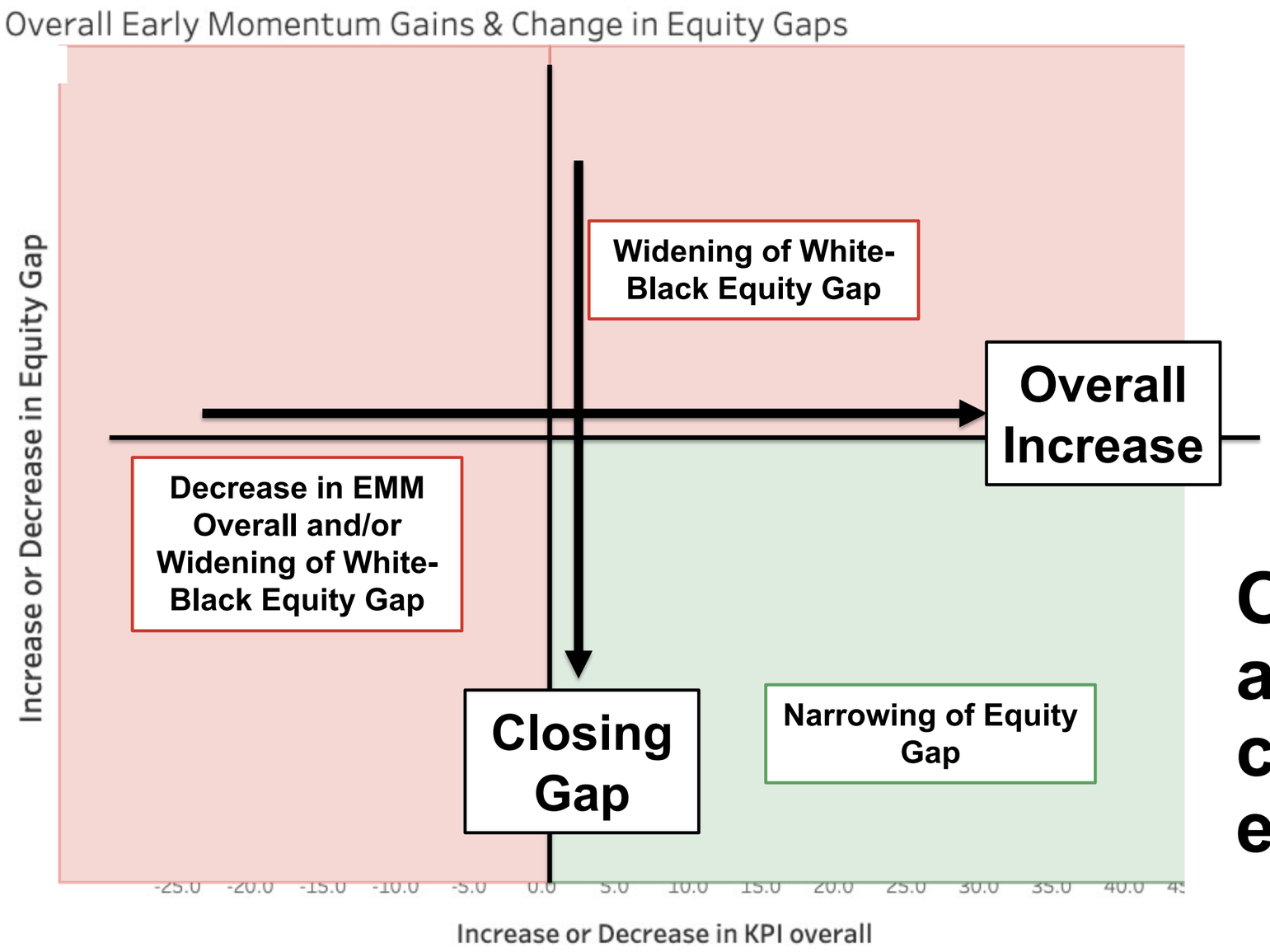
Colleges have made gains, but gaps remain



Note. Subgroups with fewer than 10 students are not reported.



Overall gains have been accompanied by both closing and widening of equity gaps

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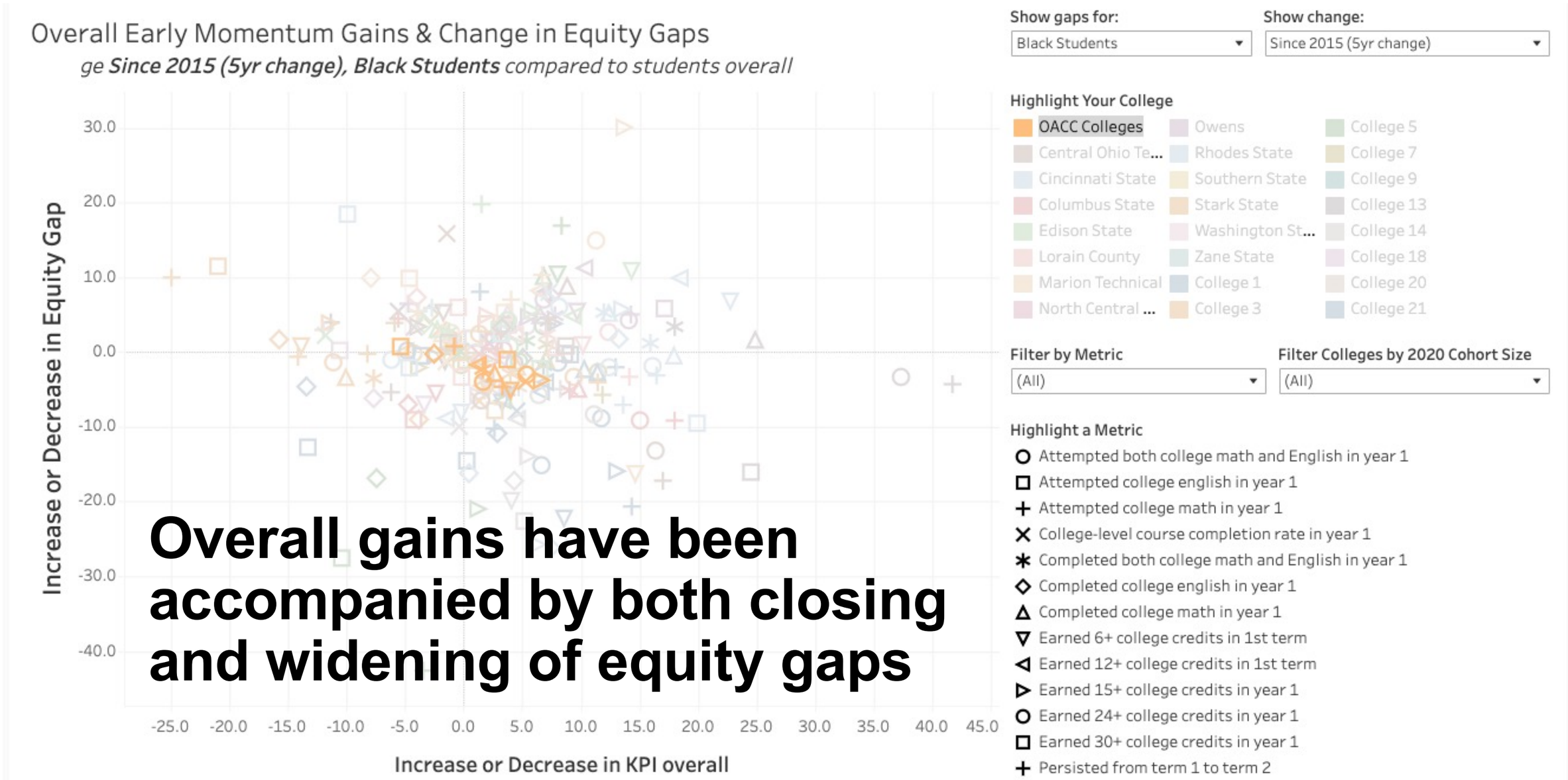

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Diving into the EMMs for your College

- On which metrics has our college made substantial progress in the past 3-5 years?
- What changes in practices might be explaining these improvements? How can we further build on these improvements?
- Are the gaps by student race/ethnicity on those metrics? How has this changed overtime—are gaps closing, widening, or remaining the same?
- If your college has closed equity gaps by race/ethnicity on particular metrics, why do you think this is so? What more needs to be done to fully close gaps where they still exist?

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Thank you!

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