

Research Question 2 Report for Equal Opportunity Schools (EOS)

Impacts of EOS Partnership on Schools' AP and Postsecondary Outcomes

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Contents

Executive Summaryvii

Introduction..... 1

Key Findings..... 3

 Key finding 1: EOS partnership increased student enrollment rates in AP courses compared to other schools..... 3

 Key finding 2: EOS partnership had a positive impact on AP exam-taking rates in some school types, but not across schools overall. Impacts varied by student characteristics and tended to be more positive for EOS’ focal population..... 4

 Key finding 3: EOS partnership did not lead to increased average AP exam performance for schools. 6

 Key finding 4: EOS partnership did not impact rates of postsecondary student enrollment. 7

Conclusion and considerations for EOS 8

Appendix A Additional Details on How the Study Was Conducted 11

 Data sources and samples 13

 Key measures 17

 Analytic approach 18

Appendix B Supplemental Results to Support Key Findings 21

 Supplemental results to support key finding 1: EOS partnership increased student enrollment rates in AP courses compared to other schools. 23

 Supplemental results to support key finding 2: EOS partnership had a positive impact on AP exam-taking rates in some school types, but not across schools overall. Impacts varied by student characteristics and tended to be more positive for EOS’ focal population..... 25

 Supplemental results to support key finding 3: EOS partnership did not lead to increased average AP exam performance for schools..... 28

 Supplemental results to support key finding 4: EOS partnership did not impact rates of postsecondary student enrollment..... 30

References..... 35

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Exhibits

1	Impact of EOS partnership on rate of AP course enrollment, by student group and school type.....	4
2	Impact of EOS partnership on rate of AP exam participation, by student group and school type.....	5
3	Impact of EOS partnership on average AP exam score, by student group and school type.....	6
4	Impact of EOS partnership on one-year postsecondary persistence rates, by school type.....	8
A.1	Number of EOS and comparison schools by state in the CRDC analytic sample	14
A.2	College Board data years of coverage, number of EOS and comparison schools by state	16
A.3	National Student Clearinghouse data years of coverage, number of EOS and comparison schools by state	17
A.4	Key measures used in the study	17
B.1	Baseline characteristics of EOS partner schools and comparison schools – CRDC sample	23
B.2	Impact of EOS partnership on rate of AP course enrollment, by student group and school type (unsuppressed).....	24
B.3	Impact of EOS partnership on AP course enrollment.....	25
B.4	Baseline characteristics of EOS partner schools and comparison schools – CB sample	26
B.5	Impact of EOS partnership on rate of AP exam participation, by student group and school type (unsuppressed).....	27
B.6	Impact of EOS partnership on AP exam participation.....	28
B.7	Impact of EOS partnership on average AP exam score, by student group and school type (unsuppressed)	29
B.8	Impact of EOS partnership on AP exam performance.....	30
B.9	Baseline characteristics of EOS partner schools and comparison schools – NSC sample	31
B.10	Impact of EOS partnership on postsecondary enrollment and persistence	32
B.11	Sensitivity analyses of EOS impact on postsecondary enrollment.....	33

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Executive Summary

What did the study examine?

This study examined the impacts of Equal Opportunity Schools (EOS), an organization that partners with schools to increase access and success in advanced courses for students of underrepresented races and ethnicities (that is, Black, Hispanic, multiracial, and other non-White and non-Asian race groups) or from low-income backgrounds. In collaboration with their partner schools, EOS helps identify students with the potential to succeed in advanced courses who may be overlooked by other methods of identification. EOS’ model uses a multifactor identification approach based on a combination of survey data about student strengths, assets, and aspirations; teacher recommendations; prior course-taking patterns; and academic performance to identify students. Prior work examined the number and characteristics of students identified by EOS’ model (see Wagner et al., 2024; Box 2). In the current study, Mathematica evaluated the impact of EOS partnership on outcomes for one common form of advanced courses—Advanced Placement (AP) courses—and for postsecondary success.

What questions does the study seek to address?

What is the impact of a school partnering with EOS on the following outcomes: (1) enrollment in AP courses, (2) AP exam taking and performance, and (3) postsecondary enrollment and persistence?

How was the study conducted?

Data sources and sample. To examine impacts of EOS’ model, we used data from EOS (2015–2016 through 2022–2023) to identify partner schools and the year of initial partnership and collected school-level outcomes data from the sources listed in Exhibit ES.1. We collected additional school-level data from the publicly available Common Core of Data (CCD) on free or reduced-price lunch status, urbanicity, and student race. Using the data provided by EOS, we included schools that partnered with EOS in 2015–2016 or later. For each outcome, we compared data for EOS partner schools to data from comparison schools within the same state, prioritizing states in which EOS had the largest number of partner schools when possible (see Exhibit ES.1).

Exhibit ES.1. Data sources used in the study

Outcome	Data source	School years	Number of states	Number of unique EOS schools	Number of comparison schools
AP course enrollment	Civil Rights Data Collection (CRDC)	2013–2014, 2015–2016, 2017–2018, and 2020–2021	29	673	13,212
AP exam taking and performance	College Board (CB)	2014–2015 through 2022–2023	10	483	1,550
Postsecondary enrollment and persistence	National Student Clearinghouse (NSC)	2014–2015 through 2021–2022	10	352	6,946

Note: NSC data included overall postsecondary enrollment and one-year persistence, and enrollment and persistence for public and private two-year and four-year institutions.

Analytic approach. To estimate EOS’ impact on each outcome of interest, we used a difference-in-differences model. The estimation approach compares outcomes in EOS partner schools before and after EOS partnership began, relative to comparisons schools at the same points in time. Before-and-after differences in outcomes are taken within schools, then differences in these within-school differences are taken across EOS partner and non-EOS partner schools. This approach helps avoid bias introduced by dissimilarities between schools.

What did the study find?

- **Key finding 1:** EOS partnership increased student enrollment rates in AP courses compared to other schools. On average, EOS partnership increased the AP course enrollment rate by about 4 percentage points in partner schools.

- **Key finding 2:** Similarly, EOS partnership had a positive impact on AP exam-taking rates in some school types, but not across schools overall. Impacts varied by student characteristics and tended to be more positive for EOS' focal population.
- **Key finding 3:** However, EOS partnership did not lead to increased average AP exam performance for schools.
- **Key finding 4:** EOS partnership did not impact rates of postsecondary student enrollment.▲

Introduction

High school students’ participation in advanced coursework can support their postsecondary success, but some students may face barriers to access. Enrollment in advanced courses can lead to increased student enrollment and success in postsecondary education (Arshan & Bosetti, 2018; Phillips & Lane, 2021). Moreover, most high schools offer a form of advanced courses to their students (National Center for Education Statistics, 2024).¹ However, even within schools that offer many advanced courses, few Black and Latino students are enrolled in these courses (Long et al., 2012; Patrick et al., 2020, 2022; Theokas & Saaris, 2013). Additionally, students of underrepresented races and ethnicities pass exams for Advanced Placement (AP) classes (one form of advanced coursework) at lower rates than other students, suggesting they continue to face school- and class-level barriers even after enrolling in these courses (Chatterji et al., 2021).

Equal Opportunity Schools (EOS) partners with schools to increase access to advanced courses while making the identification of students for advanced courses more equitable. EOS partners closely with districts and schools, providing tools and training designed to achieve more equitable advanced course programs by expanding the population of students enrolled. EOS focuses on increasing access to advanced courses for students from underrepresented races and ethnicities (Black, Hispanic, multiracial, and other non-White and non-Asian groups) and/or from low-income backgrounds who could succeed in advanced courses (see Box 1 for key report terminology). EOS also works with district and school leaders to create environments that support these focal students’ learning and cultivate their sense of belonging (Wagner et al., 2024).²

Box 1. Key terminology used in the report

- **Advanced courses:** Rigorous college-preparatory courses offered by high schools, including Advanced International Certificate of Education, Advanced Placement, and International Baccalaureate courses
- **Advanced Placement (AP) courses:** College-level advanced courses that are managed by the College Board (CB); courses provide students the opportunity to receive college credit by preparing them to earn a passing score on a course exam
- **EOS:** Equal Opportunity Schools
- **EOS focal students:** Students of underrepresented races and ethnicities or from low-income backgrounds who are the focus of EOS’ model
- **EOS partner schools:** U.S. high schools that implemented EOS’ model
- **Low-income:** Students who are eligible for free or reduced-price lunch or for a fee reduction on AP exams
- **Underrepresented races and ethnicities:** Black, Hispanic, multiracial, and other non-White and non-Asian groups ▲

The current study evaluates the impact of EOS partnership on schools’ AP course enrollment rate, AP exam-taking rate and average performance, and postsecondary enrollment and persistence

¹ A nationally representative survey of American public schools found that most high schools (79 percent) offered AP, Pre-AP, International Baccalaureate, or dual enrollment courses (National Center for Education Statistics, 2024).

² See also <https://eoschools.org/> for more details on the EOS model.

rate. We measure the impact of EOS by using a difference-in-differences design to compare trends in key outcomes at EOS partner schools with those at similar schools not served by EOS. Focusing on AP coursework, we first investigate impacts of EOS partnership on the rate of enrollment in AP courses, AP exam taking, and average exam performance. Then, we examine impacts of EOS on postsecondary enrollment and persistence rates for partner schools. Appendix A provides additional details on how the study was conducted. Appendix B provides additional findings to supplement the main points in the report.

This is the second in a series of reports about the EOS model. The first report examined EOS' model for identifying students for AP courses and their characteristics (Wagner et al., 2024; see Box 2). In subsequent studies, we also examined the relationship of key constructs including belonging, perceptions of adult support, and perceived barriers to enrollment and success in advanced courses.

Box 2. Previous findings on EOS' identification model

In an initial study, we used EOS data to compare students identified by EOS' identification model to students who would be identified using an alternate identification method, AP Potential™ (see College Board, n.d.-a). The EOS model seeks to identify focal students who may be overlooked using other identification approaches by using a combination of survey data about student strengths, assets, and aspirations; teacher recommendations; prior course-taking patterns; and academic performance. We tested whether EOS identifies more students for advanced coursework than AP Potential, compared the characteristics of students identified by EOS' model to those identified by AP Potential, and compared AP course enrollment and AP exam scores for students identified by EOS to those identified solely by AP Potential. Results indicated the following:

- EOS' model identified students often overlooked by AP Potential. EOS' model primarily identified students of underrepresented races and ethnicities from low-income backgrounds, whereas students who would be identified using AP Potential were primarily White students from higher-income backgrounds.
- Across nearly all demographic groups and school characteristics, EOS identified more than double the number of focal students for outreach as would be identified using AP Potential.
- Though only one-quarter of focal students on EOS' outreach lists enrolled in an AP course, most of those students passed an AP course, and more than half who enrolled took an AP exam.
- More focal students identified by AP Potential enrolled in AP courses than focal students identified by EOS. Among students who enrolled in AP courses, more AP Potential-identified focal students passed AP courses and AP exams and tended to have higher average exam scores than EOS-identified focal students.▲

The next section presents the key findings and additional details for the current evaluation of the impact of EOS partnership on schools' AP course enrollment, AP exam taking and performance, and postsecondary enrollment and persistence. All analyses occurred at the school level (that is, comparing aggregate outcomes for schools rather than individual students). Appendix A provides details on the study's method; Appendix B provides full results of the analyses to support the study's key findings.

Key Findings

Key finding 1: EOS partnership increased student enrollment rates in AP courses compared to other schools.

EOS partnership increased the AP course enrollment rate by about 4 percentage points (Exhibit 1).

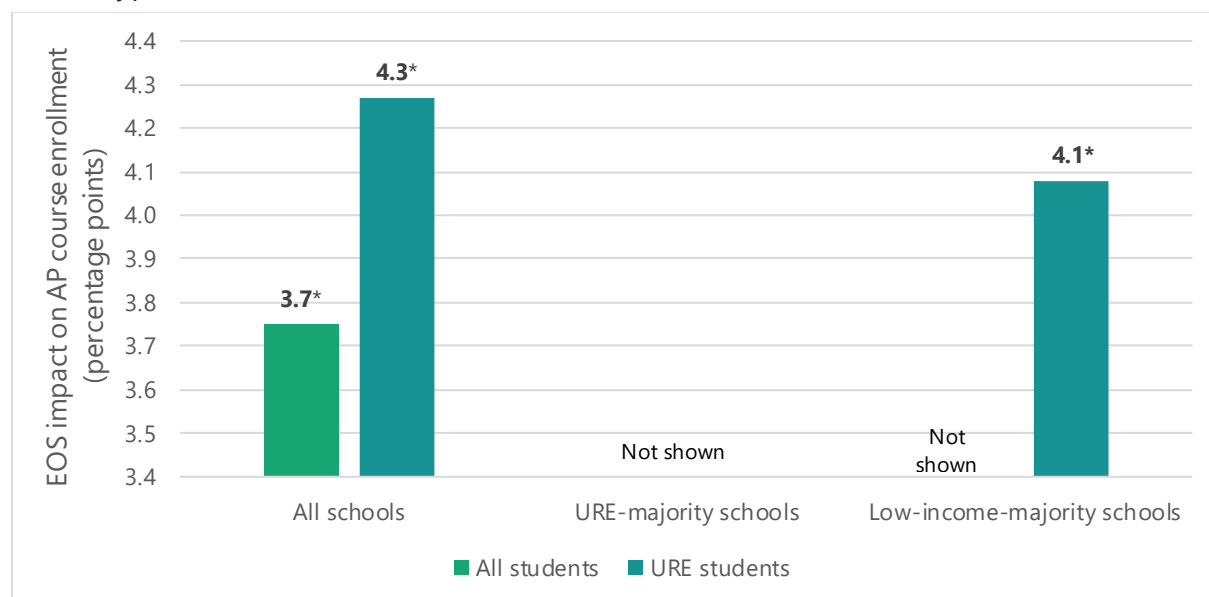
Examining enrollment data from CRDC, EOS increased the AP course enrollment rate by 3.7 percentage points for all students and 4.3 percentage points for students of underrepresented races and ethnicities. This means that on average, 52 more students (and 34 more students of underrepresented races and ethnicities) per school enrolled in AP coursework.³ This is consistent with findings from earlier work that showed EOS' model identified students for advanced coursework that were often overlooked by traditional performance-based approaches (Wagner et al., 2024). In that study, we found that adding EOS-identified students to those identified using only performance-based measures increased the representation of students identified as Black, Hispanic, multiracial, and from other non-White and non-Asian groups in AP courses.

We examined AP course enrollment rates and found positive impacts for EOS partner schools. EOS' model often seeks to engage 11th- and 12th-grade students, so EOS' impacts on enrollment may be even larger when focusing analyses on these grade levels only. Unfortunately, AP enrollment rates by grade level were not available in the CRDC data to examine.

For the subset of schools enrolling a majority of students from underrepresented races and ethnicities and those enrolling a majority of students from low-income backgrounds, we found that key model assumptions were unlikely to hold, and we therefore do not draw strong conclusions from those results (for details, see the analytic approach described in Appendix A). The estimates from these models are not presented here but are provided in Appendix B. We apply the same approach to presenting results for the remaining key findings.

³ This is calculated based on the average number of 11th- and 12th-grade students enrolled in EOS partner schools in the data sample used for this analysis, which comes from the Civil Rights Data Collection. That is, 1,418 students enrolled (in the average EOS partner school) multiplied by 0.037; 1,418 multiplied by 0.56 equals 794 students of underrepresented races and ethnicities enrolled (in the average EOS partner school), multiplied by 0.043 (see Exhibit B.1 for full sample statistics).

Exhibit 1. Impact of EOS partnership on rate of AP course enrollment, by student group and school type



Source: EOS partnership data from 2015–2016 through 2020–2021 school years, Civil Rights Data Collection from 2013–2014 through 2020–2021 school years, and Common Core Data from 2013–2014 through 2020–2021 school years.

Note: Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level. “Not shown” represents impact estimates that are suppressed because they did not pass a test of whether the key model assumption (parallel trends) was likely to hold, and therefore these results may be biased. More details about the analytic approach can be found in Appendix A. Results are not shown for low-income students because this information was not available at the student level in CRDC data.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

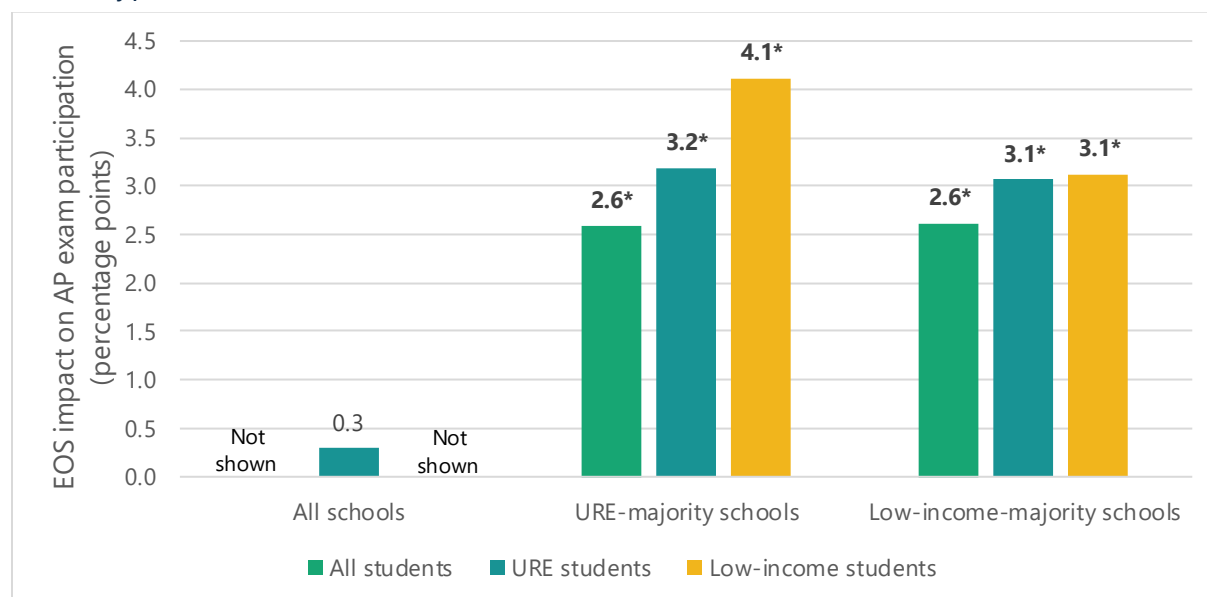
AP = Advanced Placement; EOS = Equal Opportunity Schools.

Key finding 2: EOS partnership had a positive impact on AP exam-taking rates in some school types, but not across schools overall. Impacts varied by student characteristics and tended to be more positive for EOS’ focal population.

Impacts of EOS partnership on the AP exam-taking rate were not statistically significant when pooled across all school types (Exhibit 2).

Examining data from CB for 11th- and 12th-grade students, we did not find statistically significant impacts for students overall in the full sample of schools, nor for students of underrepresented races and ethnicities or students from low-income backgrounds.

Exhibit 2. Impact of EOS partnership on rate of AP exam participation, by student group and school type



Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board⁴ data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level. “Not shown” represents impact estimates that are suppressed because they did not pass a test of whether the key model assumption (parallel trends) was likely to hold, and therefore these results may be biased. More details about the analytic approach can be found in Appendix A.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

EOS partnership increased the rate of AP exam taking by 2.6 percentage points in schools that enrolled a majority of students who were of underrepresented races and ethnicities (Exhibit 2).

Students of underrepresented races and ethnicities within these schools experienced an increase in the rate of AP exam taking of 3.2 percentage points.⁵ We did not find statistically significant impacts for this student group when pooling across all schools, suggesting that EOS’ efforts were more successful in increasing exam taking in schools that served a larger proportion of its focal population. EOS’ impact in schools with a majority of students from low-income backgrounds was similar in magnitude to impacts in schools with a majority of students of underrepresented races and ethnicities, at 2.6 percentage points.⁶ Impacts on exam-taking rates were smaller in magnitude than impacts on course enrollment rates. This is

⁴ Derived from data provided by College Board. Copyright © 2025 College Board; www.collegeboard.org.

⁵ Note that we did not test whether the differences in impacts estimated across different student or school types were statistically significant, as the data structure was not conducive to easily testing this.

⁶ Note that there is a strong degree of overlap in these school classifications. The correlation between schools with a majority of students of underrepresented races and ethnicities and schools with a majority of students from low-income backgrounds in the sample was 0.67.

expected as not all students who enroll in AP courses take AP exams, though it should be noted that these estimates come from two different data sources and samples (see Appendix A for details).

EOS partnership was especially impactful on the AP exam-taking rate of students from low-income backgrounds (Exhibit 2).

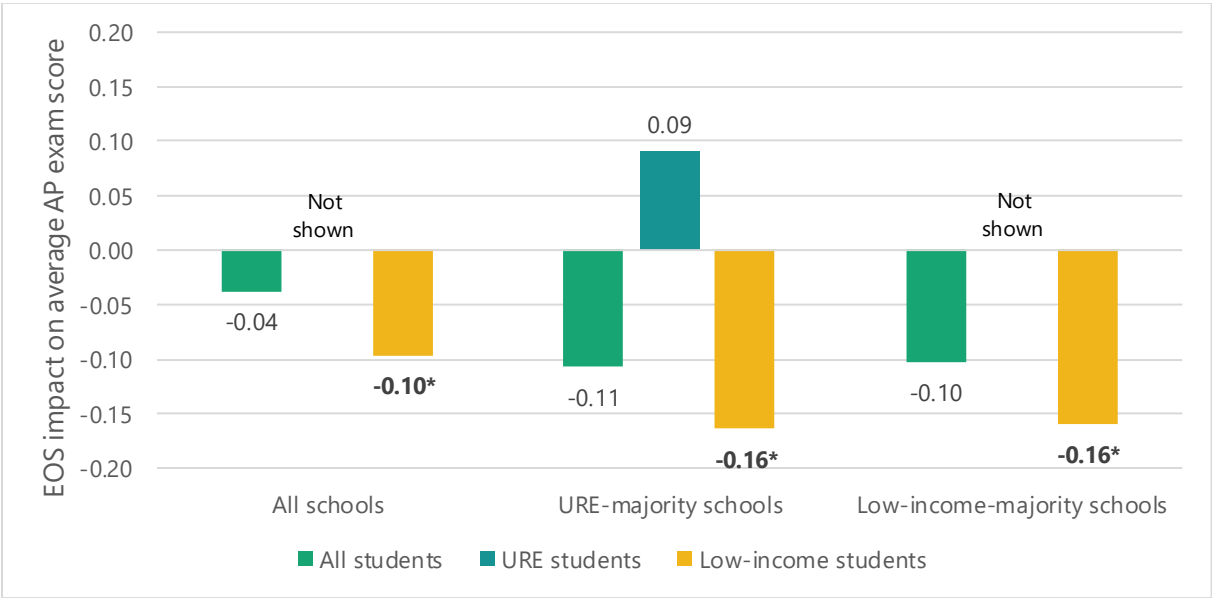
EOS partnership increased the rate of AP exam taking for this group by 4.1 percentage points in schools with a majority of students of underrepresented races and ethnicities, and 3.1 percentage points in schools with a majority of students from low-income backgrounds. As with students of underrepresented races and ethnicities, this group experienced larger increases in the AP exam-taking rate as a result of EOS partnership in their schools, with school context being a factor in the size of the impacts.

Key finding 3: EOS partnership did not lead to increased average AP exam performance for schools.

There was no impact of EOS partnership on school-level average AP exam scores for all students or students of underrepresented races and ethnicities (Exhibit 3).

EOS partnership did not have a statistically significant impact on average AP performance for students overall, or for students of underrepresented races and ethnicities, though these students experienced increased participation in AP courses and exams. This finding was consistent across school types. This suggests that students taking AP exams as a result of their school’s EOS partnership were similarly prepared for AP courses as their peers who would have taken the course regardless of EOS partnership.

Exhibit 3. Impact of EOS partnership on average AP exam score, by student group and school type



Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board⁷ data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

⁷ Derived from data provided by College Board. Copyright © 2025 College Board; www.collegeboard.org.

Note: Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level. "Not shown" represents impact estimates that are suppressed because they did not pass a test of whether the key model assumption (parallel trends) was likely to hold, and therefore these results may be biased. More details about the analytic approach can be found in Appendix A.

"URE" refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

EOS partnership negatively impacted average AP exam scores for students from low-income backgrounds (Exhibit 3).

Examining the full sample of EOS partner schools using CB data, EOS partnership led to a reduction in average AP exam scores of 0.10 for students from low-income backgrounds (AP exam scores range from 1–5). This represents a decrease of 14 percent of a standard deviation for students overall.⁸ The negative impacts on average exam scores for this group were slightly larger in magnitude in schools with a majority of students of underrepresented races and ethnicities and in schools with a majority of students from low-income backgrounds. This result is consistent with findings from an earlier study that showed students from low-income backgrounds identified by EOS' model tended to score lower on AP exams than those identified only based on prior performance (Wagner et al., 2024).

Key finding 4: EOS partnership did not impact rates of postsecondary student enrollment.

EOS partner schools continued on the same trend for graduates' postsecondary enrollment rates that began before EOS partnership.

Examining data from the National Student Clearinghouse (NSC), the rate of postsecondary enrollment was generally declining more at EOS partner schools than at comparison schools, before beginning their partnerships with EOS. This difference in trends between the EOS partner schools and comparison schools leading up to EOS partnership violated a key assumption of the statistical model, making the results of the impact analysis subject to potential bias. The assumption was violated across postsecondary enrollment models, and therefore results are not presented here (see Exhibit B.10 for full results).

To obtain more information, we conducted a sensitivity test that applies statistical adjustments to provide an alternate way of testing whether EOS partnership impacted postsecondary enrollment rates (see Appendix A for technical details). The results of that test suggest that impacts of EOS partnership on postsecondary enrollment rates were not statistically significant across any school types (see Exhibit B.11 for full results).

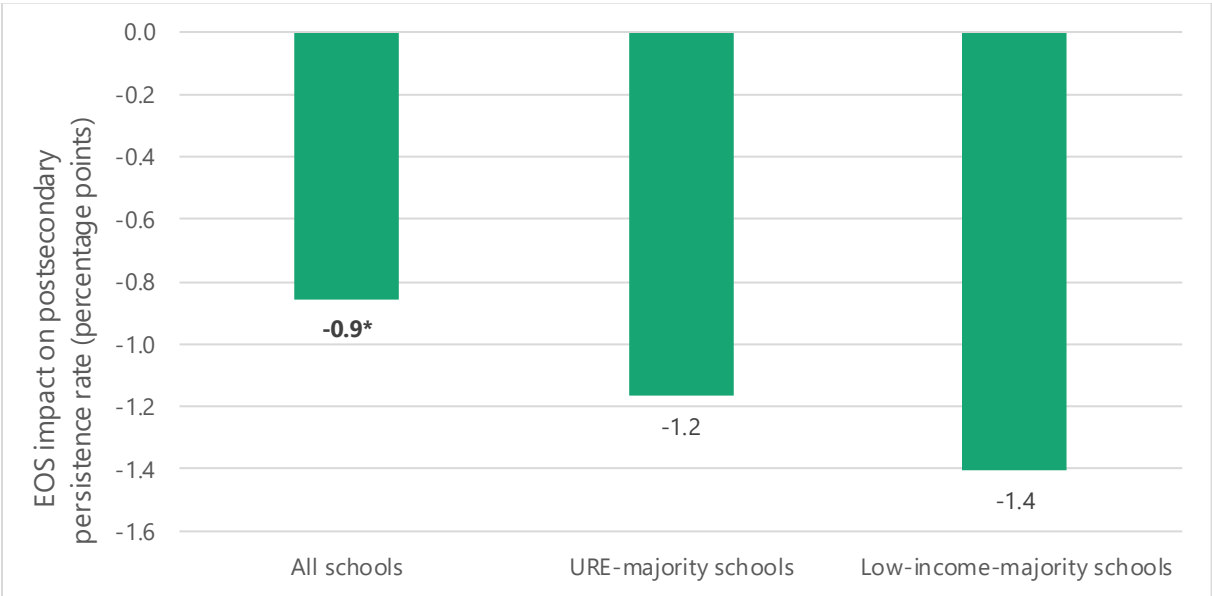
EOS had a small negative impact on one-year postsecondary persistence rates among students who graduated from EOS partner schools and enrolled in college (Exhibit 4).

We found EOS partnership had a statistically significant negative impact on the one-year postsecondary persistence rate of 0.9 percentage points in the NSC data. These impacts are small and, relative to the

⁸ Based on the control group standard deviation of 0.67, as reported in Exhibit B.4 in Appendix B.

average persistence rate of 81 percent among graduates from EOS partner schools, represent only a 1 percent change. Impacts on the postsecondary persistence rate were not statistically significant for schools with a majority of students of underrepresented races and ethnicities and schools with a majority of students from low-income backgrounds, though this may be due to smaller sample sizes. Considering that EOS partnership did not impact the postsecondary enrollment rate and EOS’ model does not involve student outreach beyond high school, it is unclear why EOS would have a negative impact on postsecondary persistence. Due to the small size and lack of supporting evidence for postsecondary enrollment, we suggest interpreting this finding with caution.

Exhibit 4. Impact of EOS partnership on one-year postsecondary persistence rates, by school type



Source: EOS partnership data from 2015–2016 through 2022–2023 school years, National Student Clearinghouse data from 2014–2015 through 2021–2022 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Data for postsecondary persistence outcomes were not available by student type. Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level.

URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

EOS = Equal Opportunity Schools.

Conclusion and considerations for EOS

The core of EOS’ mission is to increase access and success in advanced courses for students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups, or from low-income backgrounds. Previous findings indicate that the EOS model identifies its intended focal group of students for AP courses at a higher rate than other identification methods. The current study found that EOS’ partnership had positive impacts on the rate of AP course enrollment and exam taking across students and settings, particularly for focal students, but reduced average AP exam performance for students from low-income backgrounds and did not impact the rate of postsecondary enrollment. We hope EOS can leverage these findings to refine and strengthen its model and continue to support student success and

equitable outcomes. Below are several considerations for EOS and opportunities for future study based on the current findings.

1. How can EOS build on the positive outcomes seen for focal students in specific settings?

Positive outcomes for focal students may be expected if the EOS model is designed to help these students specifically. Though impacts on AP course enrollment were similar across student groups, impacts for AP exam taking were larger for focal students than all students, but only in schools where the majority of students were Black, Hispanic, multiracial, and other non-White and non-Asian groups, or from low-income backgrounds.

It is unclear why EOS partnership mattered for exam taking in these school contexts and not others, and why the pattern differs for course enrollment. Possible explanations include more welcoming environments in rigorous classes in schools with a majority of focal students, more buy-in to the EOS model and identification strategy, or even more faithful delivery of program components (that is, ensuring students not only enroll in AP courses but take the exams). This points to the need for critical consideration of how different schools implement the EOS model and contextual factors that may bolster its success. Future work could include examining implementation fidelity of the EOS model to understand how rollout may differ across schools and contexts.

2. What additional supports are needed for students in EOS partner schools who enroll in AP courses?

EOS partnership reduced average AP exam scores for students from low-income backgrounds and had no impact for other students. This is in line with findings from our earlier examination of EOS' model, in which we found that a smaller share of students who would be identified using EOS' model (compared to an alternative identification method) passed an AP exam. However, current results indicate no negative impact of EOS partnership on average exam scores for other students, including those of underrepresented races and ethnicities, supporting the notion that students lack opportunity more often than skills or readiness.

Furthermore, the current study could only examine average exam score, not the share of students passing an exam, due to the AP exam data available for analysis (see Exhibit A.4). More students overall may have passed AP exams compared to before the partnership. Yet many students, especially those who are first-time AP students, may need more robust supports to be successful and may benefit to a greater extent from environments that build students' belonging, confidence, and comfort in a rigorous course setting (Gray et al. 2018; Patrick et al. 2022). Similarly, students from low-income backgrounds especially may not have access to the network of resources when they struggle that other students may have readily available, including tutoring and preparation materials. Additionally, teachers may need support to help struggling students, especially if their courses have been typically limited to students continually tracked into more selective courses who may already have existing forms of support.

3. How can EOS partnership better motivate students to pursue postsecondary success?

The study did not find evidence that EOS partnership improved rates of postsecondary enrollment or persistence. One possible explanation for this result could be that many students in EOS partner schools were already planning on enrolling in college. In fact, EOS partner schools had higher postsecondary enrollment rates before partnership than other schools, especially at four-year colleges (see Exhibit B.9). Additionally, although research suggests that exposure to advanced courses matters

for positive postsecondary outcomes and students in AP courses may experience benefits even when they do not pass an exam (College Board, 2021, n.d.-b; Ogut et al., 2021), not being successful on an AP exam may be discouraging to students and lower their motivation to persist through challenging college courses. Continuing to identify and reinforce benefits of EOS partnership and AP participation that are tied to postsecondary outcomes may be important for motivating students with varying college aspirations.

Looking ahead, how can EOS continue to help students and schools while monitoring progress? As educators contend with how to best serve students post-pandemic, approaches like the EOS model may be even more relevant in encouraging students to take rigorous and challenging coursework. Understanding the mechanisms behind positive impacts of EOS partnership for students likely requires continued monitoring of student and program outcomes. Although the current study examined several outcomes using relevant external data, building a system that tracks cohorts of students across multiple indicators of success may also provide useful insights for EOS moving forward. Moreover, narrowing in on key components of the model and their role in student success may be increasingly important as schools continue to balance staffing challenges, safety concerns, mental and social-emotional well-being, and various external factors with the goal of improving learning for all students.

Appendix A

Additional Details on How the Study Was Conducted

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Data sources and samples

Analyses for this report examined outcomes using school-level data from the following sources: (1) Civil Rights Data Collection (CRDC), (2) College Board (CB), and (3) National Student Clearinghouse (NSC). Each data source was supplemented with school characteristics derived from the National Center for Education Statistics' Common Core of Data (CCD). Additionally, EOS school-level data were used to determine which schools partnered with EOS and when their partnership began. We restricted the EOS sample to those schools that began partnerships since 2015–2016. In the sections below, we describe the outcomes data sources and how we constructed the analytic sample for each outcome measure.

The Civil Rights Data Collection (CRDC)

The CRDC is administered by the U.S. Department of Education Office for Civil Rights (OCR). The data collected are intended to provide information about students' access to educational opportunities and barriers they may encounter at school. This includes data on availability of and enrollment in Advanced Placement (AP) courses.⁹

Course enrollment data are disaggregated by race, ethnicity, sex, disability status, and English language learner status to ensure compliance with civil rights laws and allow for identification of trends. Since the 2011–2012 school year, all public schools across the United States are required to participate in the CRDC every two years. Due to the COVID-19 pandemic, OCR postponed the 2019–2020 school year data collection and instead collected data in 2020–2021.

The CRDC is publicly available through the U.S. Department of Education's [website](https://civilrightsdata.ed.gov/about/crdc). For the purposes of this study, we downloaded CRDC school enrollment and AP data from the 2013–2014, 2015–2016, 2017–2018, and 2020–2021 school years (which included all available CRDC data between 2013–2014 and 2020–2021).

We restricted the file to include 29 states where EOS partnered with schools from 2014–2023. Exhibit A.1 includes a detailed list of the included states and the number of EOS and comparison high schools. In addition, we removed any school that was a juvenile justice institution, as it would not be comparable to the high schools that partnered with EOS. We also restricted the file to only include schools that reported positive AP enrollment at some point during the sample period. The resulting sample included 2,997 EOS partner schools and 50,846 comparison schools.

To calculate a school's AP enrollment rate, we divided the number of students enrolled in AP courses by the total enrollment. These figures were not available by grade level. Because AP enrollment typically takes place in 11th and 12th grades—but we include all enrolled students in the denominator—this is likely an underestimate of the share of students who would at some point enroll in an AP course during high school.

⁹ U.S. Department of Education. (n.d.) *Civil Rights Data Collection (CRDC)*. Retrieved March 27, 2025, from <https://civilrightsdata.ed.gov/about/crdc>.

Exhibit A.1. Number of EOS and comparison schools by state in the CRDC analytic sample

State	Number of EOS partner schools	Number of comparison schools
Alaska	8	65
Arkansas	5	316
California	57	1,702
Colorado	8	346
Connecticut	4	199
Florida	47	597
Georgia	12	454
Iowa	5	225
Illinois	118	441
Indiana	10	373
Kansas	3	133
Kentucky	1	252
Massachusetts	3	349
Maryland	83	141
Michigan	14	596
Minnesota	4	273
Missouri	19	297
North Carolina	40	490
New Jersey	3	418
New York	108	1,095
Ohio	8	662
Oregon	23	164
Pennsylvania	0	659
South Carolina	15	210
Texas	14	1,415
Utah	7	202
Virginia	30	310
Washington	17	337
Wisconsin	7	491
Total	673	13,212

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, CRDC data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

CRDC = Civil Rights Data Collection; EOS = Equal Opportunity Schools.

College Board (CB)

CB, which oversees the AP program, courses, and exams, collects data each year on exam participation, performance, and student demographics. As a proxy indicator of socioeconomic status, CB provided data on whether a student was eligible for a fee reduction on AP exams, generally determined by eligibility for

free or reduced-price lunch.¹⁰ Detailed student and school-level data are not publicly available and require a formal request to CB.

As part of a data sharing agreement with CB, the study team sought active consent from participating states to be included in the research. We sent requests to 20 states to affirm that they did not object to including their high schools in the study, prioritizing the states where EOS partnered with the most schools. We received approval from 10 states for the years 2014–2015 to 2022–2023, which provided sufficient power for our analysis, and included data for all 10 states in the analyses. The years of data requested varied by state to align with the timing of the most EOS partnerships, as detailed in Exhibit A.2.

CB required our data request to be restricted to five comparison schools per EOS partner school. To determine which five schools we would request to compare with each EOS partner school, we used publicly available AP enrollment rate data from CRDC (described above) and overall enrollment data from CCD. We then used the “MatchIt” package in R to identify the comparison schools that most resembled the EOS partner schools on these characteristics within a state. We used the nearest-neighbor matching method, which selected the five schools with the closest AP enrollment rates and total school enrollment, based on Mahalanobis distance. Additionally, we specified that matched schools were from the same state as the EOS partner school.

CB provided data for a total of 483 EOS partner schools and 1,550 comparison high schools.¹¹ The data included the total number of exams taken at each school, the distribution of exam scores (AP exam scores range from 1–5), and the total number of students who took exams at each school. The data sets were further disaggregated by grade level, fee reduction status, race, and ethnicity.

To create the analytic sample, we restricted the data sets to include only 11th- and 12th-grade students. To calculate school-level AP participation rates, we summed the number of distinct students who took an AP exam and then divided by the total enrollment for 11th and 12th grade as reported in the CCD data for that year.¹² For AP performance, we calculated a weighted average of AP scores by multiplying the number of students who earned each score by the score's value (for example, if 23 students earned a score of 4, we would multiply 4 by 23), added these products together, and then divided by the total number of students who took an exam. We then repeated these two calculations for students from underrepresented groups and students eligible for a fee reduction on AP exams.

¹⁰ For schools that participate in the Community Eligibility Provision, which provides free meals to all students, eligibility for fee reduction on AP exams was determined if a student comes from a family whose annual income falls within the Income Eligibility Guidelines set by the United States Department of Agriculture Food and Nutrition Service; see College Board (n.d.-c), <https://apcentral.collegeboard.org/exam-administration-ordering-scores/ordering-fees/exam-fees/reductions>.

¹¹ In many instances, individual EOS partner schools were matched to the same comparison schools, requiring fewer comparison schools to be included overall in the CB data.

¹² The number of 11th- and 12th-grade students eligible for free or reduced-price lunch was not reported in CCD. To estimate this, we multiplied the share of students eligible for free or reduced-price lunch in the school by total enrollment in 11th and 12th grade. This served as the denominator for calculating participation rates of students eligible for a fee reduction on AP exams.

Exhibit A.2. College Board data years of coverage, number of EOS and comparison schools by state

State	Years of data coverage	Number of comparison schools	Number of EOS partner schools
California	2015–2023	402	88
Illinois	2015–2023	297	127
Maryland	2016–2023	120	82
Michigan	2016–2020	74	14
North Carolina	2017–2023	162	41
Oregon	2015–2022	54	27
South Carolina	2016–2020	60	15
Texas	2015–2019	175	34
Virginia	2017–2023	89	30
Washington	2015–2022	117	25
Total		1,550	483

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

EOS = Equal Opportunity Schools.

National Student Clearinghouse (NSC)

NSC gathers comprehensive data on postsecondary outcomes, including enrollment by institution type and degree attainment. The data are collected annually from postsecondary institutions, which submit enrollment and degree records directly to NSC. The data are not publicly available and must be formally requested.

We requested school-level panel data on postsecondary outcomes from NSC for 10 states. We chose these 10 states because they had the highest number of EOS partner schools. In addition, 10 states provided sufficient power for the analysis. The period requested aligns with partnership years for the majority of EOS partner schools by state. Exhibit A.3 details the years of coverage for each state.

All data provided by NSC were de-identified and could not be combined with other data sets. Instead, the data included several variables that we provided to NSC, which it merged onto its data using National Center for Education Statistics school identification numbers. These variables were whether a school had partnered with EOS, the year the partnership began, and three school characteristic flags: whether the majority of students were eligible for free or reduced-price lunch, whether the majority of students were from underrepresented races or ethnicities, and whether the school was above the median size of all schools. The outcome data in the request included overall postsecondary enrollment and persistence as well as enrollment and persistence for both public and private two-year and four-year institutions.

Though we requested data be provided for all EOS and non-EOS partner schools in the states and years listed in Exhibit A.3, not all high schools work with NSC to generate these data. As a result, NSC was only able to provide data for 85 percent of the EOS partner schools requested, with coverage being particularly low for Florida and New York.

Exhibit A.3. National Student Clearinghouse data years of coverage, number of EOS and comparison schools by state

State	Years of data coverage	Number of EOS partner schools	Number of comparison schools	Percentage of requested EOS partner schools included in the NSC data
California	2015–2022	63	1,945	100
Florida	2017–2022	15	352	42
Illinois	2015–2022	102	563	99
Maryland	2017–2022	60	144	98
North Carolina	2018–2022	17	495	98
New York	2016–2022	38	864	50
Oregon	2018–2022	11	259	94
Texas	2015–2019	23	1,740	83
Virginia	2017–2023	12	98	100
Washington	2015–2022	11	486	97
Total		352	6,946	85

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, National Student Clearinghouse data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: The table indicates the number of EOS partner schools included in the NSC sample from each state. Not all schools work with NSC, and therefore NSC was not able to provide data from all EOS partner schools that we requested. The rightmost column indicates the percentage of EOS partner schools from which we requested data for which NSC was able to provide the data.

EOS = Equal Opportunity Schools; NSC = National Student Clearinghouse.

Key measures

Exhibit A.4 describes key school characteristic measures and outcome measures used in the study.

Exhibit A.4. Key measures used in the study

Measure	Definition	Data source
School-level characteristics		
URE-majority school	Indicates if the majority of students in a school are Black, Hispanic, multiracial, or from other non-White and non-Asian groups	CCD
Low-income-majority school	Indicates if the majority of students in a school are eligible for free or reduced-price lunch	
Above-median-size schools	Indicates if a school's enrollment is greater than the median enrollment of all schools in the sample (based on the sample of schools requested from NSC)	
Outcomes		
AP course enrollment rate	The proportion of all students in a school who enrolled in at least one AP course in a given year; available for all students and students of underrepresented races and ethnicities	CRDC
AP exam participation rate	The proportion of 11th- and 12th-grade students who took at least one AP exam in a given year; available for all students, students of	CB

Measure	Definition	Data source
	underrepresented races and ethnicities, and students eligible for a fee reduction on AP exams	
AP exam performance	The overall weighted average of AP exam scores earned by 11th- and 12th-grade students in a given year; available for all students, students of underrepresented races and ethnicities, and students eligible for a fee reduction on AP exams	
Postsecondary enrollment rate	The proportion of high school graduates in a given year who enroll in any postsecondary institution within one year following graduation; available for all colleges, 2-year colleges, 4-year colleges, public 2-year colleges, private 2-year colleges, public 4-year colleges, and private 4-year colleges	NSC
Postsecondary persistence rate	The proportion of college-enrolled students from a graduation cohort who return for their second year at any postsecondary institution; available for all colleges, 2-year colleges, 4-year colleges, public 2-year colleges, private 2-year colleges, public 4-year colleges, and private 4-year colleges	

AP = Advanced Placement; CB = College Board; CCD = Common Core of Data; CRDC = Civil Rights Data Collection; NSC = National Student Clearinghouse.

Analytic approach

All analyses occurred at the school level rather than the individual student level. To estimate EOS' impact on each outcome of interest, we compared outcomes in EOS partner schools to themselves before and after EOS partnership began, relative to a group of comparison schools at the same points in time. The estimation approach is known as the difference-in-differences model, as it takes the difference in outcomes first within each school before and after EOS partnership began and then takes the difference in these within-school differences across the EOS and non-EOS partner schools. Because the approach compares EOS partner schools to themselves over time, differences in the characteristics of EOS and comparison schools do not bias the impact estimates as long as these differences are stable over time.

We used a staggered treatment design, as schools began partnering with EOS at different points. We estimated the impacts of EOS partnership using Callaway and Sant'Anna's (2021) statistical implementation of the difference-in-differences model in the staggered treatment design. In practice, we did this using the statistical package Callaway and Sant'Anna provided in R, did.

The model identifies the causal impact of EOS partnership under the assumption that the outcome in EOS partner schools would have followed the same trend as in comparison schools in the absence of EOS partnership. This is known as the parallel trends assumption. Although the parallel trends assumption is not directly testable, outcomes should be trending in parallel prior to treatment (EOS partnership) as evidence that the parallel trends assumption is likely to hold after EOS partnership begins. We conducted this test for every impact we estimated and report where the parallel trends assumption has failed, indicating results from that analysis that may suffer from bias and are not interpretable. After finding that the model for the postsecondary enrollment outcome consistently failed this test, we further implemented a sensitivity analysis to obtain more information about the impact of EOS on postsecondary enrollment. This analysis, suggested by Rambachan and Roth (2023) and implemented using their R statistical package `honestdid`, generates a confidence interval of the impact estimate under the assumption that the pre-

treatment difference in trends across EOS and non-EOS partner schools would have continued into the post-treatment period. The sensitivity analysis ultimately provides suggestive evidence of the impacts of EOS in instances where the parallel trends assumption fails.

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Appendix B

Supplemental Results to Support Key Findings

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Supplemental results to support key finding 1: EOS partnership increased student enrollment rates in AP courses compared to other schools.

Equal Opportunity Schools (EOS) partnership had a positive impact on Advanced Placement (AP) course enrollment (see Exhibit 1). Exhibit B.1 presents the baseline characteristics of EOS and comparison schools that were included in the AP course enrollment analysis. Exhibit B.2 presents an alternative version of Exhibit 1—the impacts of EOS partnership on AP course enrollment—which does not suppress model estimates with validity concerns. Exhibit B.3 includes full results details on the impact of EOS partnership on AP course enrollment by student and school type.

Exhibit B.1. Baseline characteristics of EOS partner schools and comparison schools – CRDC sample

Metric	Student group	EOS partner schools	Comparison schools
Number of unique schools	---	673	13,212
Average 11th- and 12th-grade enrollment	---	1,418	899
Average share of students: URE	---	0.56	0.40
Average share of students: low-income	---	0.53	0.61
Average AP course enrollment rate	All students	0.20 (0.13)	0.14 (0.14)
Average AP course enrollment rate	URE students	0.15 (0.11)	0.12 (0.13)

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, Civil Rights Data Collection data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

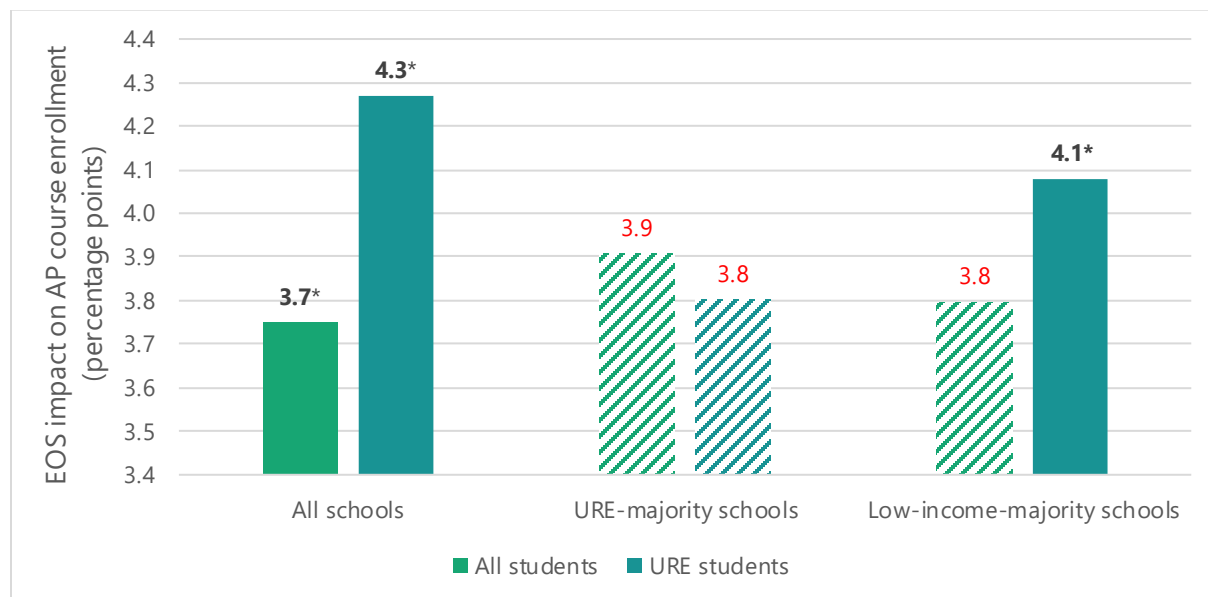
Note: All averages are calculated using the earliest year of available data for a school. This ensures that the table summarizes characteristics of schools before they began working with EOS and characteristics of comparison schools at a similar point in time. Standard deviations are in parentheses.

"URE" refers to students of underrepresented races and ethnicities, which includes students who are who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups.

"---" indicates not applicable.

AP = Advanced Placement; CRDC = Civil Rights Data Collection; EOS = Equal Opportunity Schools.

Exhibit B.2. Impact of EOS partnership on rate of AP course enrollment, by student group and school type (unsuppressed)



Source: EOS partnership data from 2015–2016 through 2020–2021 school years, Civil Rights Data Collection from 2013–2014 through 2020–2021 school years, and Common Core Data from 2013–2014 through 2020–2021 school years.

Note: Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level. Impact estimates in red text are de-emphasized because they did not pass a test of whether the key model assumption (parallel trends) was likely to hold, and therefore these results may be biased. More details about the analytic approach can be found in Appendix A.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

Exhibit B.3. Impact of EOS partnership on AP course enrollment

Student group	High school group	Estimate	Standard error	p-value	N	Wald statistic	Wald p-value
All	All	0.037	0.005	0	14,556	14.78	0.064
URE	All	0.043	0.004	0	14,547	15.35	0.053
All	URE-majority	0.039	0.007	0	6,037	26.06	0.001
URE	URE-majority	0.038	0.007	0	6,037	24.81	0.002
All	Low-income-majority	0.038	0.007	0	7,402	20.72	0.008
URE	Low-income-majority	0.041	0.007	0	7,398	14.77	0.064

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, Civil Rights Data Collection data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Each row reports results from a model of the impact of EOS partnership on AP course enrollment. The column “Student group” indicates the students represented in the model. The column “High school group” indicates whether the sample used for the model included all high schools or was limited to schools with a certain characteristic. The column “Estimate” reports the impact estimate. If the value in the column “p-value” is less than 0.05, this indicates a statistically significant impact at the 5 percent level of significance. The column “Wald” reports the test statistic from the parallel trends test. If the value in the column “Wald p-value” is less than 0.01, this suggests that the parallel trends assumption was likely to be violated and the impact estimate may be biased.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

Supplemental results to support key finding 2: EOS partnership had a positive impact on AP exam-taking rates in some school types, but not across schools overall. Impacts varied by student characteristics and tended to be more positive for EOS’ focal population.

EOS partnership had a positive impact on AP exam taking for some school types and student types (see Exhibit 2). Exhibit B.4 presents the baseline characteristics of EOS and comparison schools that were included in the analyses for AP exam participation and performance. Exhibit B.5 presents an alternative version of Exhibit 2—the impacts of EOS partnership on AP exam taking—which does not suppress model estimates with validity concerns. Exhibit B.6 includes full results details on the impact of EOS partnership on AP exam participation by student and school type.

Exhibit B.4. Baseline characteristics of EOS partner schools and comparison schools – CB sample

Metric	Student group	EOS partner schools	Comparison schools
Number of unique schools	---	483	1,550
Average 11th- and 12th-grade enrollment	---	762	712
Average share of students: URE	---	0.57	0.45
Average share of students: low-income	---	0.50	0.45
Average AP exam participation rate (range 0–1)	All students	0.30 (0.18)	0.28 (0.18)
Average AP exam performance (range 1–5)	All students	2.83 (1.46)	3.02 (1.72)
Average AP exam participation rate (range 0–1)	URE students	0.24 (0.17)	0.24 (0.18)
Average AP exam performance (range 1–5)	URE students	1.04 (0.62)	0.96 (0.87)
Average AP exam participation rate (range 0–1)	Low-income students	0.21 (0.18)	0.19 (0.17)
Average AP exam performance (range 1–5)	Low-income students	2.42 (0.67)	2.52 (0.67)

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board¹³ data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: All averages are calculated using the earliest year of available data for a school. This ensures that the table summarizes characteristics of schools before they began working with EOS and characteristics of comparison schools at a similar point in time. The column “Student group” indicates the student sample used to calculate outcome statistics for a given row. Standard deviations are in parentheses.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

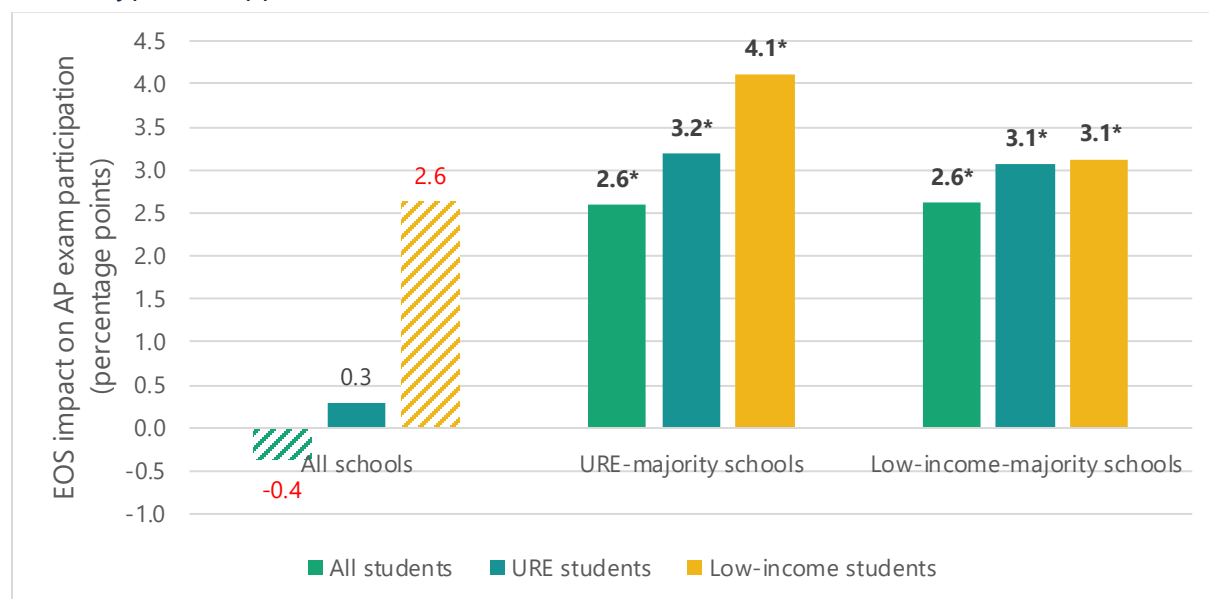
Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

“---” indicates not applicable.

AP = Advanced Placement; CB = College Board; EOS = Equal Opportunity Schools.

¹³ Here and elsewhere in Appendix B when using College Board data: derived from data provided by College Board. Copyright © 2025 College Board; www.collegeboard.org.

Exhibit B.5. Impact of EOS partnership on rate of AP exam participation, by student group and school type (unsuppressed)



Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level. Impact estimates in red text are de-emphasized because they did not pass a test of whether the key model assumption (parallel trends) was likely to hold, and therefore these results may be biased. More details about the analytic approach can be found in Appendix A.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

Exhibit B.6. Impact of EOS partnership on AP exam participation

Student group	High school group	Estimate	Standard error	p-value	N	Wald statistic	Wald p-value
All	All	-0.004	0.006	0.507	2,033	29.68	0.01
URE	All	0.003	0.006	0.609	2,032	18.12	0.15
Low-income	All	0.026	0.008	0.001	1,625	27.83	0.01
All	URE-majority	0.026	0.007	0.001	964	25.85	0.02
URE	URE-majority	0.032	0.007	0.000	964	20.34	0.09
Low-income	URE-majority	0.041	0.013	0.001	813	27.37	0.01
All	Low-income-majority	0.026	0.011	0.013	828	16.37	0.23
URE	Low-income-majority	0.031	0.010	0.002	828	15.61	0.27
Low-income	Low-income-majority	0.031	0.014	0.020	799	10.65	0.64

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Each row reports results from a model of the impact of EOS partnership on the AP exam participation rate. The column “Student group” indicates the students represented in the model. The column “High school group” indicates whether the sample used for the model included all high schools or was limited to schools with a certain characteristic. The column “Estimate” reports the impact estimate. If the value in the column “p-value” is less than 0.05, this indicates a statistically significant impact at the 5 percent level of significance. The column “Wald” reports the test statistic from the parallel trends test. If the value in the column “Wald p-value” is less than 0.01, this suggests that the parallel trends assumption was likely to be violated and the impact estimate may be biased.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

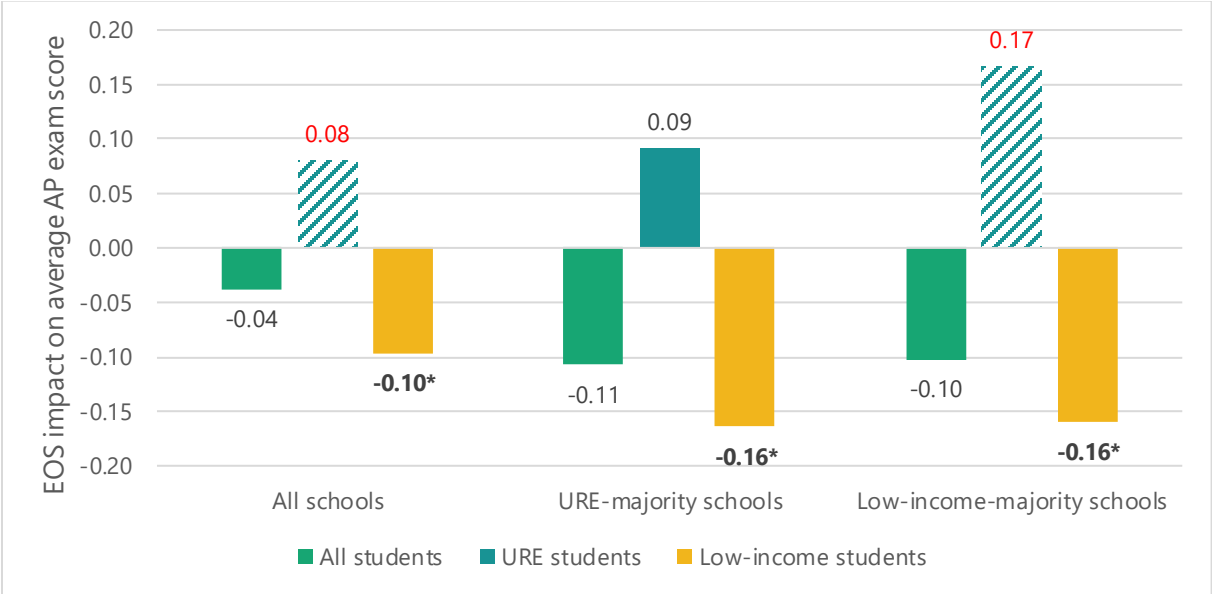
Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

Supplemental results to support key finding 3: EOS partnership did not lead to increased average AP exam performance for schools.

EOS partnership did not have an impact on average AP exam performance overall (Exhibit 3). Exhibit B.7 presents an alternative version of Exhibit 3—the impacts of EOS partnership on AP exam performance—which does not suppress model estimates with validity concerns. Exhibit B.8 includes full results details on the impact of EOS partnership on AP exam performance by student and school type.

Exhibit B.7. Impact of EOS partnership on average AP exam score, by student group and school type (unsuppressed)



Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Impact estimates in bold text and marked with an asterisk were statistically significant at the 5 percent level. Impact estimates in red text are de-emphasized because they did not pass a test of whether the key model assumption (parallel trends) was likely to hold, and therefore these results may be biased. More details about the analytic approach can be found in Appendix A.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

Exhibit B.8. Impact of EOS partnership on AP exam performance

Student group	High school group	Estimate	Standard error	p-value	N	Wald statistic	Wald p-value
All	All	-0.04	0.07	0.558	2,020	17.79	0.166
URE	All	0.08	0.03	0.010	2,020	29.99	0.005
Low-income	All	-0.10	0.03	0.001	1,629	9.92	0.701
All	URE-majority	-0.11	0.06	0.068	961	27.97	0.009
URE	URE-majority	0.09	0.05	0.062	961	16.87	0.205
Low-income	URE-majority	-0.16	0.04	0.000	816	12.10	0.519
All	Low-income-majority	-0.10	0.08	0.191	828	23.39	0.037
URE	Low-income-majority	0.17	0.07	0.010	828	33.55	0.001
Low-income	Low-income-majority	-0.16	0.05	0.001	799	13.36	0.420

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, College Board data from 2013–2014 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Each row reports results from a model of the impact of EOS partnership on average AP exam performance. The column “Student group” indicates the students represented in the model. The column “High school group” indicates whether the sample used for the model included all high schools or was limited to schools with a certain characteristic. The column “Estimate” reports the impact estimate. If the value in the column “p-value” is less than 0.05, this indicates a statistically significant impact at the 5 percent level of significance. The column “Wald” reports the test statistic from the parallel trends test. If the value in the column “Wald p-value” is less than 0.01, this suggests that the parallel trends assumption was likely to be violated and the impact estimate may be biased.

“URE” refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income students are defined in the College Board data as students eligible for a fee reduction on AP exams. Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

AP = Advanced Placement; EOS = Equal Opportunity Schools.

Supplemental results to support key finding 4: EOS partnership did not impact rates of postsecondary student enrollment.

Exhibit B.9 presents the baseline characteristics of EOS and comparison schools that were included in the postsecondary analyses. Exhibit B.10 shows the detailed results from the analyses of EOS’ impact on postsecondary enrollment and one-year persistence for each type of institution. Note that many of the results for postsecondary enrollment outcomes shown in Exhibit B.10 were likely to violate a key assumption of the statistical model, as indicated by a Wald p-value less than 0.01. Because of this, we conducted a sensitivity test that produced statistically adjusted confidence intervals for these estimates. These results are presented in Exhibit B.11. The 95 percent confidence interval for each enrollment rate outcome contained zero, meaning none of these impacts were statistically significant.

Exhibit B.9. Baseline characteristics of EOS partner schools and comparison schools – NSC sample

Metric	EOS partner schools	Comparison schools
Number of unique schools	352	6,946
Share of schools with above-median enrollment	0.97	0.58
Share of schools with majority URE students	0.61	0.48
Share of schools with majority students from low-income backgrounds	0.55	0.54
Average postsecondary enrollment rate	0.66 (0.16)	0.53 (0.26)
Average postsecondary persistence rate among those enrolled	0.81 (0.12)	0.79 (0.16)
Average postsecondary enrollment rate, 2-year college	0.27 (0.13)	0.25 (0.17)
Average postsecondary persistence rate among those enrolled, 2-year college	0.75 (0.12)	0.74 (0.12)
Average postsecondary enrollment rate, 4-year college	0.39 (0.18)	0.27 (0.23)
Average postsecondary persistence rate among those enrolled, 4-year college	0.89 (0.10)	0.91 (0.09)

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, National Student Clearinghouse data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: All averages are calculated using the earliest year of available data for a school. This ensures that the table summarizes characteristics of schools before they began working with EOS and characteristics of comparison schools at a similar point in time.

Schools with above-median enrollment are those with total enrollment larger than the median enrollment of all schools.

Schools with majority URE students are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Schools with majority students from low-income backgrounds are those where at least 50 percent of students were eligible for free or reduced-price lunch.

EOS = Equal Opportunity Schools; NSC = National Student Clearinghouse.

Exhibit B.10. Impact of EOS partnership on postsecondary enrollment and persistence

Outcome	High school group	Estimate	Standard error	p-value	N	Wald statistic	Wald p-value
Postsecondary enrollment rate	All	-0.044	0.005	0.000	7,298	126.22	0.00
Postsecondary enrollment rate	URE-majority	-0.042	0.007	0.000	3,571	91.03	0.00
Postsecondary enrollment rate	Low-income-majority	-0.036	0.007	0.000	3,901	67.01	0.00
Postsecondary enrollment rate	Above-median enrollment	-0.035	0.005	0.000	4,347	92.40	0.00
Postsecondary enrollment rate – 2-year college	All	-0.015	0.004	0.001	7,298	59.11	0.00
Postsecondary enrollment rate – 2-year public college	All	-0.014	0.004	0.001	7,298	57.43	0.00
Postsecondary enrollment rate – 2-year private college	All	0.000	0.000	0.029	7,298	13.57	0.40
Postsecondary enrollment rate – 4-year college	All	-0.029	0.005	0.000	7,298	49.02	0.00
Postsecondary enrollment rate – 4-year public college	All	-0.016	0.005	0.001	7,298	44.74	0.00
Postsecondary enrollment rate – 4-year private college	All	-0.013	0.002	0.000	7,298	57.71	0.00
Postsecondary persistence rate	All	-0.009	0.004	0.034	7,195	15.68	0.27
Postsecondary persistence rate	URE-majority	-0.012	0.007	0.098	3,500	19.33	0.11
Postsecondary persistence rate	Low-income-majority	-0.014	0.008	0.071	3,831	18.33	0.15
Postsecondary persistence rate	Above-median enrollment	-0.007	0.004	0.102	4,336	23.96	0.03
Postsecondary persistence rate – 2-year college	All	0.017	0.016	0.286	1,949	59.24	0.00
Postsecondary persistence rate – 2-year public college	All	-0.014	0.006	0.025	7,053	22.44	0.05
Postsecondary persistence rate – 2-year private college	All	0.072	0.038	0.057	1,984	194.49	0.00
Postsecondary persistence rate – 4-year college	All	0.001	0.003	0.767	5,807	27.44	0.01
Postsecondary persistence rate – 4-year public college	All	-0.002	0.004	0.691	6,630	19.27	0.11
Postsecondary persistence rate – 4-year private college	All	0.008	0.006	0.194	6,157	28.97	0.01

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, National Student Clearinghouse data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Each row reports results from a model of the impact of EOS partnership on postsecondary enrollment and persistence. The column “High school group” indicates whether the sample used for the model included all high schools or was limited to schools with a certain characteristic. The column “Estimate” reports the impact estimate. If the value in the column “p-value” is less than 0.05, this indicates a statistically significant impact at the 5 percent level of significance. The column “Wald” reports the test statistic from the parallel trends test. If the value in the column “Wald p-value” is less than 0.01, this suggests that the parallel trends assumption was likely to be violated and the impact estimate may be biased.

Above-median enrollment schools are those with a total enrollment larger than the median enrollment of all schools.

URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

EOS = Equal Opportunity Schools.

Exhibit B.11. Sensitivity analyses of EOS impact on postsecondary enrollment

Outcome	High school group	95% confidence interval lower bound	95% confidence interval upper bound	Impact direction
Postsecondary enrollment rate	All	-0.084	0.056	Not significant
Postsecondary enrollment rate – 2-year college	All	-0.039	0.036	Not significant
Postsecondary enrollment rate – 4-year college	All	-0.058	0.029	Not significant
Postsecondary enrollment rate – 2-year public college	All	-0.039	0.036	Not significant
Postsecondary enrollment rate – 4-year public college	All	-0.045	0.028	Not significant
Postsecondary enrollment rate – 2-year private college	All	-0.001	0.001	Not significant
Postsecondary enrollment rate – 4-year private college	All	-0.017	0.010	Not significant
Postsecondary enrollment rate	URE-majority	-0.093	0.07	Not significant
Postsecondary enrollment rate	Low-income-majority	-0.098	0.083	Not significant
Postsecondary enrollment rate	Above-median enrollment	-0.078	0.05	Not significant

Source: EOS partnership data from 2015–2016 through 2022–2023 school years, National Student Clearinghouse data from 2014–2015 through 2022–2023 school years, and Common Core Data from 2014–2015 through 2022–2023 school years.

Note: Sensitivity analyses provide 95 percent confidence intervals for EOS' impact under the assumption that the difference in the EOS and non-EOS trend in enrollment rates prior to EOS partnership would have continued after EOS partnership began, if EOS had never partnered with a school. If the confidence interval contains 0, the implied impact is not statistically significant.

Above-median enrollment schools are those with a total enrollment larger than the median enrollment of all schools.

"URE" refers to students of underrepresented races and ethnicities, which includes students who are Black, Hispanic, multiracial, and from other non-White and non-Asian groups. URE-majority schools are those where at least 50 percent of students identified as an underrepresented race or ethnicity.

Low-income-majority schools are those where at least 50 percent of students were eligible for free or reduced-price lunch.

EOS = Equal Opportunity Schools.

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