# New Evidence on the Effect of Changes in College Admissions Policies After the Pandemic

## Examining the Impact of Test-Optional and Race-Neutral Policies on College Applications, Admissions, Enrollment, and First-Year Outcomes

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## Executive Summary

The Admissions Research Consortium (ARC) is a collaborative research initiative that provides participating institutions insight into their own and their peers' admissions processes and outcomes, as well as changes in student behavior influenced by the covid-19 pandemic. Previously published consortium research examines changes in fall 2021 and fall 2022 applications, admissions, and enrollment, with a focus on students' test score disclosure choices (Howell et al., 2022; Goyer et al., 2023) and first-year college grades, credit accumulation, and retention into the second year for fall 2021 first-year enrollees compared to prior cohorts of first-year students at ARC institutions (Edwards et al., 2023). New research from the consortium presents updated data on trends through the fall 2024 college application cycle and analyses of college student outcomes through the 2023-2024 academic year. The time period studied includes notable changes to the college admissions landscape, including widespread test-optional policies beginning with the fall 2021 entering class and race-neutral policies beginning in fall 2024. The results inform discussions about future admission policies and practices as well as efforts to support student success.

Approximately 60 colleges, representing selective public and private four-year institutions in the U.S., provided College Board with data on their applications, admissions, enrollment from the fall 2018 through the fall 2024 entering cohorts, and performance, credits, and retention from the 2018-19 to 2023-24 academic years. Four themes emerged from the analyses of the most contemporaneous data.

**Theme 1: Changes to colleges' funnels largely reflect more applications, more offers of admission, and increased four-year college enrollment.**

Between fall 2020 and fall 2024, applications to consortium institutions increased by roughly a half of a million applications, or a 38% increase. Application growth in the past four cycles is strong among all student subgroups and across all institution types, with stronger growth in applications to public than private institutions. The number of students admitted by consortium institutions increased by 20% between fall 2020 and fall 2024, driven predominantly by admission growth of 24-30% at public institutions. By contrast, More Selective Private institutions made 12% fewer offers of admission in fall 2024 than in the years prior to the pandemic. The only applicant subgroup to receive fewer offers of admission in fall 2024 than before the pandemic are those students with high school GPAs (HSGPAs) in the bottom three quintiles. Finally, fall 2024 enrollment in consortium institutions is 11% higher than in fall 2020, balanced by more than 20% growth at Selective Public institutions and no enrollment growth at More Selective Private institutions. Enrollment growth increased for all student subgroups except those in the bottom three HSGPA quintiles and among White students, for whom enrollment growth was flat.

**Theme 2: Across all consortium institutions, student body composition by race/ethnicity and socioeconomic status is largely unaffected by widespread test-optional (in fall 2021) or by policy changes to the consideration of race (in fall 2024).**

Small, annual increases in the racial/ethnic composition of applicants, admitted students, and enrollees at consortium institutions mimic patterns of racial diversification observable among high school graduates in the U.S. (WICHE, 2023). Widespread test-optional admissions policies in fall 2021 were associated with a 3.8 percentage point increase in the share of enrollees who are Black, Hispanic, Native, or Two or More Races at More Selective Private institutions. There were negligible changes in these underrepresented minority student shares in other institutional segments. That increase at More Selective Private institutions is partially offset by a 2.8 percentage point *decrease* in underrepresented minority student shares at More Selective Private institutions in fall 2024 when the Supreme Court ruling changed admissions policy and practice related to applicant race/ethnicity.

The socioeconomic composition of students at consortium institutions is unchanged between 2018 and 2024 with roughly 25% of enrolled students coming from higher-challenge neighborhoods.

**Theme 3: Roughly half of applicants to consortium colleges choose to disclose a test score for consideration in admissions, a choice that is most strongly related to their test score (relative to the college where they are applying) and very little else.**

Among applicants with the same test score applying to the same college, the probability that a student chooses to disclose a test score is the same for first generation and non-first generation students, very similar across different racial/ethnic student subgroups, and the same for STEM and non-STEM majors. Applicants with lower high school GPAs (HSGPA) are more likely to disclose test scores than otherwise similar students with higher HSGPAs. Over the test-optional cycles from fall 2021 to fall 2024, test score disclosure rates declined slightly from 52% to 48% of applications.

**Theme 4: For both score disclosers and non-disclosers, test scores are strong predictors of first-year college outcomes like grades, credit accumulation, and retention to the second year.**

Applicants who disclose test scores are academically stronger (as measured by both high school grades and test scores) than applicants who do not disclose scores, so it follows that score disclosers have strong first-year outcomes—GPAs, credit accumulation, and retention rates—than non-disclosers. The relationship between test scores and college outcomes persists among students with the same high school grades. Students with lower test scores, who are more likely to withhold them, have the highest risk of lower first-year college grades, especially in STEM courses.

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# The Admissions Research Consortium (ARC)

The Admissions Research Consortium (ARC) is a collaborative research initiative that aims to help participating institutions gain insight into their own and their peers' admissions processes and outcomes, as well as changes in student behavior influenced by the covid-19 pandemic. Guided by a Core Advisory Committee and a Research Advisory Committee[1], evidence and insights from ARC inform future practice and policy in the years following the pandemic. This research presents data on trends through the fall 2024 college application cycle and analyses of college student outcomes through the 2023-2024 academic year. The time period studied includes notable changes to the college admissions landscape, including widespread test-optional policies beginning with the fall 2021 entering class and race-neutral policies beginning in fall 2024.

## ARC Data Sample and Definitions

In 2024, ARC institutions shared administrative data on applications, admissions, and enrollment from fall 2018 to fall 2024, as well as performance, credits, and retention from the 2018-19 to 2023-24 academic years. These data, which also include a robust set of student demographic and academic variables, were merged with College Board assessment data to enable insight into students who disclosed and withheld SAT test scores under widespread test-optional admissions policies brought on by the pandemic. We provide evidence on student and college choices based on the combined dataset, which covers a sample of 60 selective four-year public and private nonprofit institutions over seven application cycles. We categorize the 60 ARC institutions into four institutional segments defined by institutional control and selectivity:[2,3]

- **More Selective Private Colleges**: 21 private institutions with admit rates below 25%
- **Selective Private Colleges**: 18 private institutions with admit rates above 25%
- **More Selective Public Colleges**: 13 public institutions with admit rates below 60%
- **Selective Public Colleges**: 8 public institutions with admit rates above 60%

ARC colleges in the More Selective Private and More Selective Public segments are quite representative of all institutions in those same segments, while ARC colleges in the Selective Private and Selective Public segments tend to be more selective than non-ARC institutions in those same segments (see Appendix Tables A1 and A2 for more detail on differences).

[1] The ARC Core Advisory Committee consists of representatives from the Association for Institutional Research [AIR], American Association of Collegiate Registrars and Admissions Officers [AACRAO], National Student Clearinghouse [NSC], and senior admission and enrollment practitioners. The Research Committee consists of academic and institutional researchers.
[2] Admit rates are based on data from ARC colleges and are calculated as a weighted average using Fall 2018 to Fall 2020 application data.
[3] There are 56 colleges for which we have data on first-year GPA, credits earned, and retention. See Appendix Table A2 for more detail on this subset of institutions.

This research employs the following terms and definitions:

***Application cohorts*, *application cycles*, and *admission cycles*** are indexed according to the fall entry term for which students applied (e.g., fall 2024). Because ARC studies fall admissions processes and their outcomes, all analyses in this report group students according to the fall entry term for which they *applied*, even if students deferred first-year *enrollment* to a later entry term. Thus, applicants for fall 2023 who deferred enrollment to fall 2024 are grouped as enrollees from the fall 2023 application cohort.

***Applications/Applicants*** refer to the aggregate number of applications ARC institutions collectively received and evaluated, which is notably larger than the number of unique *applicants* who applied to ARC institutions, since some students applied to several ARC institutions.

***Admissions/Admits/Admitted Students*** refers to the aggregate number of admission offers ARC colleges collectively extended, while *admits* and *admitted students* refer to unique students offered admission, and *admit rate* refers to the fraction of applications offered admission.

Data from ARC institutions were merged with College Board assessment data to enable research insights into test score disclosure. Because the final dataset includes all observable test scores from either the institution or College Board, when considering SAT/ACT scores, we distinguish between disclosed SAT/ACT scores, withheld SAT scores, and students with no test score or a withheld ACT score. ***Disclosed SAT/ACT scores*** are SAT/ACT scores that students submitted to ARC colleges for consideration in the admissions process. ***Withheld SAT scores*** are SAT scores that applicants withheld from colleges, but that are observable in College Board administrative data. We define withheld SAT scores from College Board administrative data by the combination of a student's highest SAT section scores. Finally, a third category of students, referred to as ***No-Test / Withheld ACT scores***, are students who did not disclose an SAT or ACT score to the ARC institution, who do not have a recorded SAT score on file with College Board, and who may either have an ACT score that they withheld or never took an SAT or ACT assessment. In the figures below, we occasionally display data for all three of these categories of students. More commonly, the latter two categories are combined and referred to as ***Non-Disclosers*** to simplify the visual representation of the data.

***Underrepresented Minority (URM)*** students are defined as students who are Black, Hispanic/Latinx, Native American, Native Hawaiian/Pacific Islander, or Two or More Races.

***Parental education*** data come from ARC colleges and are based on the institutions' own ways of collecting and designating parental education. In some analyses, we also use College Board data on parental education from the Student Data Questionnaires accompanying assessments. **First generation** is defined as not having a parent who has completed a bachelor's degree.

***Low-income status*** data come directly from ARC colleges, and reflect the institution's own definition of low-income.

***Landscape neighborhood challenge*** is a measure of students' neighborhood background, as a proxy for students' socioeconomic status. Landscape neighborhood challenge is a neighborhood-level attribute constructed based on U.S. Census data and a nationally representative sample of high school graduates, and it has been used by many participating colleges in recent application cycles. Neighborhood challenge levels are expressed on a 1-100 percentile scale, where higher values indicate higher levels of challenge related to educational opportunities and outcomes. For example, a neighborhood with a Landscape challenge level of 64 has a higher level of educational challenge than 64% of neighborhoods in the U.S. Likewise, 20% of U.S. neighborhoods fall into each quintile of Landscape neighborhood challenge.

***Feeder high schools*** are defined as high schools that sent more than 30 applications to an institution over the fall 2018-2020 application cycles.

Twenty-five participating colleges provided data on applicants' ***recalculated high school grade point averages (HSGPAs)***. Because different colleges employ different grade scales when recalculating applicant HSGPAs, we created five HSGPA quintiles using college-specific HSGPA quintile cut-points based on the HSGPA distribution among each college's fall 2018-2020 applicants. At each college reporting recalculated HSGPAs, roughly 20% of fall 2018-2020 applicants fall into each quintile of recalculated HSGPA. We also use ***self-reported HSGPA*** data from College Board's Student Data Questionnaire in analyses when HSPGA data are not available from colleges. The correlation between actual and self-reported HSGPA is high, ranging from the low-0.70s to the mid-0.80s (see Marini, Young, and Shaw (2021) for more details).

***First-Year GPA (FYGPA)*** are data provided by participating institutions on the average grades earned by enrolled students in a particular academic year.

***STEM and Non-STEM FYGPA*** is also college-provided data on the average grades earned in particular types of college courses in the first year. ***STEM FYGPA*** captures course performance in biological sciences and other health-related professions, computer science, engineering, math, physical sciences, and other science and military technologies. ***Non-STEM FYGPA*** includes all coursework outside of these domains. Students taking no STEM courses in their first year have a blank value for STEM FYGPA and are not included in analyses examining STEM performance. Similarly, students only taking STEM courses are not included in analyses focused on Non-STEM course performance.

***First-Year Credits*** are defined as the number of credits earned in the first year of college on the institution-specific credit scale. In some analyses, these data are normalized to a 30-credit scale to facilitate aggregation across ARC institutions and segments.

***Retention*** is defined as a student re-enrolling at the same institution in their second year of college.

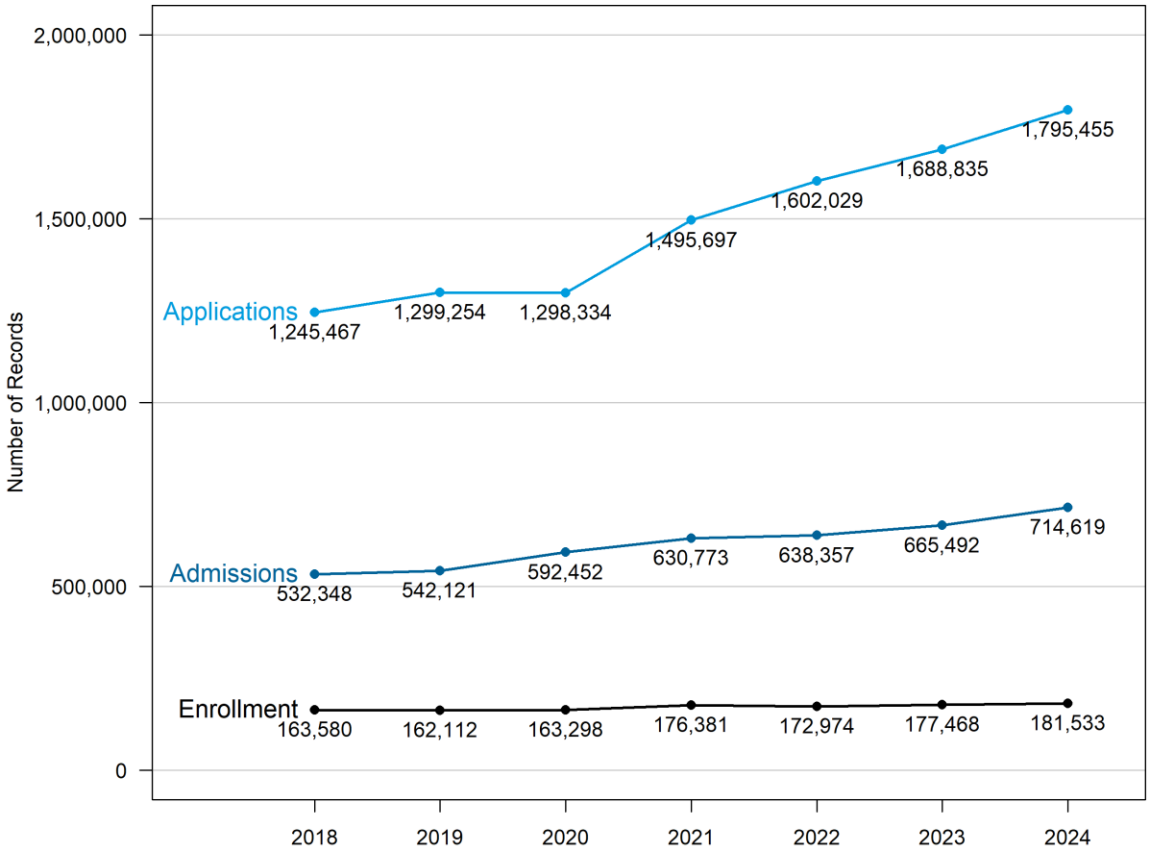
# Applications, Admissions, and Enrollments

## Aggregate Enrollment Funnel Insights

Between the fall 2018 and fall 2024 admission cycles, ARC institutions received more than 10 million applications, extended more than 4 million offers of admission, and enrolled nearly 1.2 million first-year students. This sample comprises the dataset analyzed in this report.[4]

Figure 1 displays counts of applications, admission offers, and first-year enrollment at all ARC institutions from fall 2018 through fall 2024. Applications sharply increased from fall 2020 to fall 2021, by 15%, and continued to increase, at a lower rate (on average 6.3%), from fall 2021 to fall 2024. Admission offers steadily increased since fall 2021. Enrollment increased from fall 2020 to fall 2021 at a higher rate than previous or subsequent cycles.

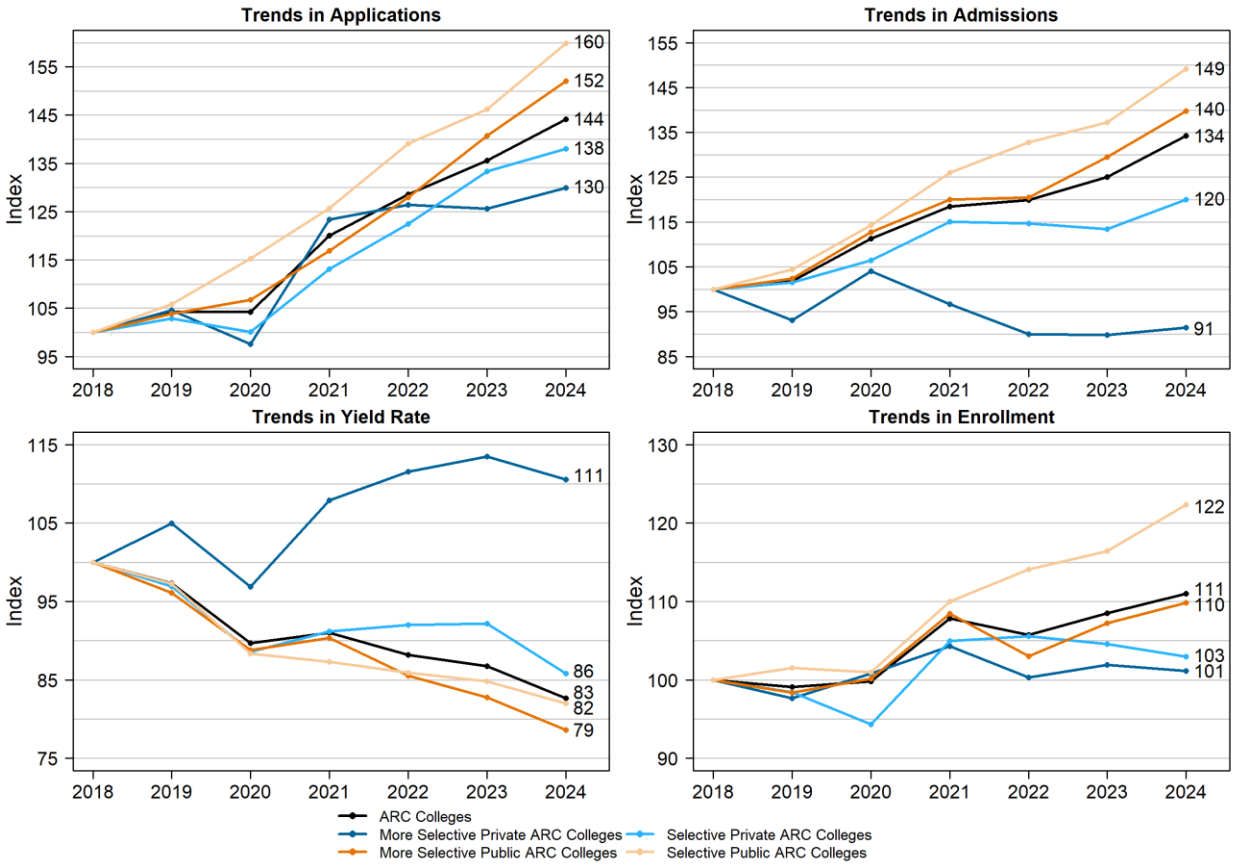
**Figure 1:** ARC Colleges' Enrollment Funnel, Fall 2018 to Fall 2024




[4] This analysis sample excludes about 1.7 million applications to ARC institutions that were incomplete or withdrawn before an admission decision was reached.

Figure 2 compares funnel trends over seven years at all ARC institutions and the four institutional segments. To better compare funnel trends across segments that differ in size and selectivity, we express each data series as an index anchored to the fall 2018 entering cohort, which corresponds to the start of ARC historical data. Each index has a value of 100 in the base year.

**Figure 2:** Enrollment Funnel for ARC Colleges and Segments, Fall 2018 to Fall 2024



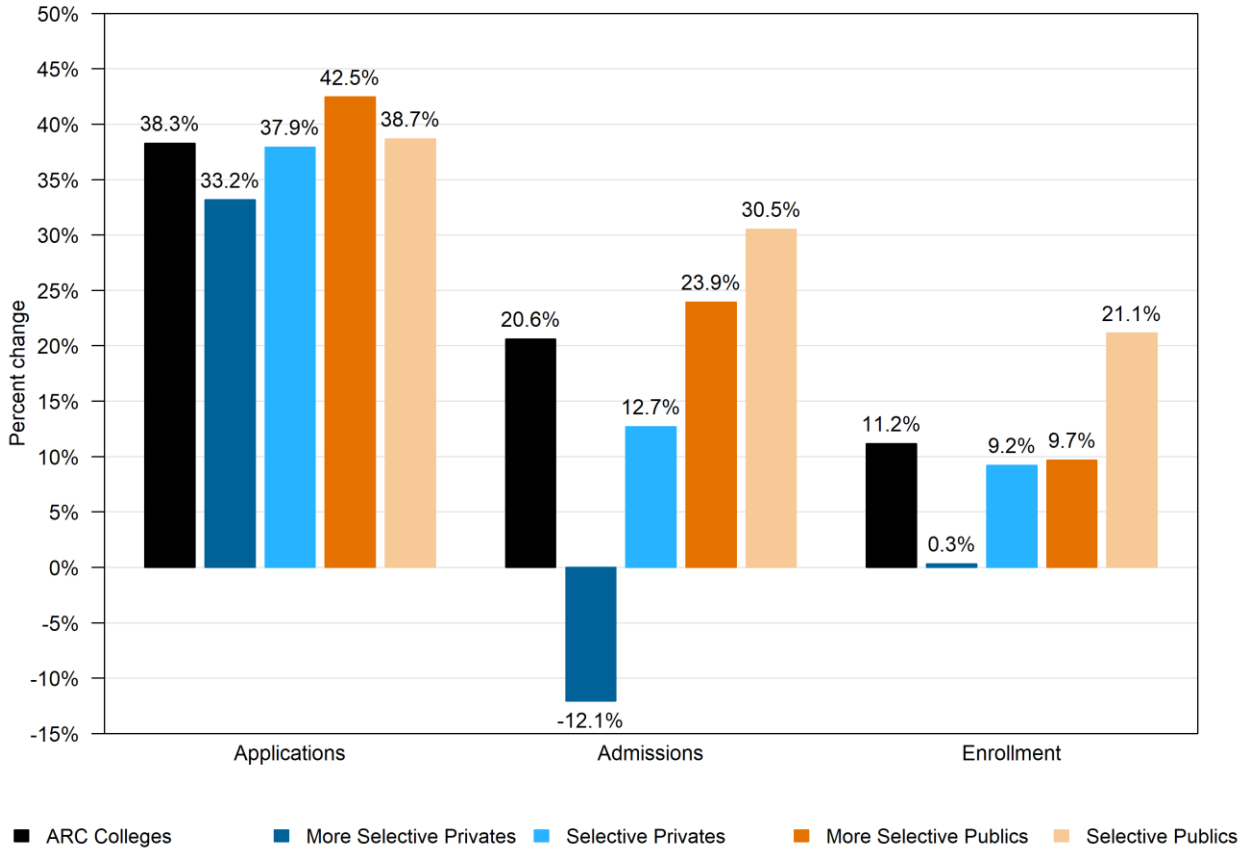

Between the fall 2018 and fall 2024 application cycles, total applications to ARC institutions increased by 44%, but there is considerable variation across the four segments, with Selective Public ARC institutions experiencing the largest application growth (60%) over these seven cycles. Over this same period, admission offers from ARC colleges grew by 34%. Admissions growth occurred in all institutional segments except More Selective Private colleges, where fall 2024 admission offers are 9% lower than in fall 2018.

Since fall 2018, yield rates at ARC institutions have declined by 17% overall. A similar decline occurred in all institutional segments, except for the More Selective Private institutions, where yield increased by 11% since fall 2018. Finally, between fall 2018 and fall 2024, enrollment at ARC colleges increases by 11% overall. All institutional segments experience growth in

enrollment between fall 2020 and fall 2021, but Selective Public colleges experience the largest growth—22%—between fall 2018 and fall 2024. Both private college segments experience minimal enrollment growth over this period.

Figure 3 shows aggregate changes in the funnel of all ARC colleges and each ARC segment from the fall 2020 to fall 2024 cycle. The objective of this figure is to compare the last cycle before widespread test-optional adoption (fall 2020) to the most contemporary cycle (fall 2024).

**Figure 3:** Percentage Change in Applications, Admissions, and Enrollment Between Fall 2020 and Fall 2024, ARC Colleges and Segments



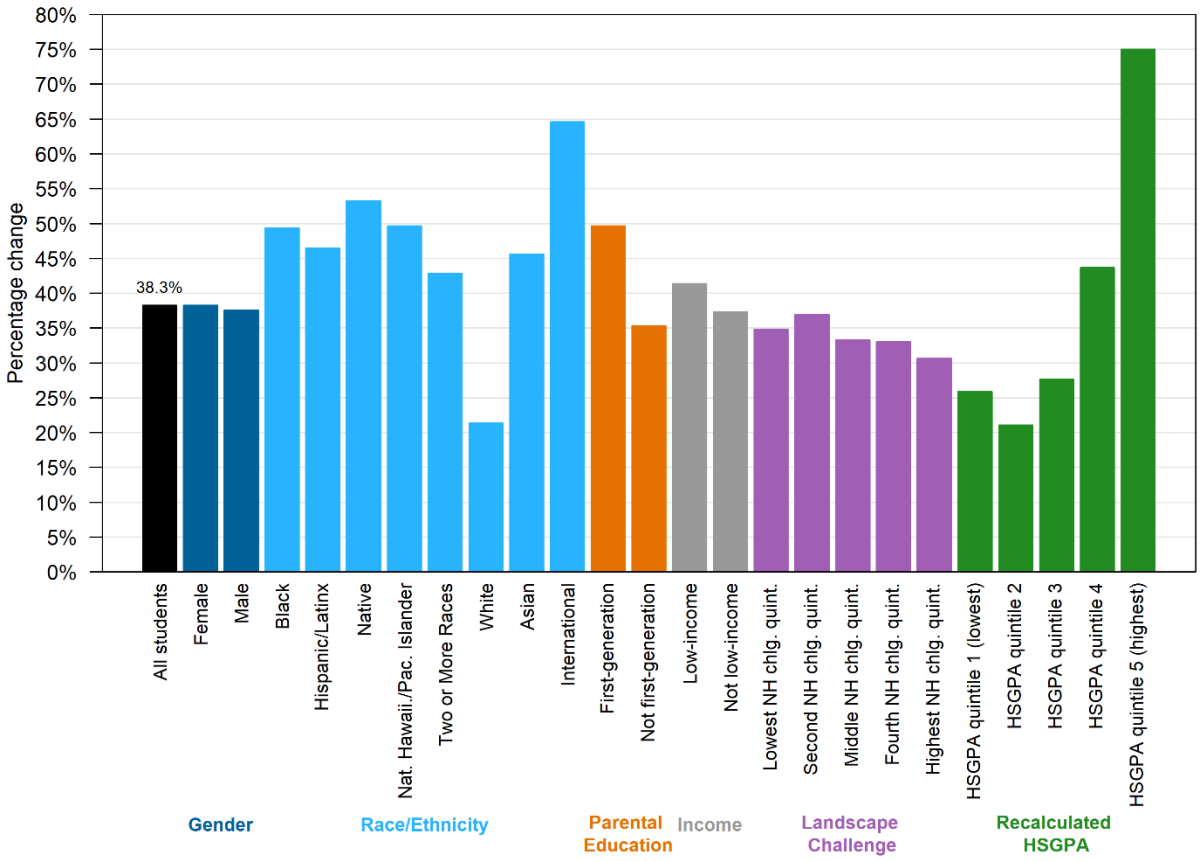

Between fall 2020 and fall 2024, applications to ARC institutions increase by 38.3%. More Selective Public ARC colleges experience the largest application growth (42.5%). Admission offers from ARC institutions also increase, by about 20%. Offers of admission grew by 30% at Selective Public colleges but declined by 12% at More Selective Private colleges.

In the aggregate, ARC institutions expanded first-year enrollment by 11.2% from fall 2020 to fall 2024. Enrollment grew substantially in all ARC segments except More Selective Private ARC institutions, where enrollment increased only 0.3% between fall 2020 and fall 2024.

## Applications

Figure 4 shows how the 38.3% growth in **application** volume from fall 2020 to fall 2024 across all ARC institutions breaks down across different student subgroups. Between fall 2020 and fall 2024, applications to ARC colleges grew among all student subgroups. Application growth between fall 2020 and fall 2024 to ARC colleges is larger among students with high HSGPAs than students with low HSGPAs, especially in the highest GPA quintile. This likely reflects the high school grade inflation that took place during the pandemic (Goldhaber and Young, 2024).

**Figure 4:** Percentage Change in Applications to ARC Colleges Between Fall 2020 and Fall 2024, by Student Characteristics




Changes by disadvantage depend on the metric used. Application growth between fall 2020 and fall 2024 to ARC colleges is larger among first generation students than non-first generation students. By contrast, the growth in applications is relatively similar among students from less challenging and more challenging neighborhoods.

Disaggregated by race/ethnicity, all ARC institutions experience application growth from all racial/ethnic subgroups between fall 2020 and fall 2024. However, growth is highest among international students and lowest among White students.

Table 1 provides data on year-over-year percentage changes in aggregate **applications** by student characteristics (columns 1-4), alongside the aggregate ARC data representing the overall percentage change from fall 2020 to fall 2024 (column 5), presented in Figure 4.

**Table 1:** Annual Percentage Changes in Applications to ARC Colleges Between Fall 2020 and Fall 2024, by Student Characteristics

| Group | Percentage Change in Applications | | | | |
|---|---|---|---|---|---|
| | Fall 2020 to Fall 2021 | Fall 2021 to Fall 2022 | Fall 2022 to Fall 2023 | Fall 2023 to Fall 2024 | Fall 2020 to Fall 2024 |
| **All students** | 15.2% | 7.1% | 5.4% | 6.3% | 38.3% |
| **Gender** | | | | | |
| Female | 17.8% | 6.4% | 4.3% | 5.7% | 38.3% |
| Male | 12.1% | 7.7% | 6.7% | 6.8% | 37.6% |
| **Race/Ethnicity** | | | | | |
| Black | 14.1% | 9.3% | 7.1% | 11.8% | 49.3% |
| Hispanic/Latinx | 11.5% | 6.4% | 11.3% | 11.0% | 46.5% |
| Native | 6.0% | 12.0% | 16.7% | 10.6% | 53.3% |
| Native Hawaiian/Pac. Islander | 28.3% | 4.2% | 9.3% | 2.5% | 49.7% |
| Two or More Races | 17.9% | 6.8% | 6.6% | 6.4% | 42.9% |
| White | 15.6% | 2.6% | 1.1% | 1.2% | 21.4% |
| Asian | 15.7% | 10.0% | 9.1% | 4.8% | 45.6% |
| International | 16.9% | 18.2% | 6.8% | 11.6% | 64.6% |
| **Parental education (48 colleges)** | | | | | |
| First-generation | 10.1% | 13.9% | 13.2% | 5.3% | 49.7% |
| Not first-generation | 18.2% | 3.3% | 3.9% | 6.7% | 35.3% |
| Parental education unknown | 8.5% | 16.4% | 2.9% | 6.1% | 37.9% |
| **Income status (16 colleges)** | | | | | |
| Low-income | 19.4% | 5.3% | 6.1% | 6.0% | 41.4% |
| Not low-income | 17.3% | 5.3% | 4.7% | 6.1% | 37.3% |
| Income unknown | 13.7% | 8.2% | 5.7% | 6.4% | 38.4% |
| **Landscape NH challenge quintile** | | | | | |
| Lowest | 16.5% | 5.4% | 4.9% | 4.7% | 34.8% |
| Second | 17.3% | 4.2% | 5.0% | 6.7% | 37.0% |
| Third | 13.8% | 3.5% | 6.0% | 6.8% | 33.3% |
| Fourth | 9.3% | 3.7% | 6.2% | 10.5% | 33.0% |
| Highest | -0.3% | 6.1% | 9.4% | 12.9% | 30.7% |
| Missing | 19.5% | 20.8% | 5.5% | 6.5% | 62.3% |
| **Recalculated HSGPA quintile (25 colleges)** | | | | | |
| Lowest | 12.4% | -6.4% | 5.0% | 14.0% | 25.9% |
| Second | 10.1% | 0.9% | 0.2% | 8.7% | 21.0% |
| Third | 11.7% | 7.3% | 1.6% | 4.8% | 27.7% |
| Fourth | 12.8% | 15.6% | 4.3% | 5.7% | 43.7% |
| Highest | 22.2% | 16.3% | 14.8% | 7.3% | 75.0% |
| Missing | 15.9% | 6.8% | 4.9% | 5.2% | 36.7% |

Note: Data for students of non-binary/other/unknown gender are omitted due to small sample sizes.

## Admission Offers

Growth in admission offers parallels the application trends shown in  Figure 4. Figure 5 shows how the 20.3% growth in aggregate **admission offers** among ARC institutions breaks down across different student subgroups. Over the fall 2020 and fall 2024 periods, admission offers to ARC colleges grew among all demographic subgroups **except** applicants with lower high school grades.

The growth in admission offers from ARC colleges is larger among underrepresented minority applicants (and Asian students) than among White applicants, with the largest growth in admission offers occurring for Black applicants (40%).

From a lens of disadvantage, admission offers increase similarly for students from all five neighborhood challenge quintiles, and increase more for first generation than for non-first generation students.

**Figure 5:** Percentage Change in Admission Offers at ARC Colleges Between Fall 2020 and Fall 2024, by Student Characteristics

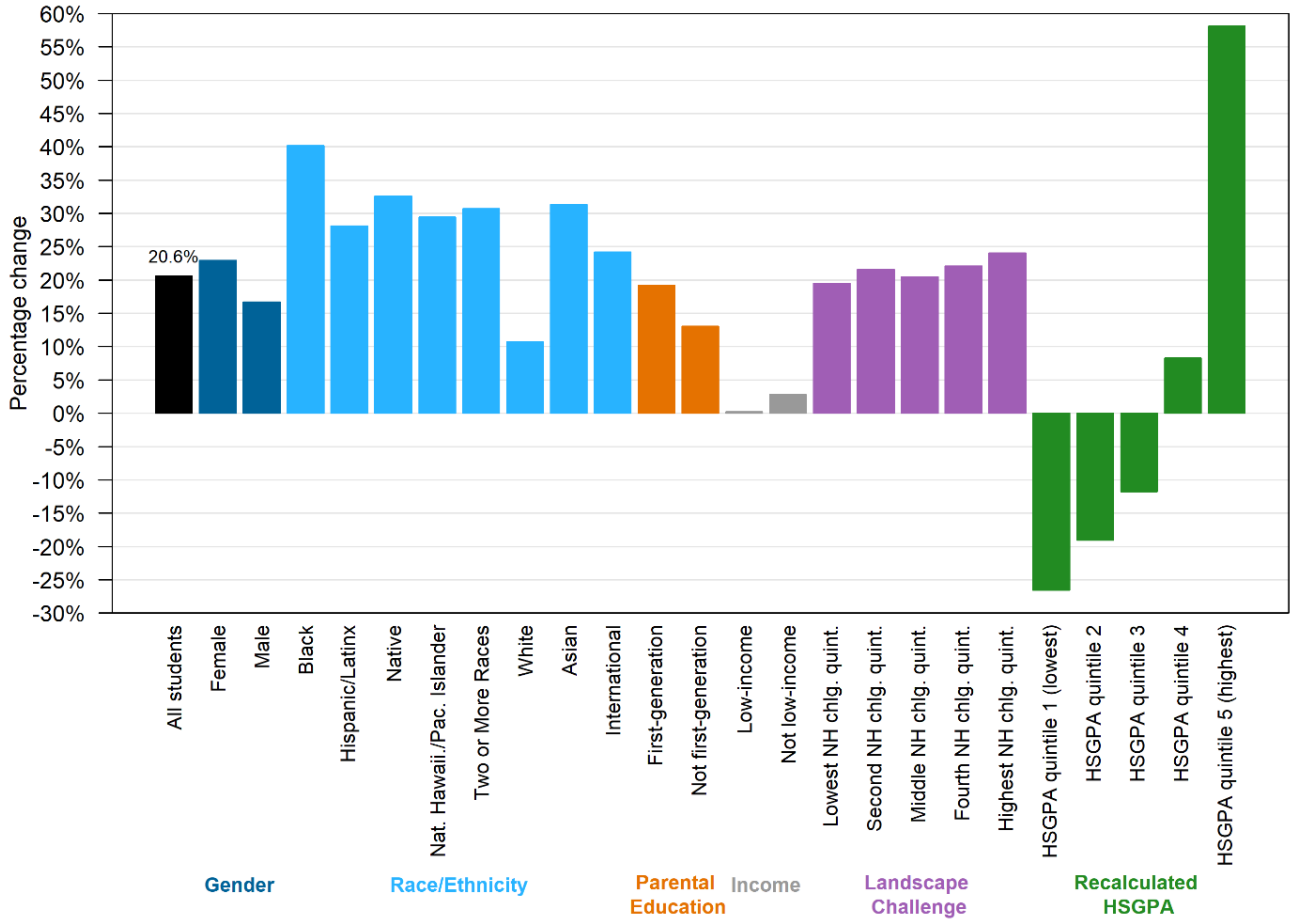


Table 2 provides data on year-over-year percentage changes in aggregate **admission offers** by student characteristics (columns 1-4), alongside the aggregate ARC data representing the overall percentage change from fall 2020 to fall 2024 (column 5), presented in Figure 5.

**Table 2:** Annual Percentage Changes in Admission Offers Between Fall 2020 and Fall 2024, by Student Characteristics

| Group | Percentage Change in Admission Offers | | | | |
|---|---|---|---|---|---|
| | Fall 2020 to Fall 2021 | Fall 2021 to Fall 2022 | Fall 2022 to Fall 2023 | Fall 2023 to Fall 2024 | Fall 2020 to Fall 2024 |
| **All students** | 6.5% | 1.2% | 4.3% | 7.4% | 20.6% |
| **Gender** | | | | | |
| Female | 10.2% | 1.8% | 2.5% | 6.8% | 22.9% |
| Male | 1.7% | 0.1% | 6.6% | 7.5% | 16.7% |
| **Race/Ethnicity** | | | | | |
| Black | 17.4% | 10.2% | 3.9% | 4.3% | 40.1% |
| Hispanic/Latinx | 9.7% | 4.0% | 7.0% | 4.9% | 28.1% |
| Native | 6.6% | 5.7% | 16.8% | 0.7% | 32.6% |
| Native Hawaiian/Pac. Islander | 22.6% | 1.2% | 1.9% | 2.4% | 29.4% |
| Two or More Races | 9.5% | 5.4% | 7.6% | 5.2% | 30.7% |
| White | 6.6% | -2.7% | 0.2% | 6.5% | 10.7% |
| Asian | 2.7% | 5.5% | 9.8% | 10.4% | 31.3% |
| International | -4.1% | 3.2% | 12.9% | 11.2% | 24.2% |
| **Parental education (48 colleges)** | | | | | |
| First-generation | 4.8% | 6.2% | 6.1% | 1.0% | 19.2% |
| Not first-generation | 5.9% | -3.8% | 3.2% | 7.6% | 13.1% |
| Parental education unknown | 9.0% | 11.2% | 5.7% | 10.5% | 41.7% |
| **Income status (16 colleges)** | | | | | |
| Low-income | 8.2% | -7.1% | 5.7% | -5.6% | 0.3% |
| Not low-income | 2.0% | -4.9% | 4.2% | 1.7% | 2.8% |
| Income unknown | 7.7% | 3.2% | 4.2% | 9.4% | 26.7% |
| **Landscape NH challenge quintile** | | | | | |
| Lowest | 6.2% | 0.7% | 4.0% | 7.4% | 19.5% |
| Second | 10.2% | -0.1% | 2.6% | 7.6% | 21.6% |
| Third | 9.5% | 0.5% | 3.6% | 5.5% | 20.4% |
| Fourth | 8.4% | 1.3% | 2.6% | 8.5% | 22.1% |
| Highest | 2.6% | 6.3% | 4.5% | 8.8% | 24.1% |
| Missing | -1.2% | 4.7% | 11.1% | 6.9% | 22.8% |
| **Recalculated HSGPA quintile (25 colleges)** | | | | | |
| Lowest | -12.6% | -31.3% | -5.0% | 28.7% | -26.5% |
| Second | -3.8% | -26.8% | -3.7% | 19.3% | -19.1% |
| Third | 1.7% | -15.1% | -3.3% | 5.6% | -11.8% |
| Fourth | 5.8% | 1.2% | -1.2% | 2.4% | 8.3% |
| Highest | 15.8% | 15.0% | 11.8% | 6.2% | 58.1% |
| Missing | 6.8% | 3.3% | 4.6% | 7.7% | 24.4% |

Note: Data for students of non-binary/other/unknown gender are omitted due to small sample sizes.

## Enrollment

Figure 6 shows how the 11.2% aggregate **enrollment** growth among ARC institutions breaks down across different student subgroups. In general, student subgroups with the largest increases in admissions offers also experienced the largest growth in enrollment.

Between fall 2020 and fall 2024, enrollment at ARC colleges increases among all student subgroups except for students with lower high school grades. Enrollment growth is slightly larger among first generation college students than among non-first generation students, and larger among low-income students than among non-low-income students. Enrollment growth is slightly lower among students from the highest challenge neighborhoods than among students from the lower four neighborhood challenge quintiles. Finally, enrollment growth among URM students was larger than growth in other student subgroups. White students stand out as experiencing virtually zero growth in enrollment between fall 2020 and fall 2024.

**Figure 6:** Percentage Change in Enrollment at ARC Colleges Between Fall 2020 and Fall 2024, by Student Characteristics

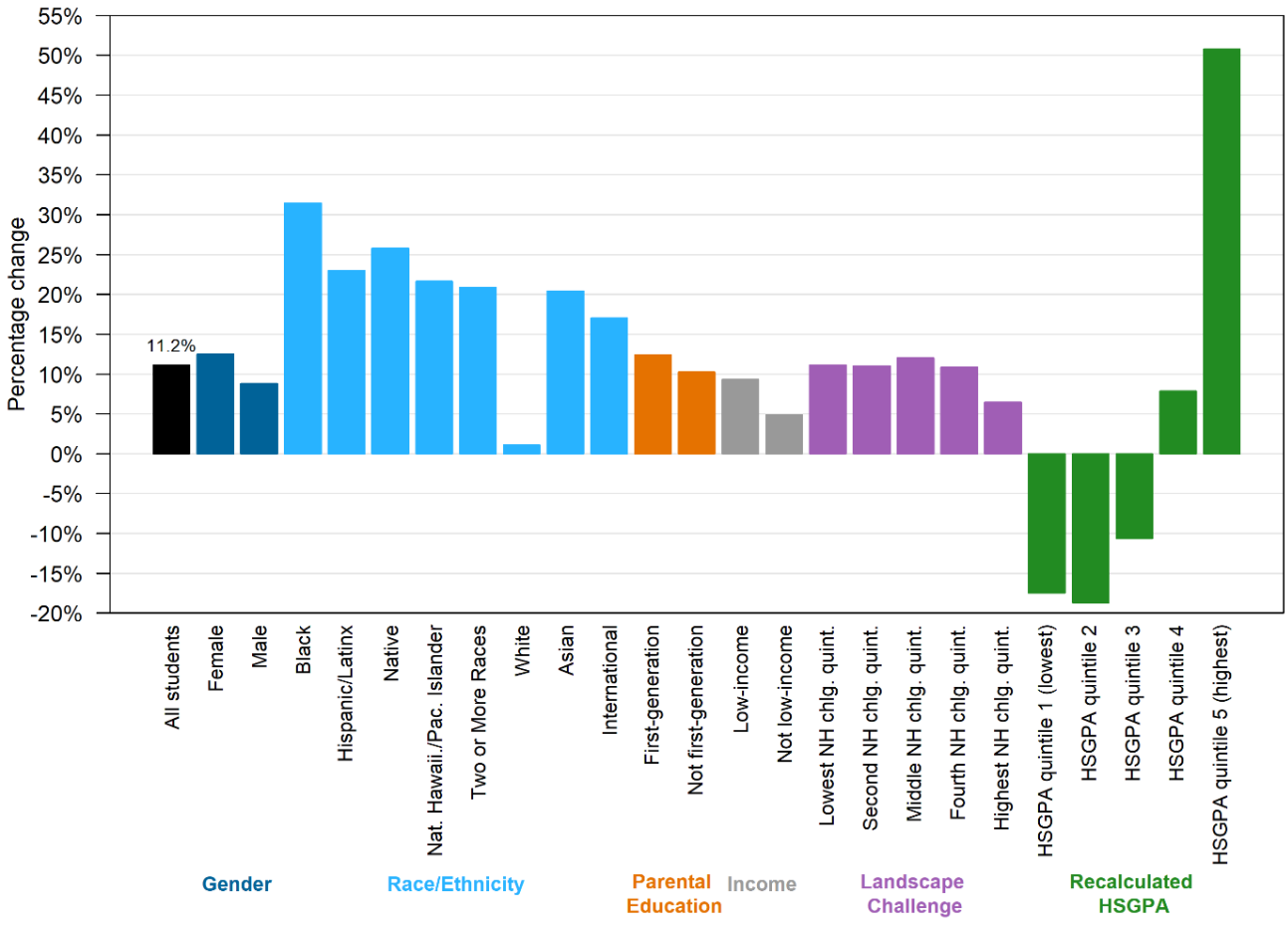


Table 3 provides data on year-over-year percentage changes in aggregate **enrollment growth** student characteristics (columns 1-4), alongside the aggregate ARC data representing the overall percentage change from fall 2020 to fall 2024 (column 5), presented in Figure 6.

**Table 3:** Annual Percentage Changes in Enrollment Between Fall 2020 and Fall 2024, by Student Characteristics

| Group | Percentage Change in First-Year Enrollment | | | | |
|---|---|---|---|---|---|
| | Fall 2020 to Fall 2021 | Fall 2021 to Fall 2022 | Fall 2022 to Fall 2023 | Fall 2023 to Fall 2024 | Fall 2020 to Fall 2024 |
| **All students** | 8.0% | -1.9% | 2.6% | 2.3% | 11.2% |
| **Gender** | | | | | |
| Female | 10.5% | -1.5% | 1.1% | 2.2% | 12.5% |
| Male | 4.9% | -2.7% | 4.5% | 2.0% | 8.8% |
| **Race/Ethnicity** | | | | | |
| Black | 14.5% | 1.6% | 10.4% | 2.3% | 31.4% |
| Hispanic/Latinx | 11.2% | 0.8% | 7.4% | 2.2% | 23.0% |
| Native | 2.7% | 5.2% | 30.1% | -10.5% | 25.8% |
| Native Hawaiian/Pac. Islander | 7.8% | 9.8% | -10.3% | 14.7% | 21.7% |
| Two or More Races | 9.9% | 0.1% | 9.6% | 0.3% | 20.9% |
| White | 6.1% | -5.4% | -0.7% | 1.4% | 1.1% |
| Asian | 9.5% | 1.8% | 4.2% | 3.7% | 20.4% |
| International | 5.2% | 9.0% | 0.8% | 1.3% | 17.1% |
| **Parental education (48 colleges)** | | | | | |
| First-generation | 4.8% | 1.9% | 7.7% | -2.3% | 12.4% |
| Not first-generation | 9.8% | -4.7% | 1.5% | 3.8% | 10.3% |
| Parental education unknown | 5.1% | 3.8% | 1.9% | 1.5% | 12.9% |
| **Income status (16 colleges)** | | | | | |
| Low-income | 12.4% | -1.9% | 6.9% | -7.2% | 9.4% |
| Not low-income | 7.8% | -2.7% | 1.9% | -1.8% | 4.9% |
| Income unknown | 7.8% | -1.7% | 2.6% | 4.5% | 13.6% |
| **Landscape NH challenge quintile** | | | | | |
| Lowest | 8.0% | -2.3% | 2.5% | 2.8% | 11.1% |
| Second | 10.7% | -3.4% | 1.8% | 2.0% | 11.0% |
| Third | 11.2% | -4.3% | 2.4% | 2.9% | 12.0% |
| Fourth | 6.3% | -2.9% | 1.8% | 5.4% | 10.9% |
| Highest | -2.0% | -0.6% | 6.5% | 2.6% | 6.5% |
| Missing | 7.2% | 8.8% | 3.5% | -4.7% | 15.0% |
| **Recalculated HSGPA quintile (25 colleges)** | | | | | |
| Lowest | -3.0% | -31.5% | 16.9% | 6.4% | -17.5% |
| Second | 4.9% | -26.2% | 5.5% | -0.4% | -18.7% |
| Third | 7.6% | -16.3% | 0.4% | -1.2% | -10.7% |
| Fourth | 12.4% | -0.6% | -6.0% | 2.8% | 7.9% |
| Highest | 18.9% | 14.7% | 0.8% | 9.6% | 50.8% |
| Missing | 6.0% | 0.1% | 4.2% | 0.9% | 11.6% |

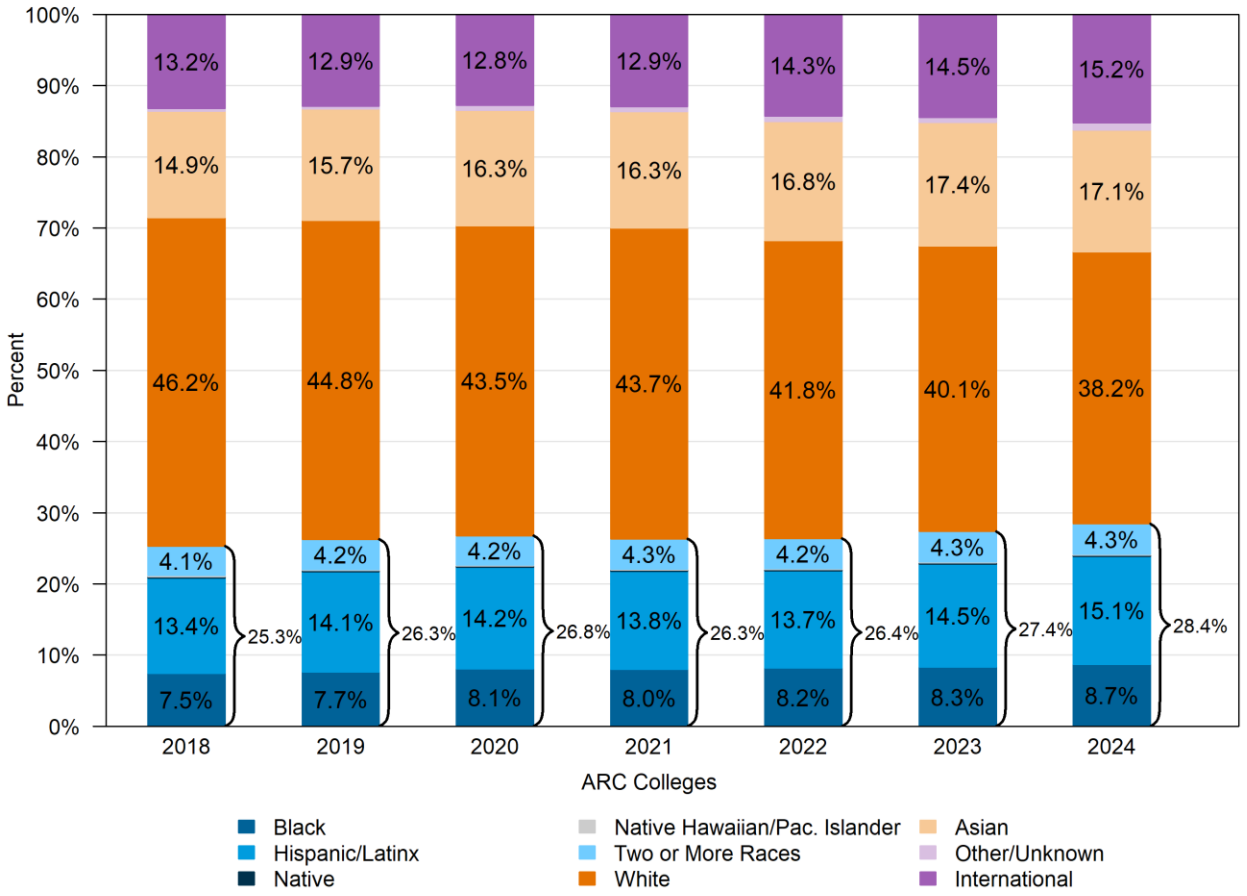
Note: Data for students of non-binary/other/unknown gender are omitted due to small sample sizes.

# Student Body Composition

## Racial/Ethnic Composition

Figure 7 shows how the racial/ethnic composition of applicants to ARC college changed between fall 2018 and fall 2024. Across all ARC colleges, the share of underrepresented minority (URM) applicants grew steadily from 25.3% in fall 2018 to 28.4% in fall 2024. Annual changes in racial/ethnic diversity visible in Figure 7 reflect growing diversity of high school graduates in the U.S. (WICHE, 2024). Beyond this time trend, there is no abrupt change in URM student representation between fall 2020 and fall 2021, the first cohort with widespread test-optional admissions policies, or between fall 2023 and fall 2024, the first cohort with widespread race-neutral admissions policies.

**Figure 7:** Racial/Ethnic Composition of Applicants from Fall 2018 to Fall 2024




Figures 8 and 9 show how the racial/ethnic composition of admitted and enrolled students, respectively, change between fall 2018 and fall 2024 at ARC colleges. The basic patterns for URM shares are similar to the pattern for applicants; URM students represent roughly one-quarter of the cohort in the baseline year (fall 2018) and their share increases by about 3 percentage points over the next seven years.

Figure 8 shows a 1.3 percentage point increase in the share of admitted URM students between fall 2020 and fall 2021, which corresponds to the introduction of widespread test-optional policies. This year-over-year increase is not atypical. In the absence of similar policy shocks, increases of similar magnitudes occur between fall 2018 and fall 2019, and between fall 2021 and fall 2022.

**Figure 8:** Racial/Ethnic Composition of Admitted Students from Fall 2018 to Fall 2024

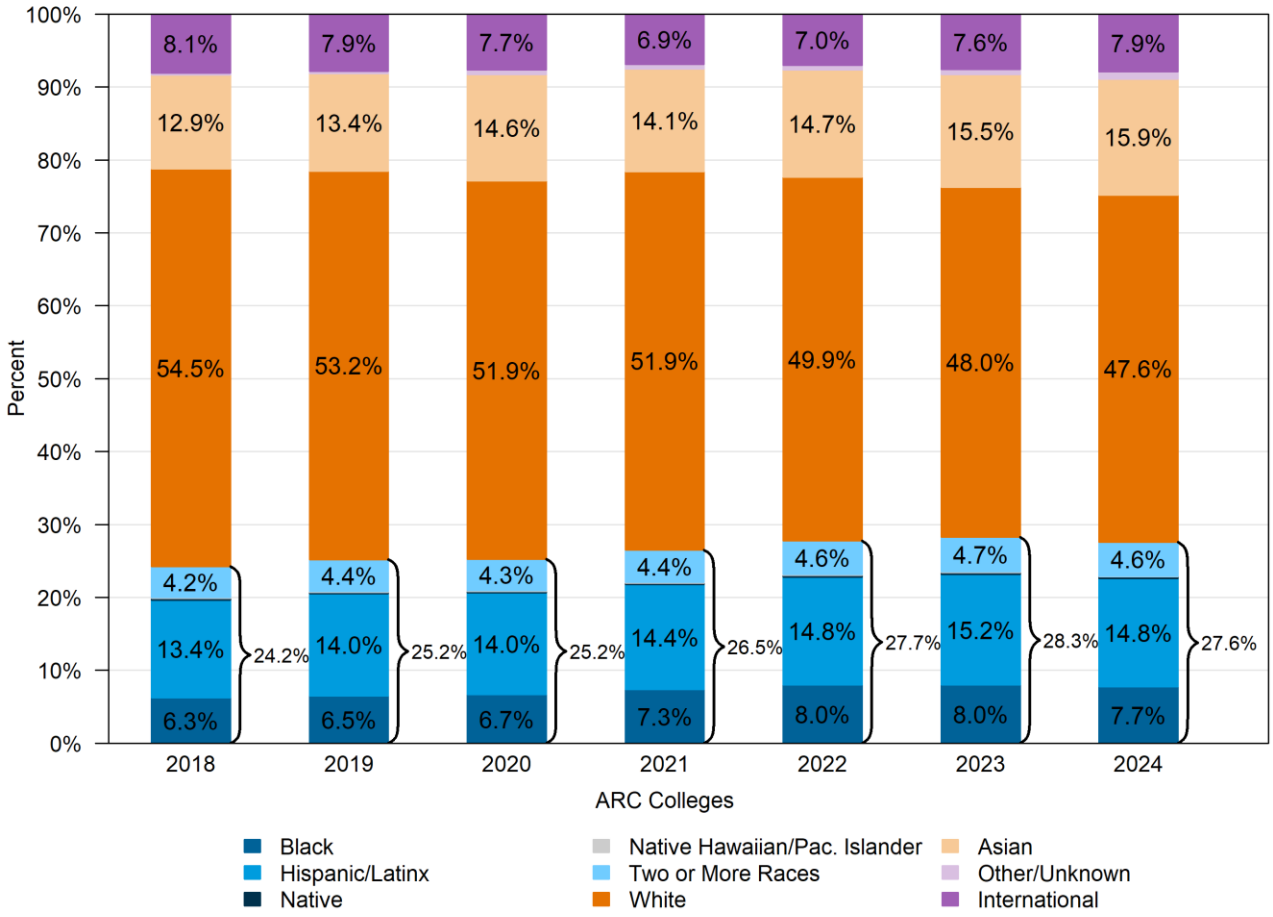



Figure 9 shows the racial/ethnic composition of enrolled students at ARC institutions increases from 23.8% in fall 2018 to 28.1% in fall 2024. This 4.3 percentage point increase in URM student representation among ARC college enrollees is nearly identical to the 4.6 percentage point increase in the share of public high school graduates who are classified as URM students, which increased from 42.6% to 47.2% over the same time period (WICHE, 2024).

**Figure 9:** Racial/Ethnic Composition of Enrolled Students from Fall 2018 to Fall 2024

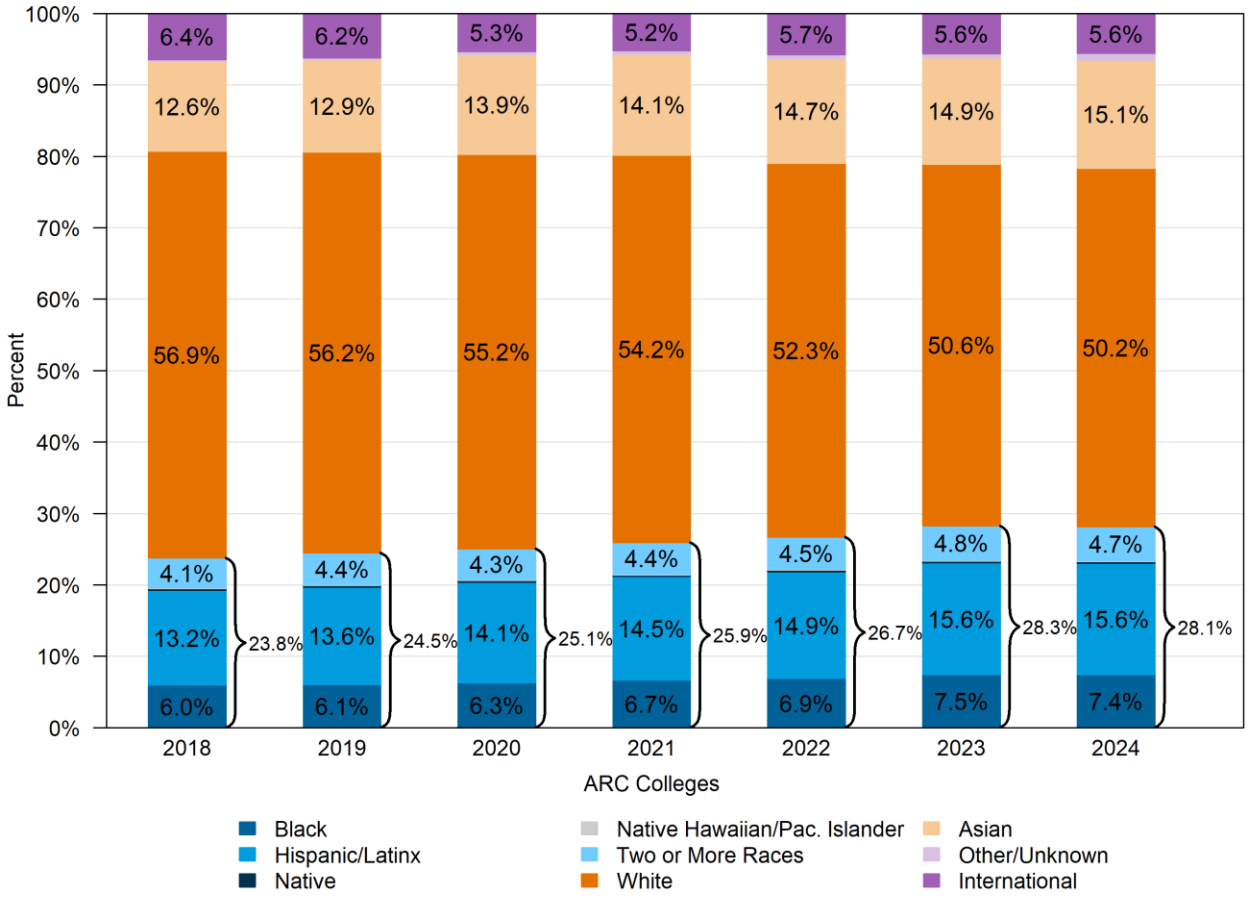
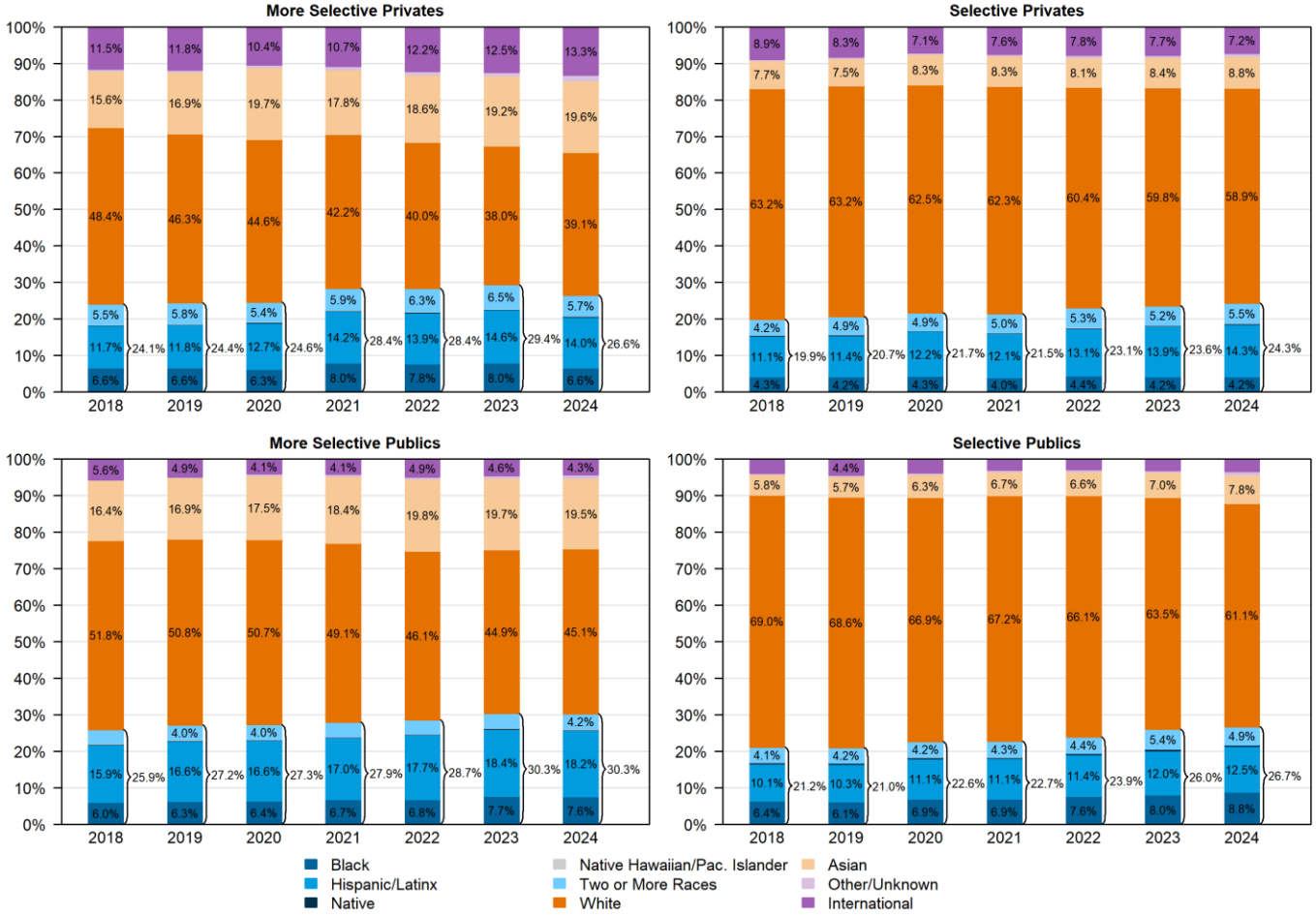



Figure 10 disaggregates the racial/ethnic composition patterns in Figure 9 by institutional segment to demonstrate more nuanced effects of admissions policy changes in fall 2021 and fall 2024. More Selective Private ARC colleges experienced an increase in the share of URM students among first-year enrollees during the first test-optional admissions cycle (a 3.8 percentage point increase from fall 2020 to 2021), while the URM student share of enrollees remained roughly flat in the other segments.

Following the implementation of race-neutral policies and practices in fall 2024, the share of URM students at More Selective Private institutions declined by 2.8 percentage points. By contrast, URM student representation continued to increase gradually through fall 2024 at institutions in the other three ARC segments. Considerable variation exists across ARC institutions, with roughly half of institutions experiencing increases and the other half experiencing decreases in the URM share of enrollees between fall 2023 and fall 2024.

**Figure 10:** Racial/Ethnic Composition of Enrolled Students in Fall 2018 to Fall 2024, by ARC Segment




## Socioeconomic Composition

Figures 11, 12, and 13 show the composition of ARC applicants, admitted students, and enrollees, respectively, over time and by socioeconomic status. Socioeconomic composition is described here by neighborhood challenge quintile, a measure of educational opportunity in a census tract.[5] The percentage of applicants from higher challenge neighborhoods (third, fourth, and highest challenge quintiles) remained relatively steady at 25% from fall 2018 to 2024. Similarly, the percentage of admitted students from these neighborhoods is constant at 23% for all seven years. There is a slight increase (<1 percentage point) in the share of applicants and admitted students from the highest neighborhood challenge quintile from fall 2018 to fall 2024.

[5] Figures 11, 12, and 13 exclude students missing neighborhood challenge information. Since challenge data are not available for international students, these figures represent the socioeconomic composition of domestic applicants, admitted students, and enrollees by neighborhood challenge quintile. See https://secure-media.collegeboard.org/landscape/comprehensive-data-methodology-overview.pdf for more information on neighborhood challenge data.

**Figure 11:** Socioeconomic Composition of Applicants from Fall 2018 to Fall 2024

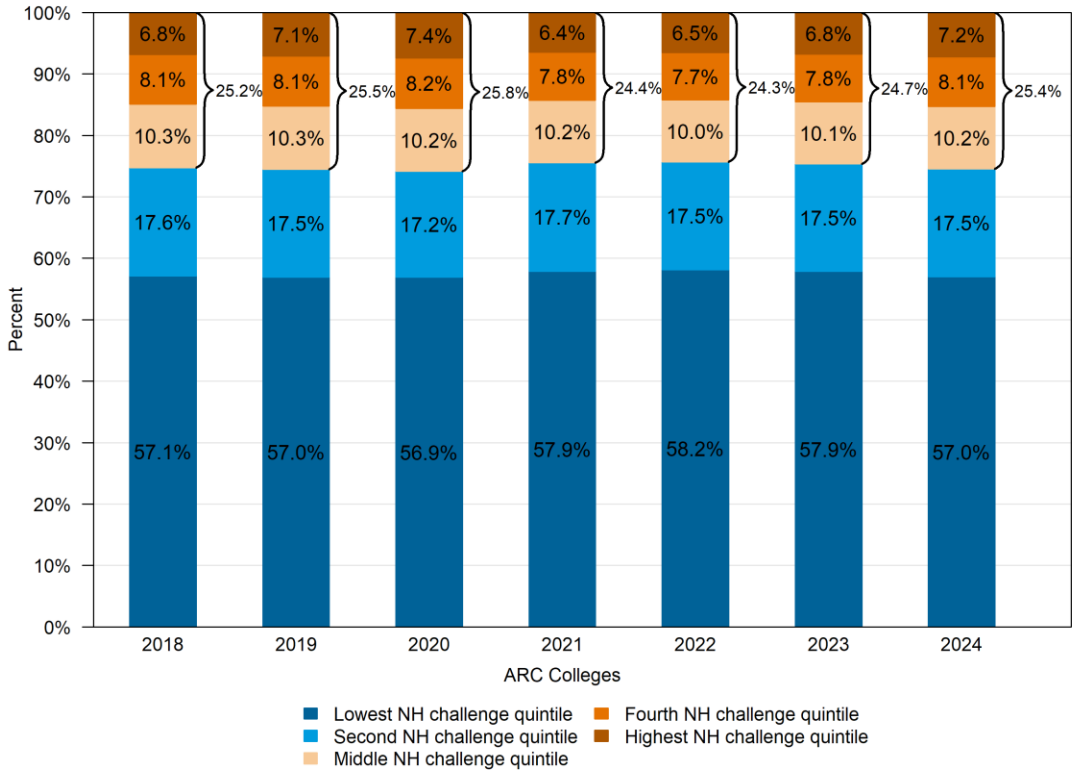



**Figure 12:** Socioeconomic Composition of Admitted Students from Fall 2018 to Fall 2024

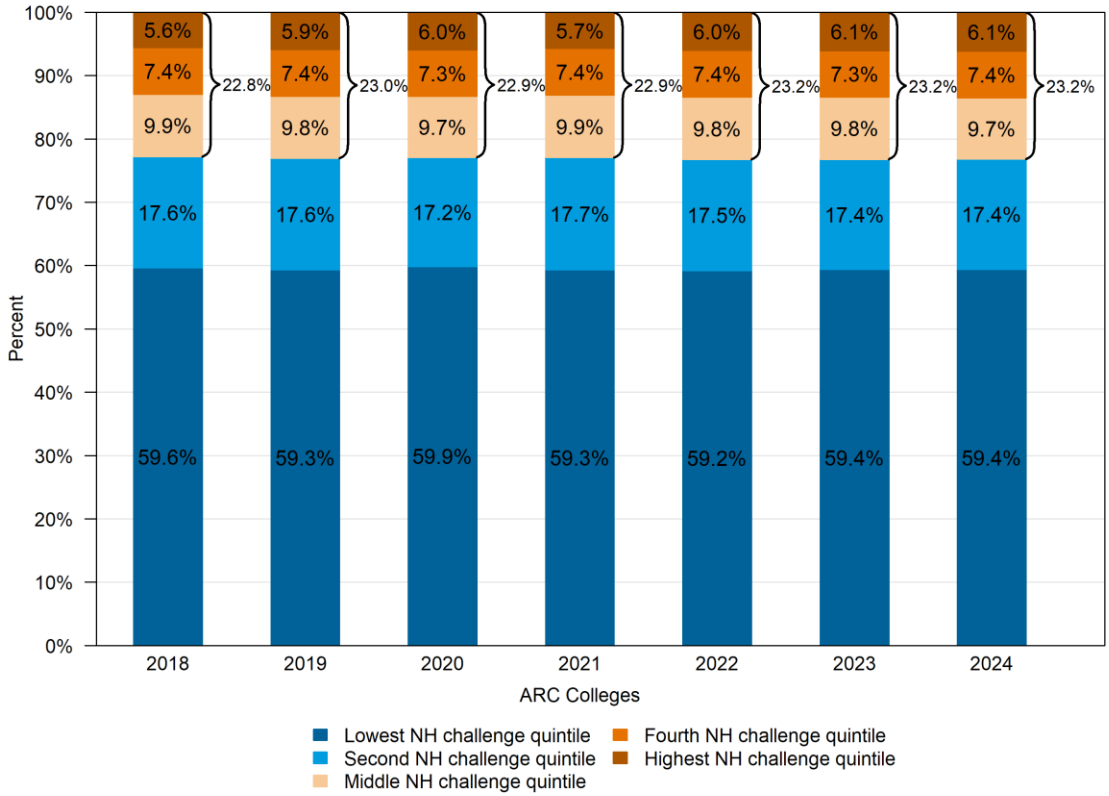
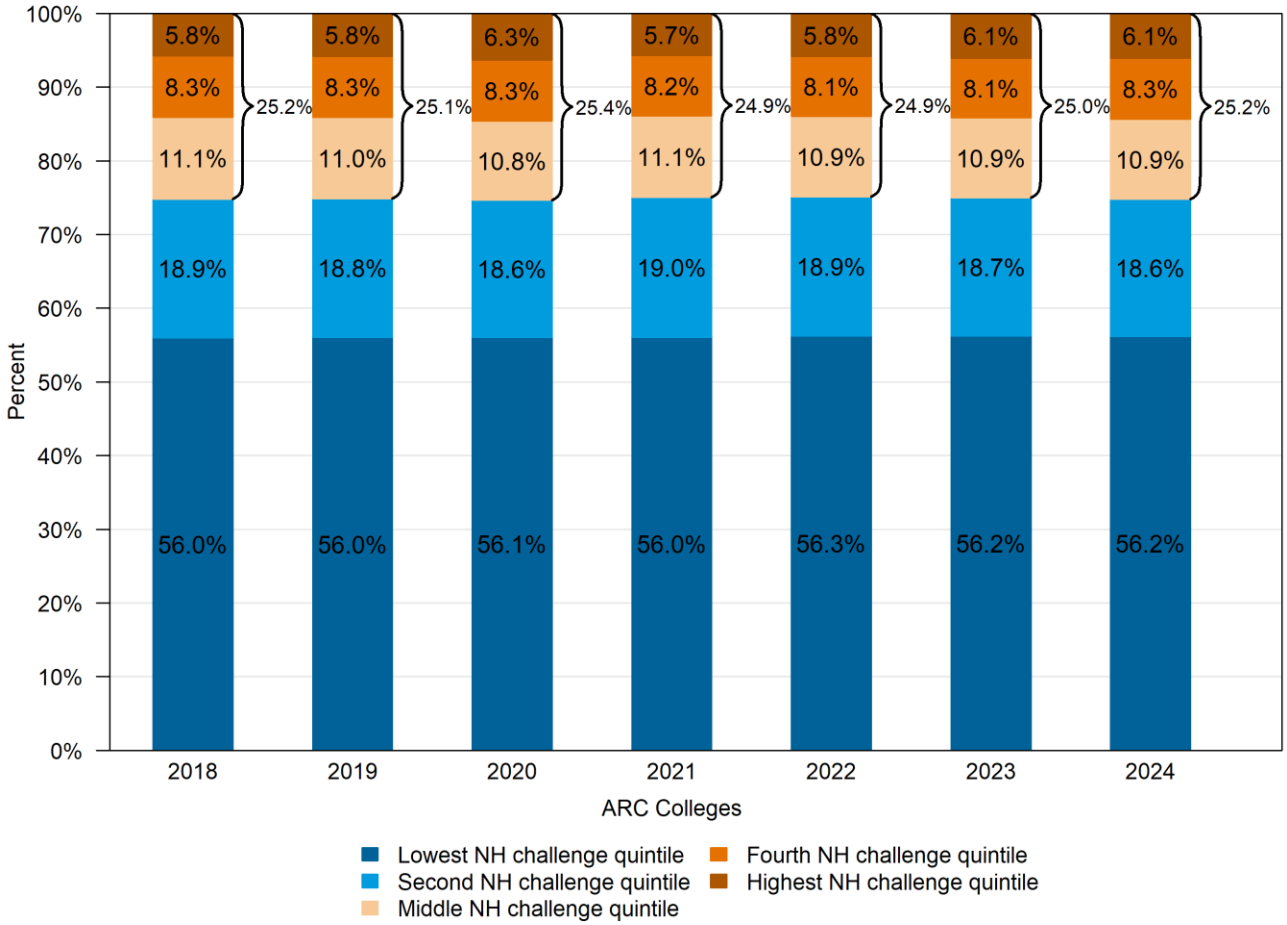


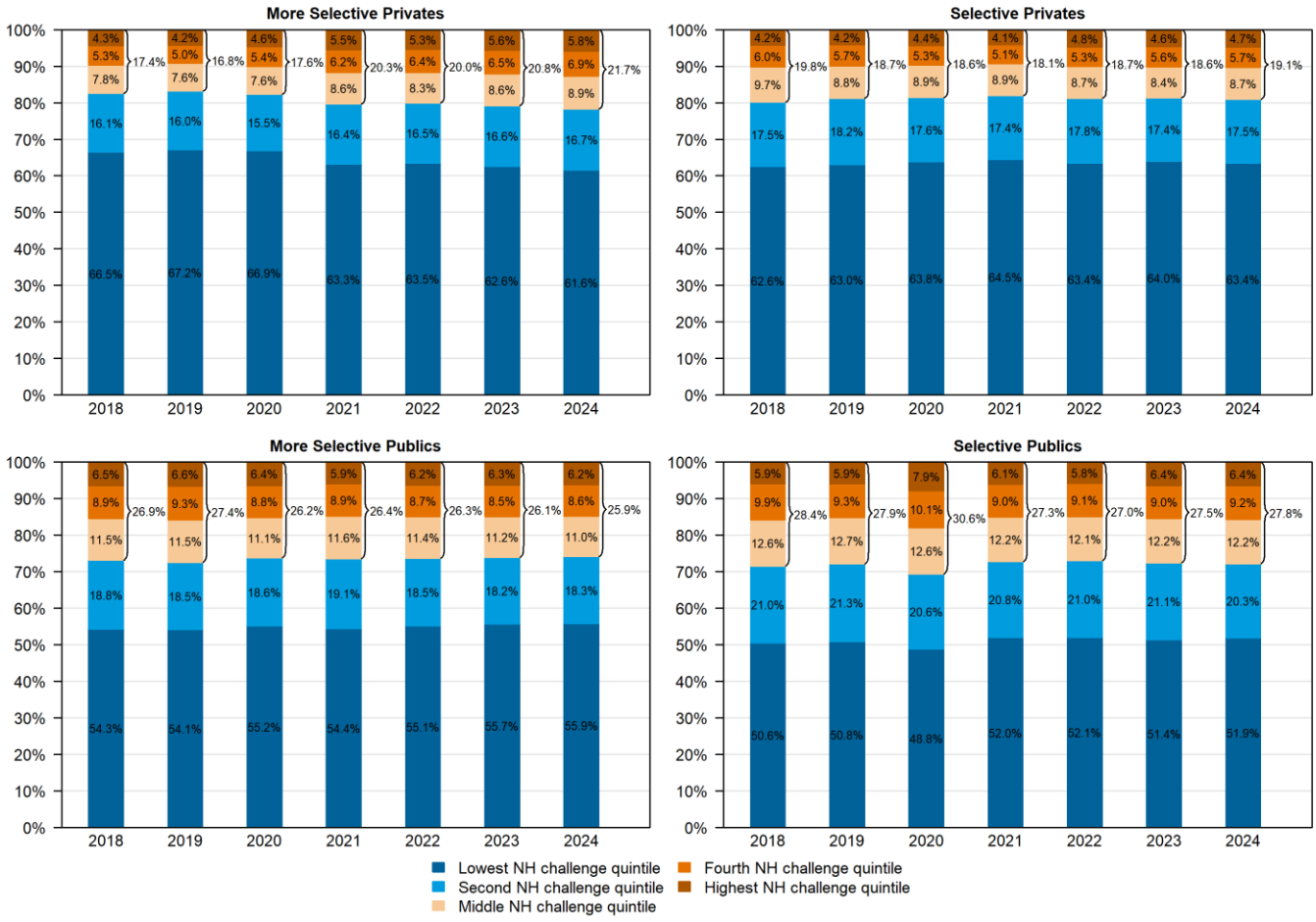
Figure 13 uses the same neighborhood challenge data to show how the socioeconomic composition of ARC colleges' first-year enrollees changed between fall 2018 and fall 2024. Across all ARC colleges, the share of domestic first-year enrollees from neighborhoods in the three highest challenge quintiles is quite stable at 25%, mirroring the pattern observed among applicants.

**Figure 13:** Socioeconomic Composition of Enrolled Students from Fall 2018 to Fall 2024




A more nuanced view emerges when the socioeconomic composition of enrolled students is examined across the four institutional segments in Figure 14. At the More Selective Private colleges, the share of students from higher challenge neighborhoods increases from 17.4% to 21.7% between fall 2018 and fall 2024. By contrast, in the other three institutional segments, the share of enrollees from higher challenge neighborhoods declines slightly over time.

**Figure 14:** Socioeconomic Composition of Enrolled Students from Fall 2018 to Fall 2024, by ARC Segment




# Test Score Choices

## Score Disclosure, Withholding, and Absence

Linking ARC institutions' applicant records to College Board data enables us to distinguish applicants who disclose scores, who withhold SAT scores, and with no recorded SAT score. Specifically, we categorize applicants in test-optional cohorts into three groups:

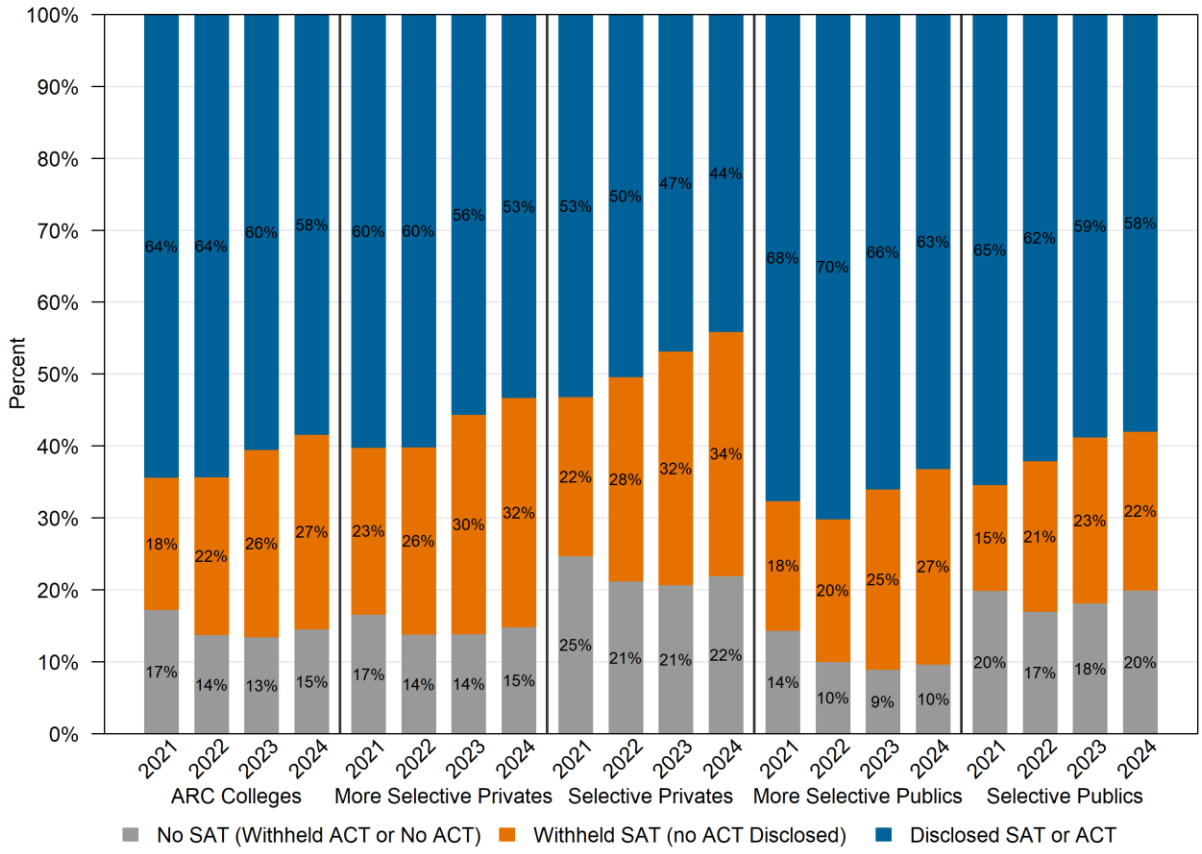
- **Score disclosers** provided an SAT/ACT score for consideration in admissions.
- **Score withholders** had an SAT score and withheld it.
- **No-SAT** applicants had no SAT score and either withheld or had no ACT score.[6]

[6] We cannot distinguish ACT withholders from applicants who had no ACT score. As a result, our count of score withholders is a lower bound on the true number of score withholders; conversely, our count of No-SAT applicants is an upper bound.

No-SAT score applicants and score withholders are indistinguishable to institutions in the sense that neither group presents a test score in their application, but these two groups are distinguishable using College Board data.

Figure 15 shows the distribution of enrolled students by score disclosure status in each college segment and at all ARC institutions, for each cycle from fall 2021 to fall 2024. At all ARC institutions, test score disclosure rates among enrolled students declined from 64% in 2021 to 58% in 2024 and SAT withholding rates increased from 18% in 2021 to 27% in 2024. The share of students in the No-SAT category declined from 17% to 15%. Similar to admitted students, test score disclosure rates are higher among students who enrolled at More Selective ARC institutions relative to Selective Institutions.

**Figure 15:** Score Disclosure, Withholding, and Absence Among Fall 2021 to Fall 2024 Enrolling Students, by ARC Segment



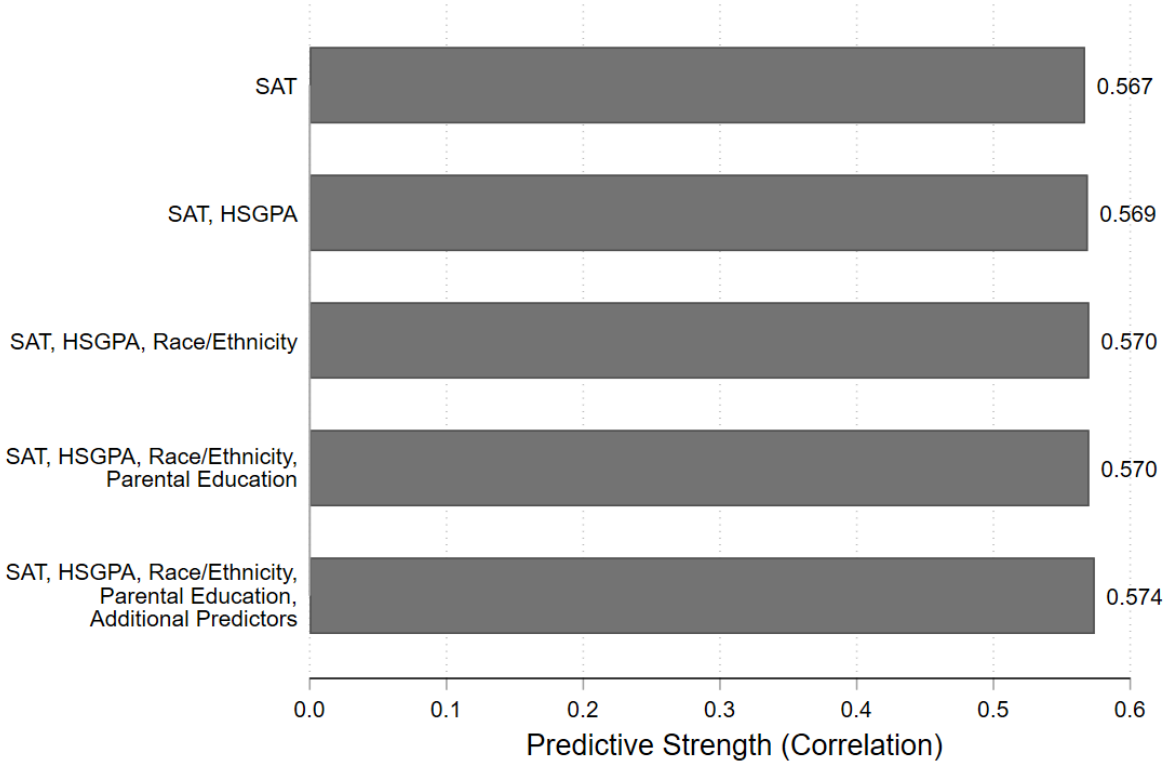

### Score Disclosure Model

In order to understand students' score choices with greater nuance and while holding other factors constant, we examine score disclosure and withholding decisions in a statistical model. Ordinary Least Squares (OLS) regression is the most common statistical method used to understand what factors influence an outcome. We use OLS to explain what drives the variation

in students' score choices and find that SAT score is the strongest predictor of an applicant's decision to disclose their test score. Figure 16 shows the strong correlation between a student's SAT score (relative to the college they are applying to) and the probability of disclosing a test score on their application to an ARC college in the fall 2024 cycle.

Examining combinations of predictors, like SAT score and HSGPA, further reveals that HSGPA adds minimal incremental predictive strength in determining who will disclose a test score. Continuing to add predictors that are student demographic characteristics, like race/ethnicity and parental education, adds minimal to no incremental predictive strength (see Appendix for regression details).[7]

**Figure 16:** Predictors of Test Score Disclosure for Fall 2024

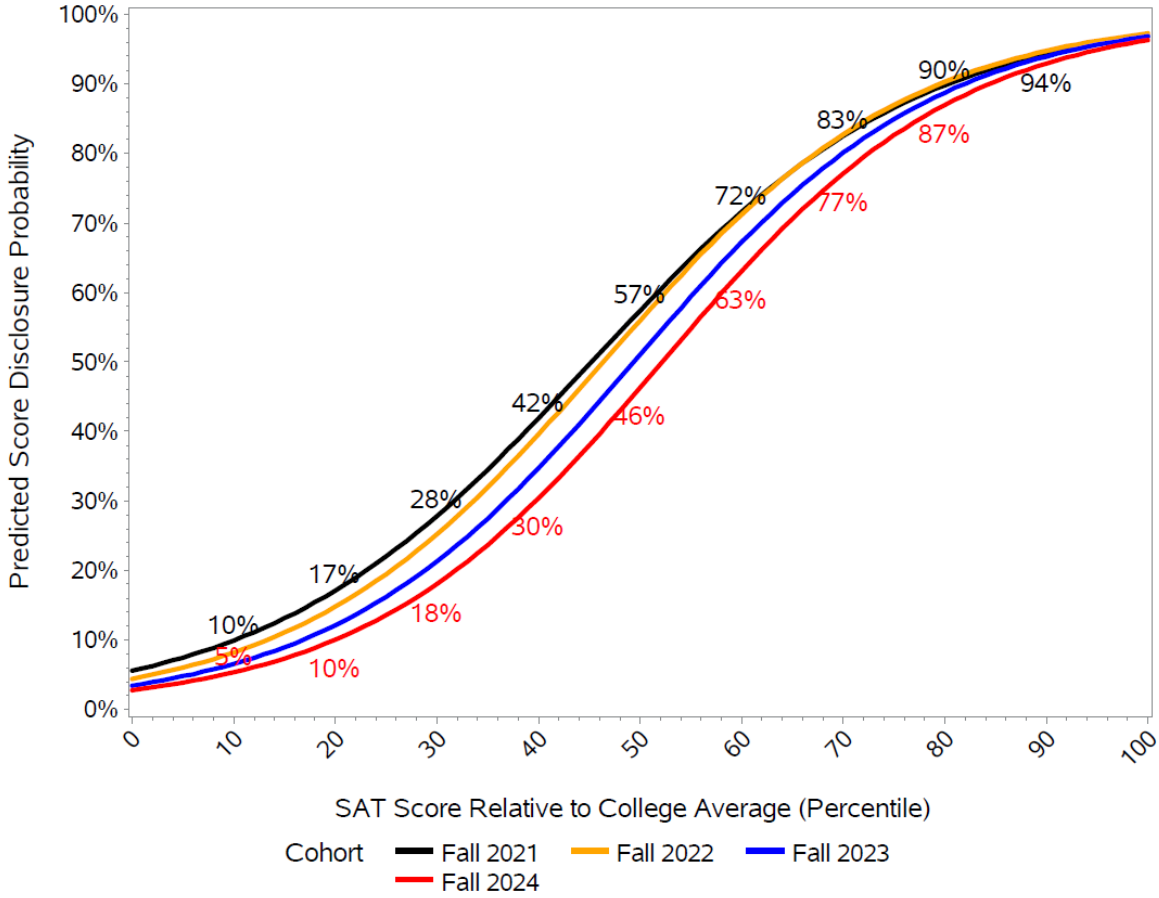



Results from the fully specified OLS model with all predictors are graphically displayed to better understand any differences in score choices over time or across student subgroups. Figure 17 shows predicted probabilities of test score disclosure for applicants with different test scores

[7] The simple (single-variable) correlations with test score disclosure are SAT (0.567), Race/Ethnicity (0.204), HSGPA (0.136), and Parental Education (0.143). SAT enters the model first because it has the strongest simple correlation. Although variables could be added in order of their simple correlative strength, it is common to include all academic achievement variables (e.g., SAT and HSGPA) before adding demographic variables (e.g., Race/Ethnicity and Parental Education) to better understand the predictive strength of including academics and demographics. Results are not sensitive to the order in which variables are added to the model. Additional predictors in the final model include feeder high school status, in-state status, neighborhood and high school challenge, and college-specific indicators.

relative to the college to which they applied, for applicants in the fall 2021 to fall 2024 cohorts.[8] For example, a student with a 30th percentile SAT score relative to the college average has a score that is in the 30th percentile compared to the distribution of applicants' scores at the ARC college to which they applied.[9] The upward slope of the score disclosure probability curves in Figure 17 demonstrates the strong relationship between students' relative test score and the probability of disclosing a test score in all four test-optional cycles. Applicants with relatively low test scores have a low predicted probability of disclosing those scores; applicants with relatively high test scores have a high predicted probability of disclosing those scores, regardless of application cohort.

**Figure 17:** Probability of Test Score Disclosure Among ARC College Applications, Fall 2021 to Fall 2024



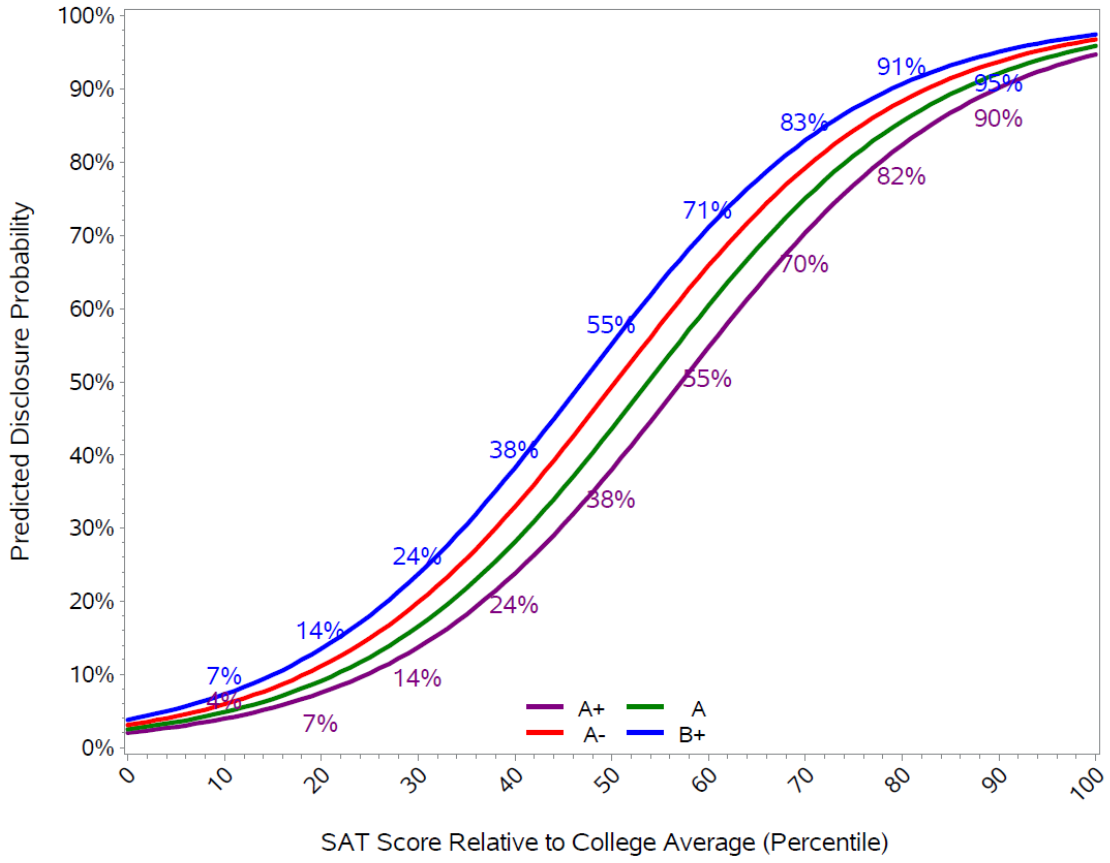

In all four years, students with the lowest test scores have a roughly 5% probability of disclosing scores. By contrast, students with the highest test scores have disclosure probabilities near

[8] Probabilities in Figures 18-22 are based on a logistic regression model that also controls for race, in-state status, first-gen status, feeder school status, HSGPA, neighborhood and high school challenge, and indicators for the sampled colleges. Very similar patterns emerge in un-modeled data on score disclosure at every ARC institution.
[9] The college average SAT score is calculated using data on all SAT and concorded ACT scores from 2018 to 2024 cohorts.

100%. Figure 17 reveals that disclosure probabilities changed the most over time for students with test scores in the middle of the distribution. For example, at the 50th percentile score, the probability of score disclosure decreases from 57% in fall 2021 to 46% in fall 2024, all else constant.

The score choice models are useful for examining differences in score disclosure probabilities for different types of students. Figure 18 reveals differences in predicted score disclosure behavior among applicants with different high school grades for fall 2024. For example, applications from students with high school grades of B+ are more likely to include a disclosed test score compared to applications from students with grades of A+ and A.[10] These differences by HSGPA are starkest in the middle of the test score percentiles. For example, at the 50th SAT score percentile, students with A+ HSGPAs have a 38% probability of score disclosure, compared to otherwise similar B+ students, who have a 55% probability of score disclosure.

**Figure 18:** Probability of Test Score Disclosure Among ARC College Applications for Fall 2024, by HSGPA




[10] High school grades below B+ are not displayed because more than 90% of applications to ARC colleges are from students with HSGPAs of B+ or higher.

Figure 19 shows score disclosure probability curves by parental education for the fall 2024 application cohort. Figure 19 demonstrates that first generation and non-first generation applicants with the same relative test score have virtually identical probabilities of disclosing that score to ARC colleges.

**Figure 19:** Probability of Test Score Disclosure Among ARC College Applications for Fall 2024, by Parental Education

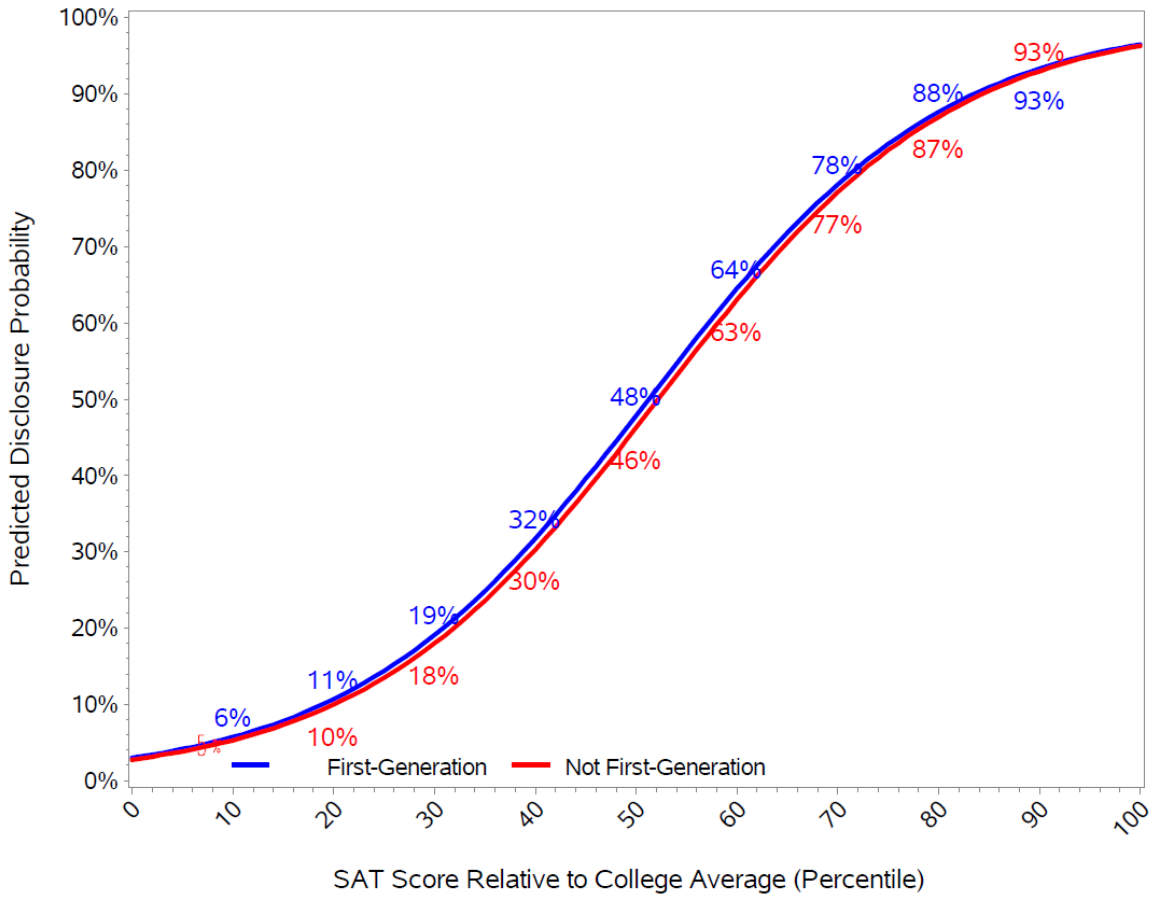



Figure 20 shows score disclosure probability curves by race/ethnicity in the fall 2024 application cohort. It suggests disclosure behavior does not differ substantially among applicants from most racial/ethnic subgroups. For example, among applications with low relative scores (e.g., 20th percentile), all racial/ethnic subgroups share a low probability of disclosing their scores. However, Asian students are somewhat less likely to disclose at all score levels, relative to other racial/ethnic subgroups.

**Figure 20:** Probability of Test Score Disclosure Among ARC College Applications for Fall 2024, by Race/Ethnicity

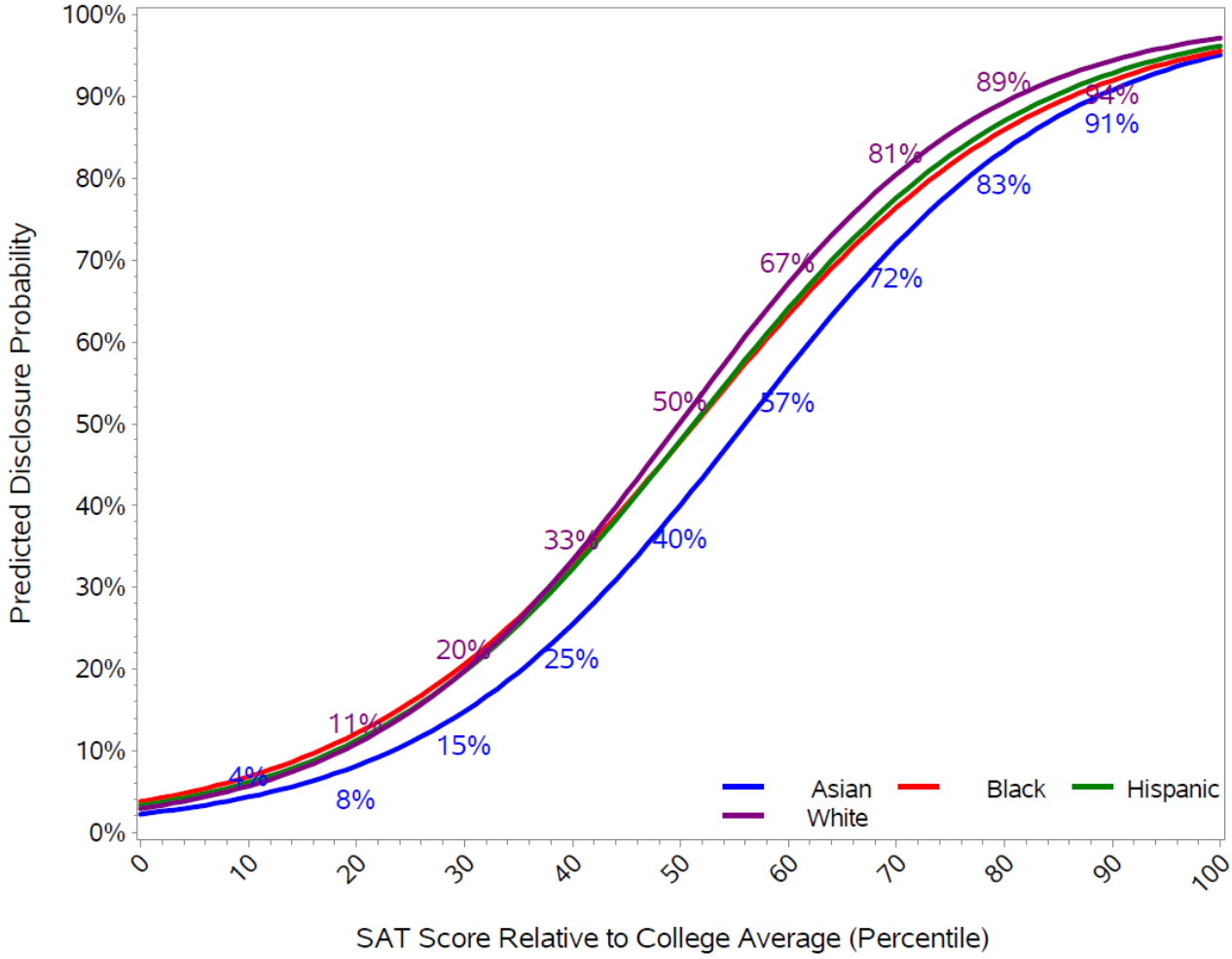
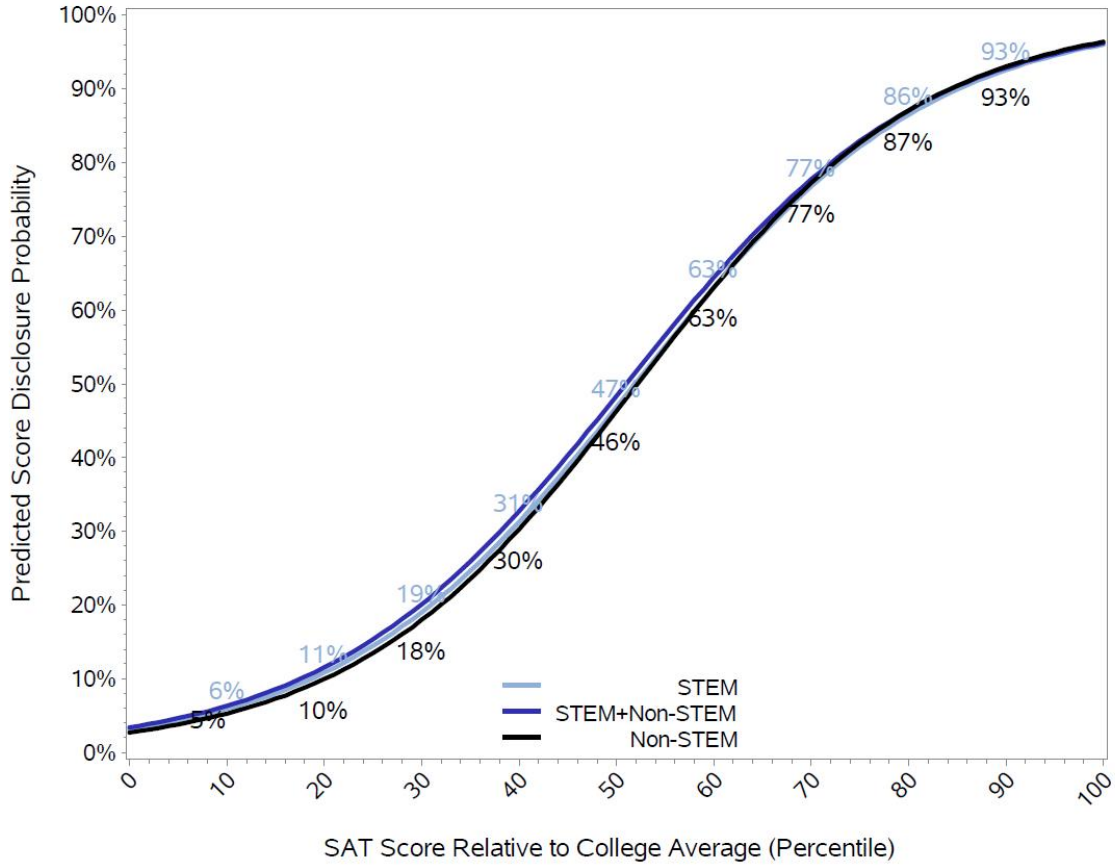



Figure 21 shows score disclosure probability curves by broad college major category (e.g., STEM vs non-STEM) in the fall 2024 application cohort. Whether students intend to major in STEM fields or non-STEM fields, both groups are equally likely to disclose their test scores when all other factors are held constant.[11]

[11] Intended college major data come from the SAT/PSAT Student Data Questionnaire.

**Figure 21:** Probability of Test Score Disclosure Among ARC College Applications for Fall 2024, by College Major




Practically, the logistic regression results presented graphically in Figures 17 to 21 demonstrate that applicants with the same test score and high school grades make very similar score choices when applying to ARC colleges. There are no notable differences in score choice behavior by demographic or academic attributes of applicants. Regression analyses reveal that test score, relative to the distribution of test scores at the college to which students apply, is the strongest determinant of a student's decision to disclose a score.[12,13]

[12] Previously published differences in score disclosure patterns by race, parental education, and income are attributable to differences in academic achievement among score disclosers and withholders, for which prior analyses were unable to control (Freeman et al., 2021).

[13] The relationship between test scores and disclosure probabilities may not be strictly causal. The statistical models control for a host of academic and socio-demographic characteristics that simultaneously impact both SAT scores and score disclosure, however, unobservable characteristics of students may continue to influence the relationships between SAT scores and disclosure. To address this possibility, McManus et al. (2023) harness data from students applying to multiple ARC institutions who disclosed scores in a subset of applications. The within-student statistical models in this research effectively control all observed and unobserved student-level characteristics that are constant across the colleges to which students applied. They find that a 10-percentile increase in college-specific SAT scores increases the probability that a student will disclose scores to that college by approximately 5 percentage points.

# First Year Outcomes

## Pre-Collegiate Academic Achievement Differences

In this section, we motivate the analyses of first-year college outcomes by examining pre-collegiate differences in academic preparation between test score disclosers and non-disclosers. We also examine how pre-collegiate differences in the academic preparation of enrollees at ARC institutions have changed in recent years.

Figure 22 shows that enrolled first-year students in fall 2024 who disclosed test scores are more likely to have higher HSGPAs while scores from non-disclosers are more likely to have lower HSGPAs. This pattern is apparent in all four ARC institutional segments. For example, at the More Selective Private colleges, 43% of score disclosers in fall 2024 have “A+” HSGPAs compared to 34% of withholders. Not surprisingly, HSGPAs are higher among students at More Selective institutions than at Selective institutions.

**Figure 22:** Distribution of High School Grades Among Enrolled First-Year Students at ARC Institutions in Fall 2024, by Score Disclosure Status and ARC Segment

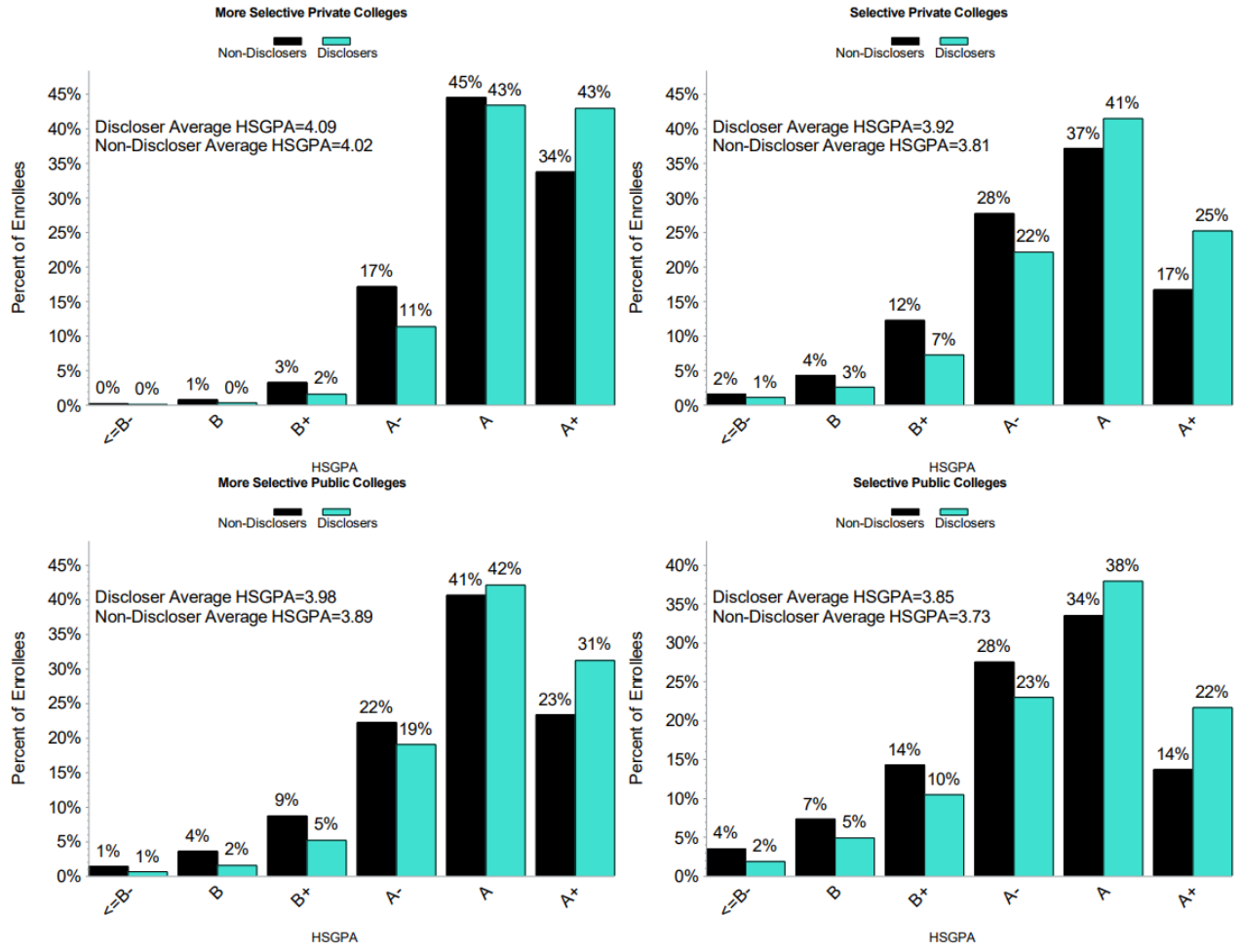
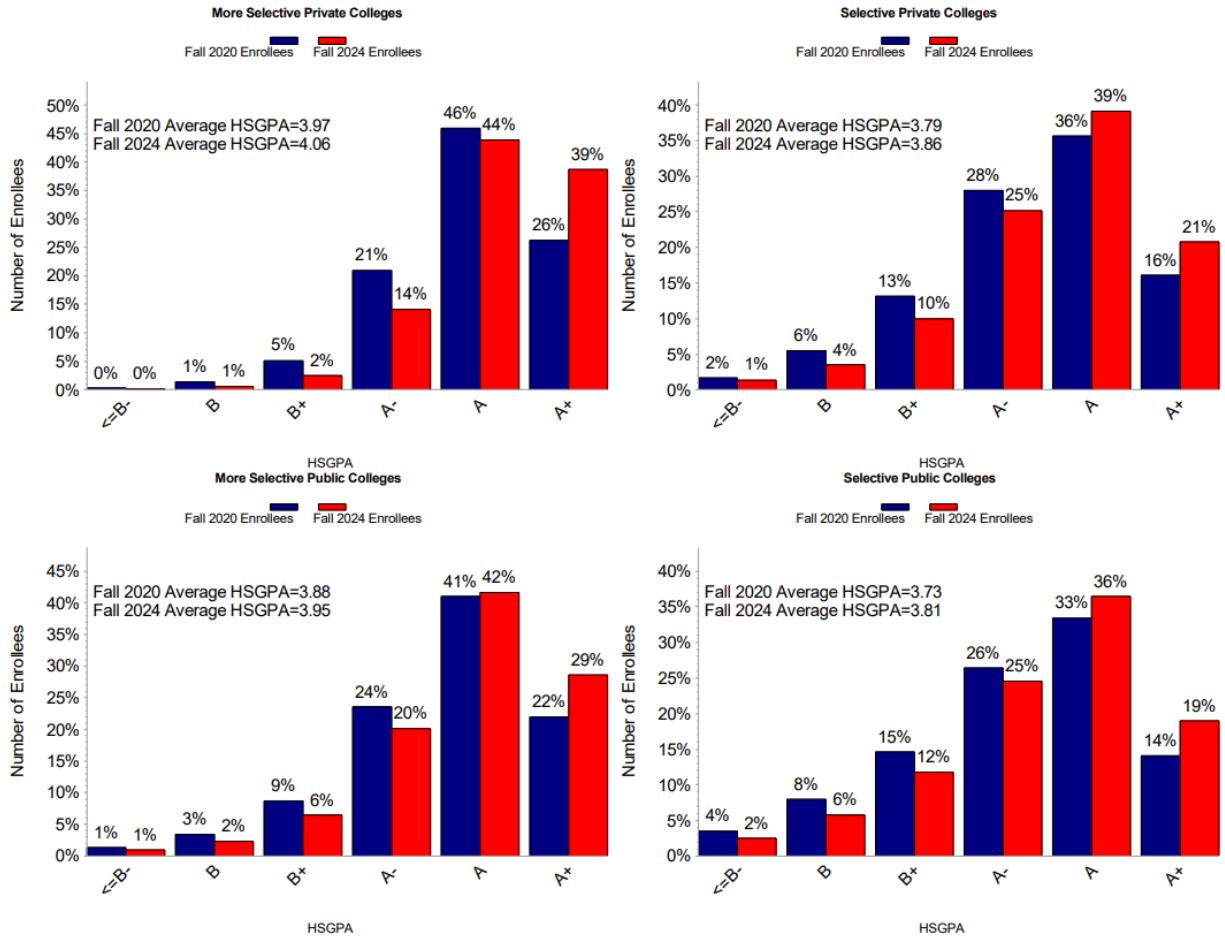


Figure 23 demonstrates how high school grades have increased since the pandemic by comparing the HSGPAs of fall 2024 enrollees with fall 2020 enrollees, the last cohort that applied to college under broad test-required admission policies. High school grades tend to be higher by roughly 0.1 HSGPA points among fall 2024 first-year college students relative to fall 2020 in all institutional segments. In 2024, at least 80% of enrollees had HSGPAs of A- or higher. At More Selective Private colleges, the share of enrollees with “A+” or “A” HSGPAs increased from 72% of first-year enrollees in fall 2020 to 83% in fall 2024. This grade inflation during and after the pandemic is consistent with evidence by Sanchez (2023) and Goldhaber and Young (2023).

**Figure 23:** Distribution of High School Grades Among Enrolled First-Year Students at ARC Institutions in Fall 2024 versus Fall 2020, by ARC Segment




Next, we examine patterns in academic preparation as measured by standardized test scores. Figure 24 shows histograms of SAT scores, separately for score disclosers and withholders, to reveal bimodal distributions in all four segments. In fall 2024, enrolled first-year students who disclosed test scores are more likely to have higher scores, by roughly 200 SAT points, on average, compared to those who withheld scores. This pattern is consistent with prior research (Howell et al., 2022a) and is evident in all four ARC institutional segments.

**Figure 24:** Distribution of SAT Scores Among Enrolled First-Year Students at ARC Institutions in Fall 2024, by Score Disclosure Status and ARC Segment

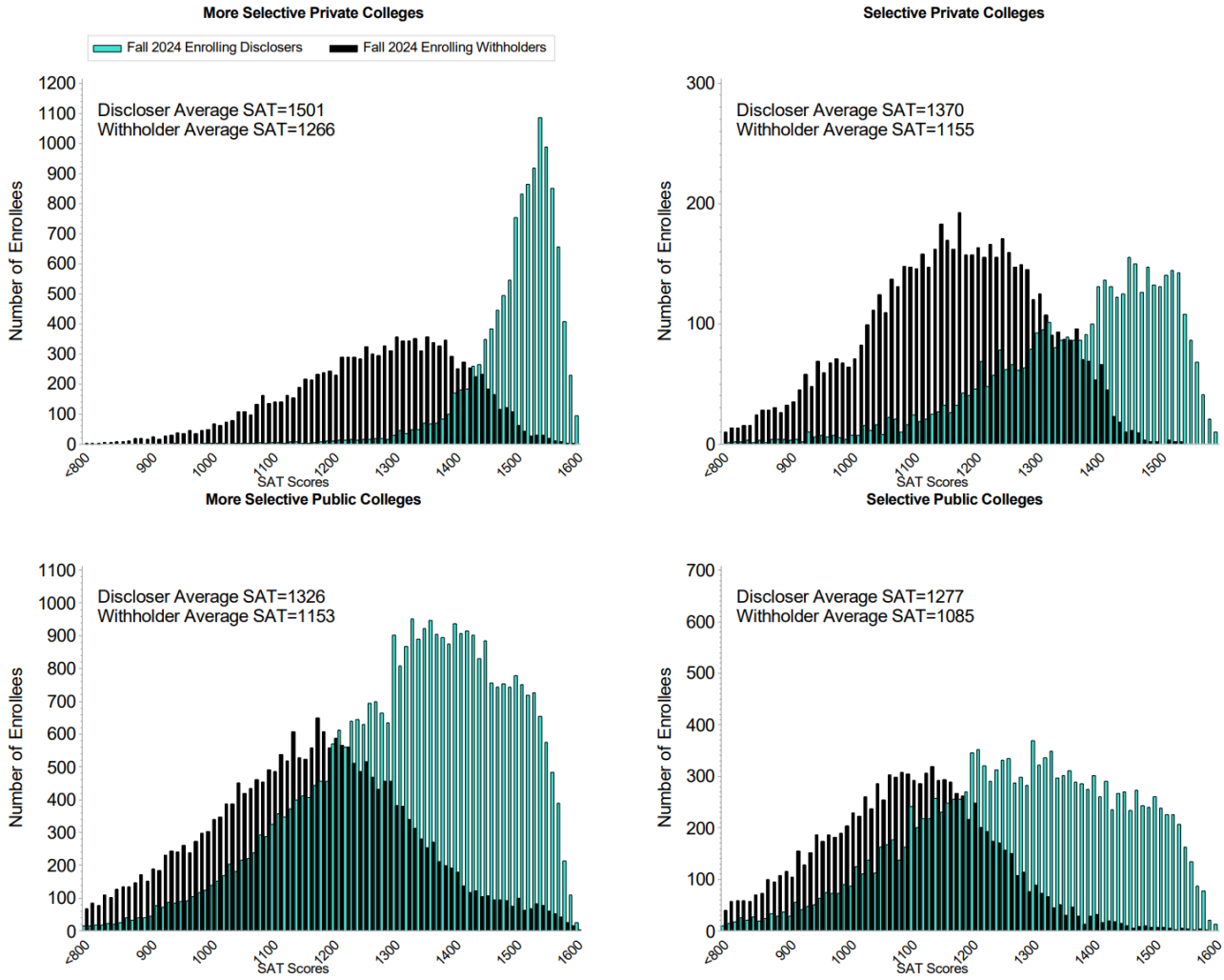
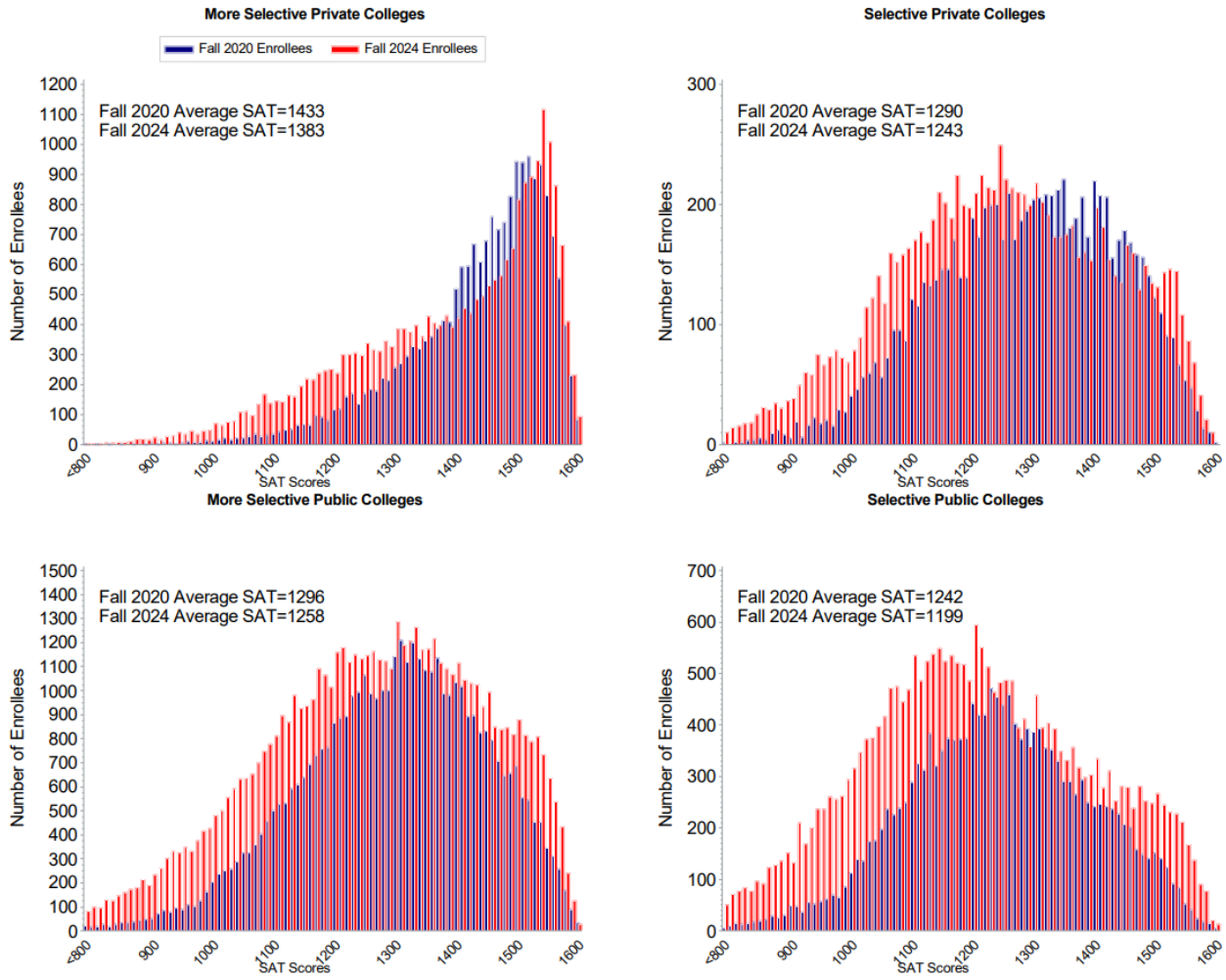



Figure 25 compares the distribution of SAT scores among enrollees in the fall 2024 application cohort relative to the fall 2020 application cohort. Average test scores decline by approximately 45 SAT points in all four segments between fall 2020 and fall 2024, but the distribution of test scores in each segment visibly shifted left in fall 2024 compared to fall 2020, implying an increase in the number of lower-scoring enrollees under widespread test-optional admissions. Relative to the fall 2020 average, ARC institutions experienced an increase of nearly 25,000 below-average scoring enrolled first-year students in fall 2024. This represents a 62% increase in below-average scoring students relative to fall 2020. All four ARC segments experienced an increase in below-average scoring students relative to the segment-specific fall 2020 average SAT scores. These segmental increases in below-average scoring first-year enrollees amount to 47%, 54%, 59% and 85% for More Selective Private, Selective Private, More Selective Public, and Selective Public segments, respectively.

**Figure 25:** Distribution of SAT Scores Among Enrolled First-Year Students at ARC Institutions in Fall 2024 versus Fall 2020, by ARC Segment




Changes in academic preparation conveyed in Figure 23 (HSGPA) and Figure 25 (SAT scores) tell conflicting stories about how the academic preparation of first-year students at consortium institutions changed in the last five years. Average HSGPAs are increasing, while average test scores are decreasing. Although first-year college outcomes should be the arbiter of these conflicting data on preparation, college faculty from over 1,200 postsecondary institutions report incoming college students since the pandemic are academically weaker than in the past and that faculty are reducing course content, providing more scaffolding to students, and reducing their grading rigor in response to this change in academic preparation.[14]

[14] Using a different dataset, other research has similarly demonstrated that HSGPAs (and college GPAs) increased after the pandemic, while standardized measures like test scores decreased (Westrick et al., 2024). More than three-quarters of college faculty report post-pandemic students are less prepared with regard to critical thinking, analysis, and problem-solving skills. Roughly half of faculty report reducing both the rigor of their course and their grading.

## First-Year College Outcomes

Given changes in the academic readiness of enrollees at ARC institutions since the pandemic, first-year college student outcomes may also change over time. We examine first-year GPA (FYGPA), academic risk (defined by earning an FYGPA lower than 3.0), credit accumulation (on a 30-credit scale), and retention to the second year at the same institution. Table 4 provides average values of these four college student outcomes over time for all ARC institutions. For the academic years in which test-optional admissions policies were broadly used to admit students, average outcomes for students who disclosed, withheld, and had no SAT are also provided to elucidate the differences across these groups.

Table 4 shows that average FYGPAs across all ARC institutions initially increased with the start of the pandemic—affecting spring 2020 and the 2020-21 academic year that witnessed either remote or hybrid classes for many institutions—before declining very slightly. Academic risk of earning below a 3.0 FYGPA follows this pattern by initially dropping from 24.3% to 15.2% before increasing to roughly 20%. Credit accumulation and retention rates are quite stable over time, on average. Both credits earned and retention rates were virtually identical between the pre-pandemic 2018-19 entering cohort and the students entering during the 2023-24 academic year. See Appendix Table A4 for segmental views of the average first-year college outcome data in Table 4.[15]

**Table 4:** Average College Outcomes at ARC Institutions, by Academic Year

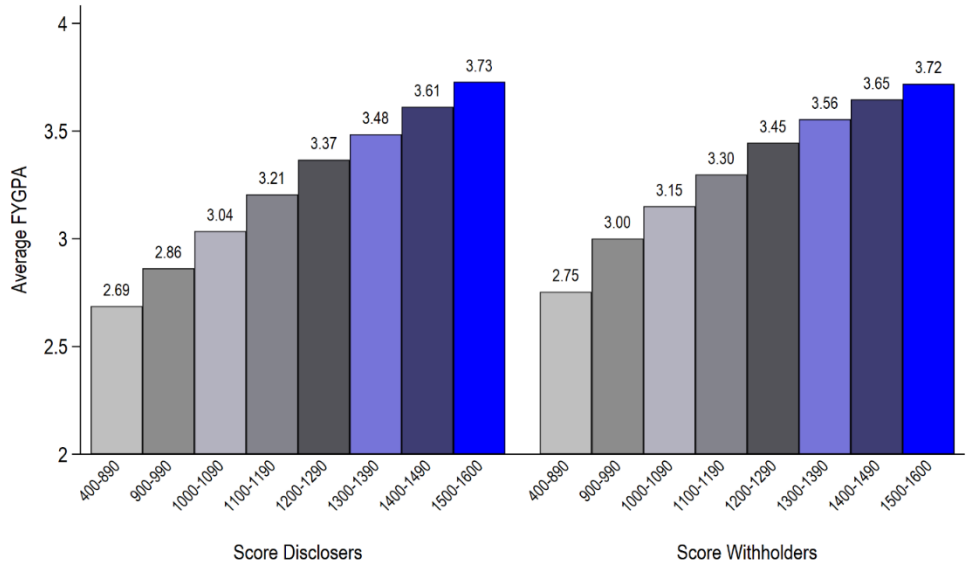
| | % of Enrollees | FYGPA | FYGPA<3.0 | FY Credits (30 Scale) | Retention |
|---|---|---|---|---|---|
| **2018-19 Overall** | | 3.29 | 24.3% | 29.1 | 92.8% |
| **2019-20 Overall** | | 3.44 | 15.2% | 29.1 | 92.2% |
| **2020-21 Overall** | | 3.46 | 15.2% | 28.7 | 92.2% |
| **2021-22 Overall** | | 3.35 | 21.5% | 28.6 | 92.4% |
| Disclosers | 62.2% | 3.40 | 19.4% | 28.7 | 92.4% |
| Withholders | 20.6% | 3.28 | 24.4% | 28.6 | 93.2% |
| No SAT | 17.3% | 3.27 | 25.3% | 28.1 | 90.9% |
| **2022-23 Overall** | | 3.38 | 20.2% | 29.3 | 92.9% |
| Disclosers | 61.3% | 3.45 | 16.8% | 29.5 | 93.5% |
| Withholders | 25.2% | 3.25 | 26.0% | 29.0 | 92.3% |
| No SAT | 13.6% | 3.28 | 24.6% | 29.1 | 91.2% |
| **2023-24 Overall** | | 3.41 | 18.9% | 29.1 | 92.9% |
| Disclosers | 58.6% | 3.48 | 16.0% | 29.3 | 93.5% |
| Withholders | 28.7% | 3.31 | 22.6% | 29.1 | 92.8% |
| No SAT | 12.7% | 3.29 | 24.3% | 28.4 | 90.4% |

[15] Segmental views for all first-year college outcome figures below are available in Appendix Figures A3 through A6.

## First-Year Grades

Figure 26 demonstrates the positive relationship between test scores and average FYGPA. This positive relationship is well-documented in the research (Westrick et al., 2019; Marini, Westrick, & Shaw, 2021; Sanchez, 2024) and holds for both score disclosers (left panel) and withholders (right panel).

**Figure 26:** Average FYGPA by Test Score Band and Disclosure Status, 2023-24




Even among students with the same HSGPA, Figure 27 demonstrates that test scores have a strong positive relationship with FYGPA for both score disclosers and withholders.

**Figure 27:** Average FYGPA by Test Score Band, HSGPA, and Disclosure Status, 2023-24

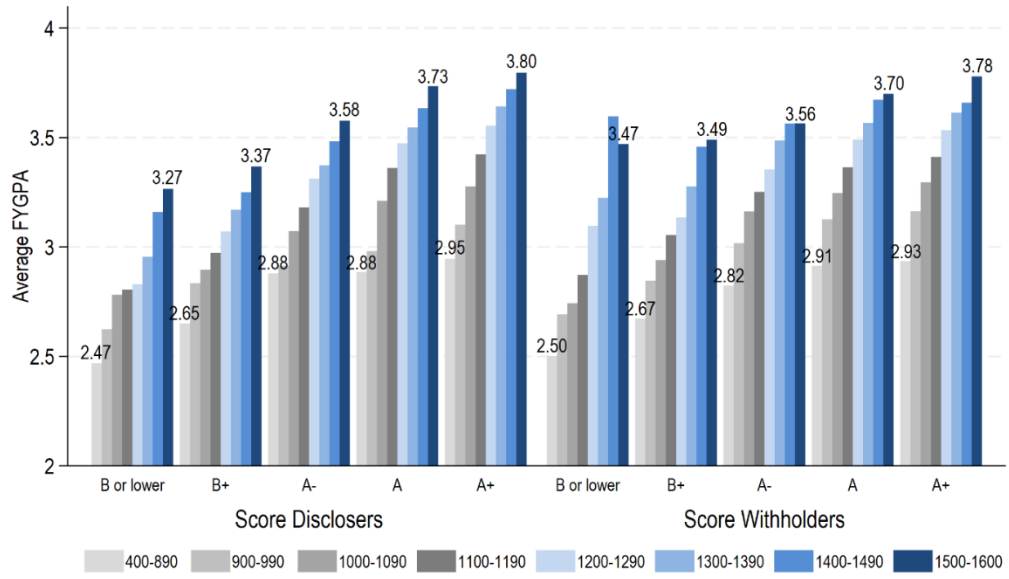
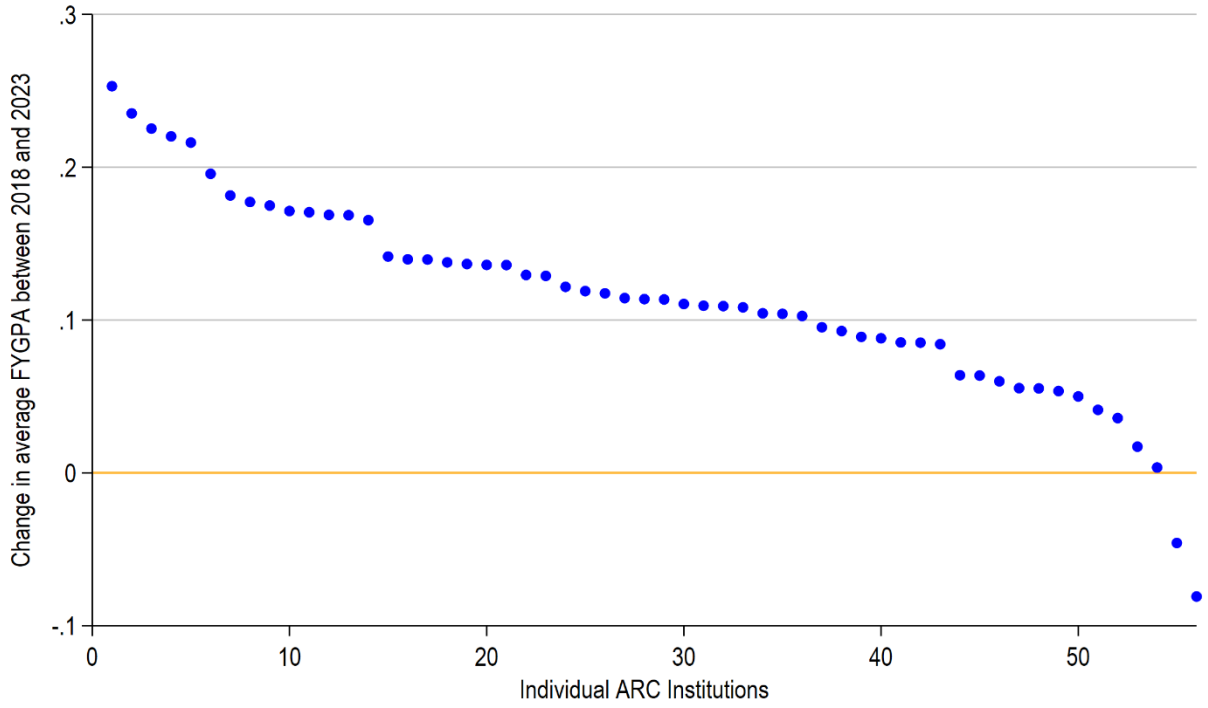


Figure 28 demonstrates how average FYGPA at each ARC institution has changed since the pandemic by comparing average FYGPA in 2023-24 to average FYGPA in 2018-19. Each dot in Figure 28 is an ARC institution. Average FYGPAs have increased at all but two ARC institutions, with the majority of campuses experiencing average FYGPA increases of 0.1 or more FYGPA points.

**Figure 28**: Institution-Specific Changes in Average FYGPA, 2023-24 versus 2018-19




## First-Year Academic Risk

To focus more explicitly on students at risk of lower performance in their first year of college, Figure 29 shows the percentage of first-year students with FYGPAs below 3.0 declines rapidly as test scores increase. This pattern of higher academic risk among those with lower test scores is as strong for score withholders (right panel) as for disclosers (left panel). Westrick et al. (2023) demonstrate that students with FYGPAs below 3.0 are at the greatest risk of earning *cumulative* college GPAs below 3.0, a threshold often required for continuation in some programs, to maintain some scholarships, for graduate school admission, and by corporate recruiters. More than half of the lowest scoring students are at risk of earning a FYGPA below 3.0. While this is true for both score disclosers and withholders, institutions lack visibility into the risk for score withholders and thus have a reduced capacity to predict which students might benefit from academic support in their first year of college. Figure 30 shows that the relationship between test scores and academic risk persists even after controlling for HSGPA.

**Figure 29:** Academic Risk by Test Score Band and Disclosure Status, 2023-24

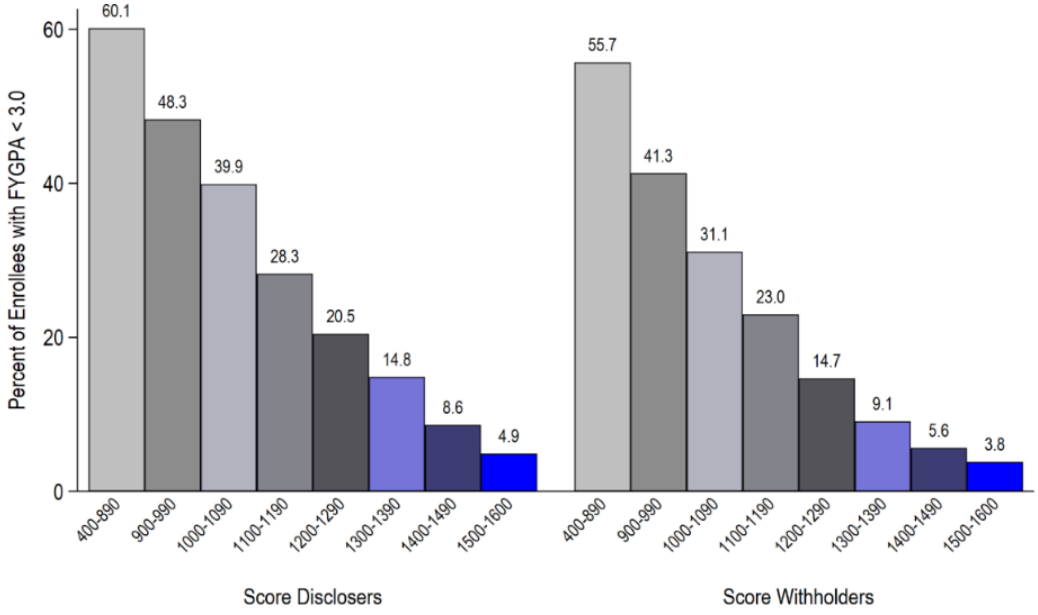



**Figure 30:** Academic Risk by Test Score Band, HSGPA, and Disclosure Status, 2023-24

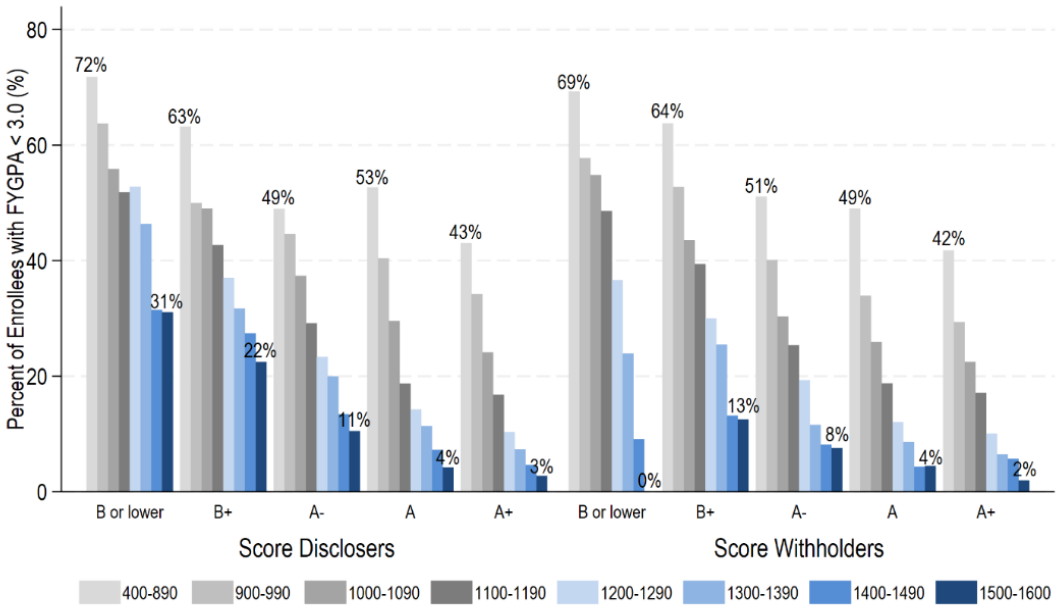
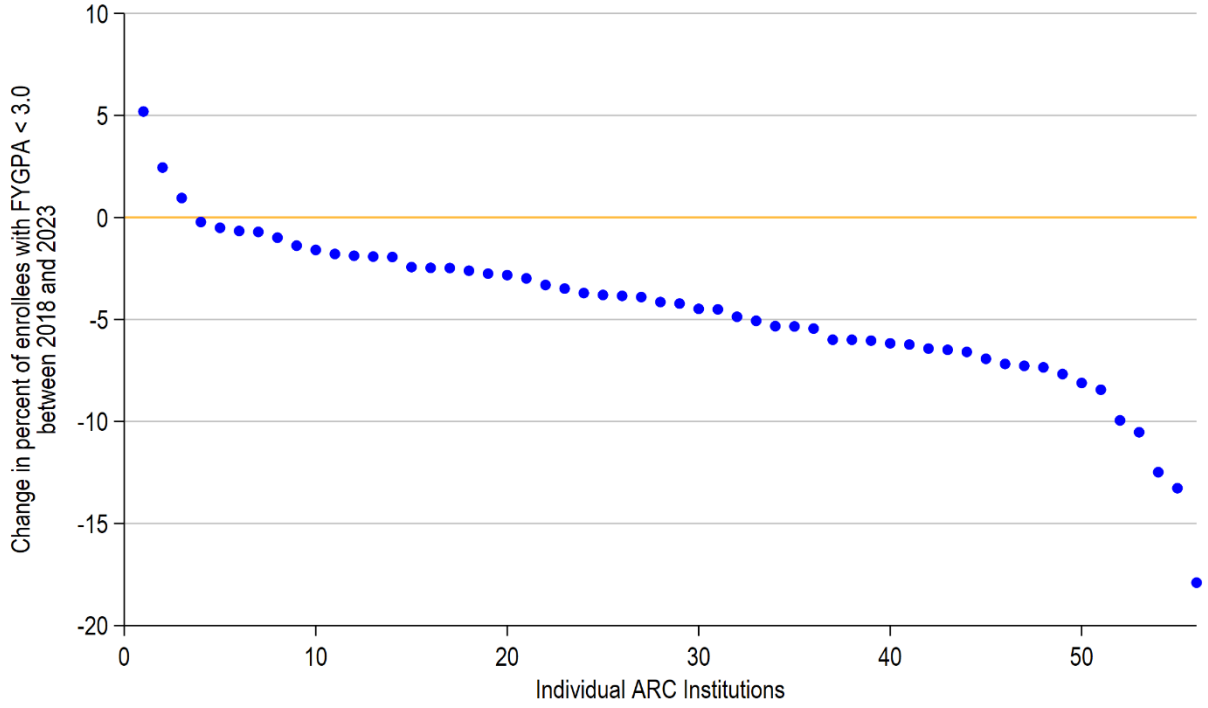


Figure 31 demonstrates how academic risk at each ARC institution has changed since the pandemic by comparing the percentage of enrollees with FYGPAs below 3.0 in 2023-24 to 2018-19. Each dot in Figure 31 is an ARC institution. The percentage of enrollees with FYGPAs below 3.0 has decreased at all but three ARC institutions, with the majority of campuses experiencing decreases in academic risk of 3 percentage points or more. The decrease in academic risk is directly related to higher FYGPAs at nearly every ARC institution.

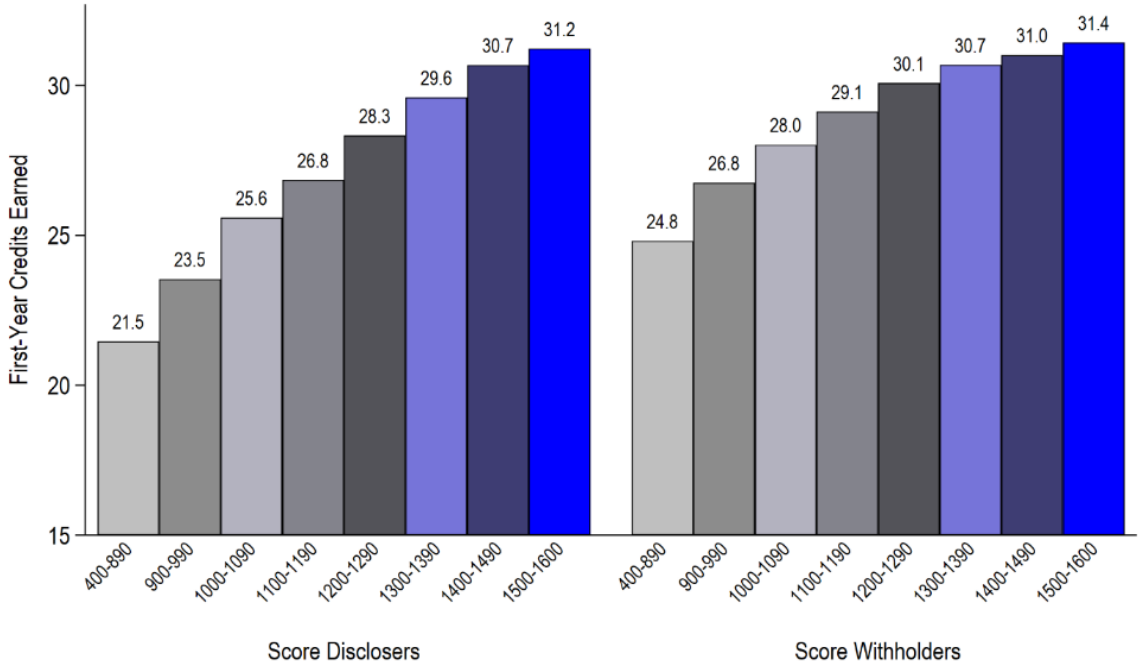
**Figure 31**: Institution-Specific Changes in Academic Risk, 2023-24 versus 2018-19




## First-Year Credit Accumulation

Figure 32 demonstrates the positive relationship between test scores and average credit accumulation in the first year of college. This pattern holds for both score disclosers (left panel) and withholders (right panel). Students with SAT scores below 1200 tend to accumulate fewer than 30 credits per year and are at risk of not graduating in four years. Even among students with the same HSGPA, Figure 33 demonstrates that test scores have a strong positive relationship with first-year credit accumulation for both score disclosers and withholders. Students with the lowest HSGPAs who earn test scores above 1300 have *higher* credit accumulation, on average, than students with the highest HSGPAs and lowest test scores.

**Figure 32:** Average Credits by Test Score Band and Disclosure Status, 2023-24




Note: Credits are normalized to 30 credits per year since many institutions require 120 credits (30 credits per year for four years) to graduate.

**Figure 33:** Average Credits by Test Score Band, HSGPA, and Disclosure Status, 2023-24

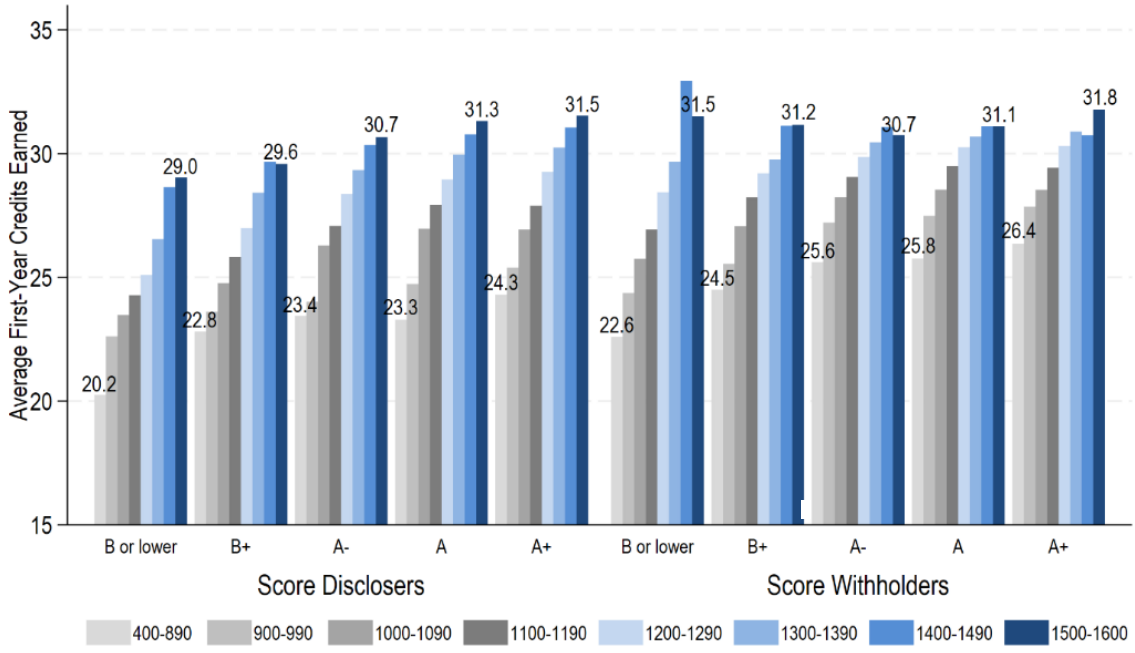
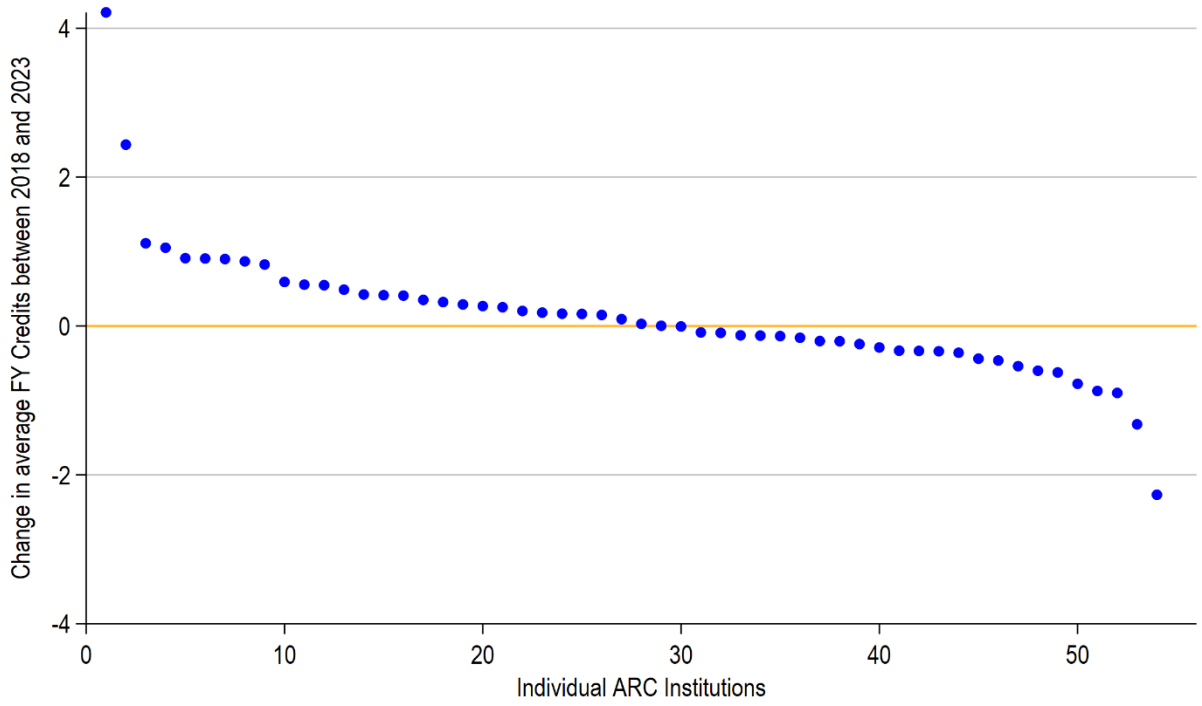


Figure 34 demonstrates how average first-year credit accumulation at each ARC institution has changed since the pandemic by comparing the average first-year credits earned by enrollees in 2023-24 compared to 2018-19. Each dot in Figure 34 is an ARC institution. Average first-year credit accumulation has increased slightly in roughly half of institutions and decreased slightly in half of institutions, with a handful of outliers experiencing more notable changes.

**Figure 34**: Institution-Specific Changes in Average First-Year Credits, 2023-24 versus 2018-19




Note: Credits are normalized to 30 credits per year.

## First-Year Retention

Figure 35 demonstrates the positive relationship between test scores and retention rates into the second year of college. This pattern holds for both score disclosers (left panel) and withholders (right panel). The lowest scoring students have first-year retention rates below 85%, roughly 10 percentage points lower than the retention rates of the highest scoring students.[16] Even among students with the same HSGPA, Figure 36 demonstrates that test scores have a positive relationship with retention for both score disclosers and withholders. Students with the lowest HSGPAs who earn test scores above 1300 have *higher* retention rates, on average, than students with the highest HSGPAs and lowest test scores.

[16] The relationship between test scores and retention is dampened because some high-achieving students are not retained when they transfer to more selective postsecondary institutions.

**Figure 35:** Retention by Test Score Band and Disclosure Status, 2023-24

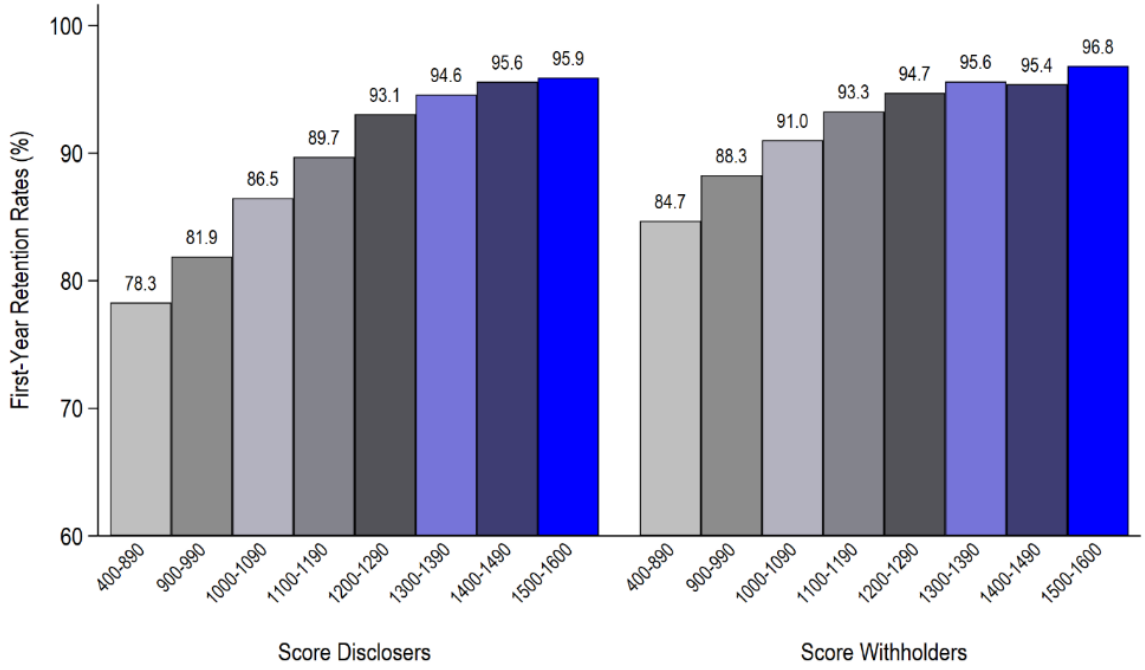



**Figure 36:** Retention by Test Score Band, HSGPA, and Disclosure Status (2023-24)

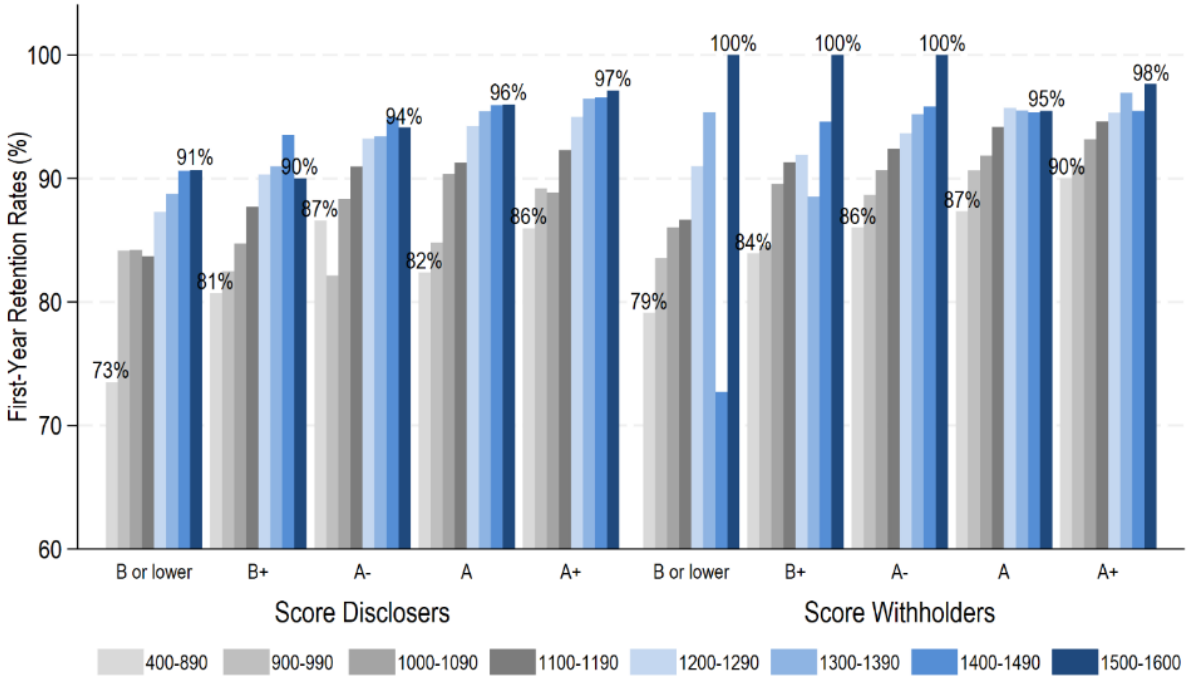
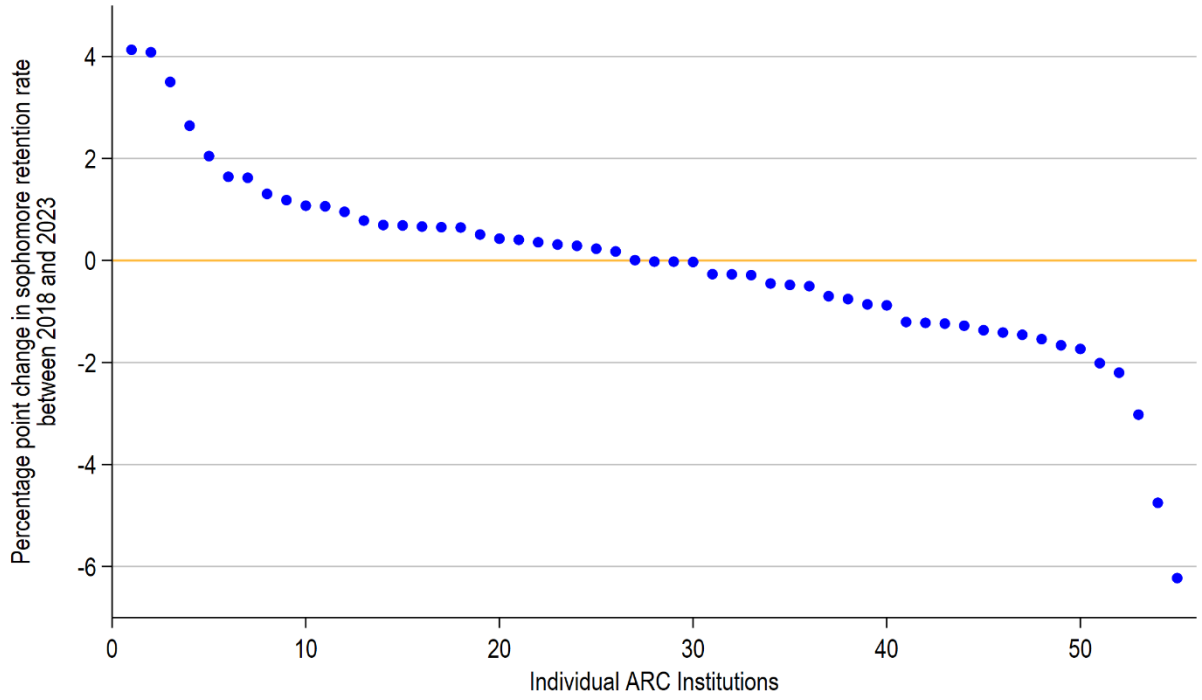


Figure 37 demonstrates how retention rates into the second year at each ARC institution have changed since the pandemic by comparing retention rates into the second year among 2023-24 enrollees to 2018-19 enrollees. Each dot in Figure 37 is an ARC institution. Average retention rates increased at roughly half of institutions and decreased in half of institutions since before the pandemic, with two notable outliers experiencing decreases in retention rates of 5 percentage points or more.

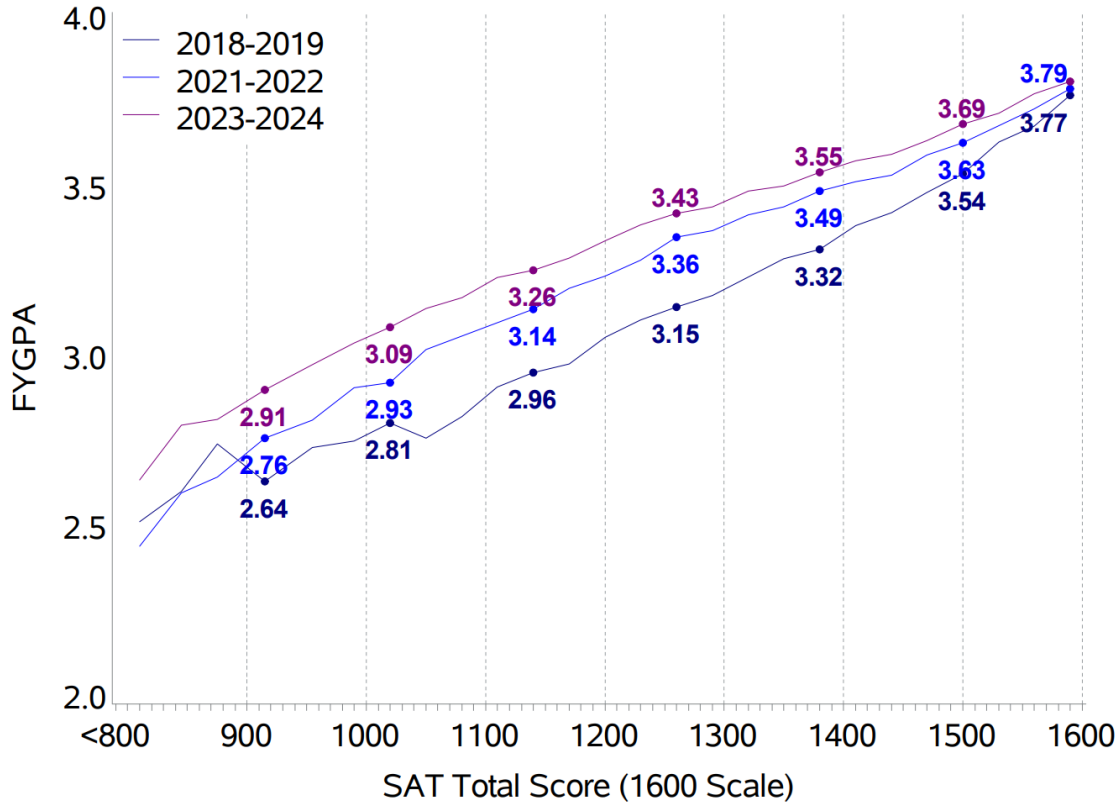
**Figure 37**: Institution-Specific Changes in Retention Rates, 2023-24 versus 2018-19




## Discussion of College Outcomes

Data on the academic preparation of students after the pandemic suggests readiness has either increased (according to HSGPA) or decreased (according to test scores). Figure 28, which shows nearly every ARC institution experienced *increases* in FYGPA between the 2018-19 and 2023-24 academic years, suggests that we ought to believe the favorable readiness signal of HSGPA. However, we do not see evidence of similar widespread improvements in credit accumulation or retention (in Figures 34 and 37, respectively) at ARC institutions over this same time period. This evidence suggests that college grades may be similarly inflated to high school grades. Figure 38 examines this question explicitly by showing average FYGPAs changes over time for students with the same SAT score. Figure 38 clearly demonstrates that students enrolled at ARC institutions post-pandemic earned demonstrably higher average FYGPAs than their pre-pandemic peers with the same SAT scores. This evidence of college grade inflation since the pandemic is evident in all institutional segments (see Appendix Figure A1).

**Figure 38**: Average FYGPA at ARC Institutions by SAT Score Over Time



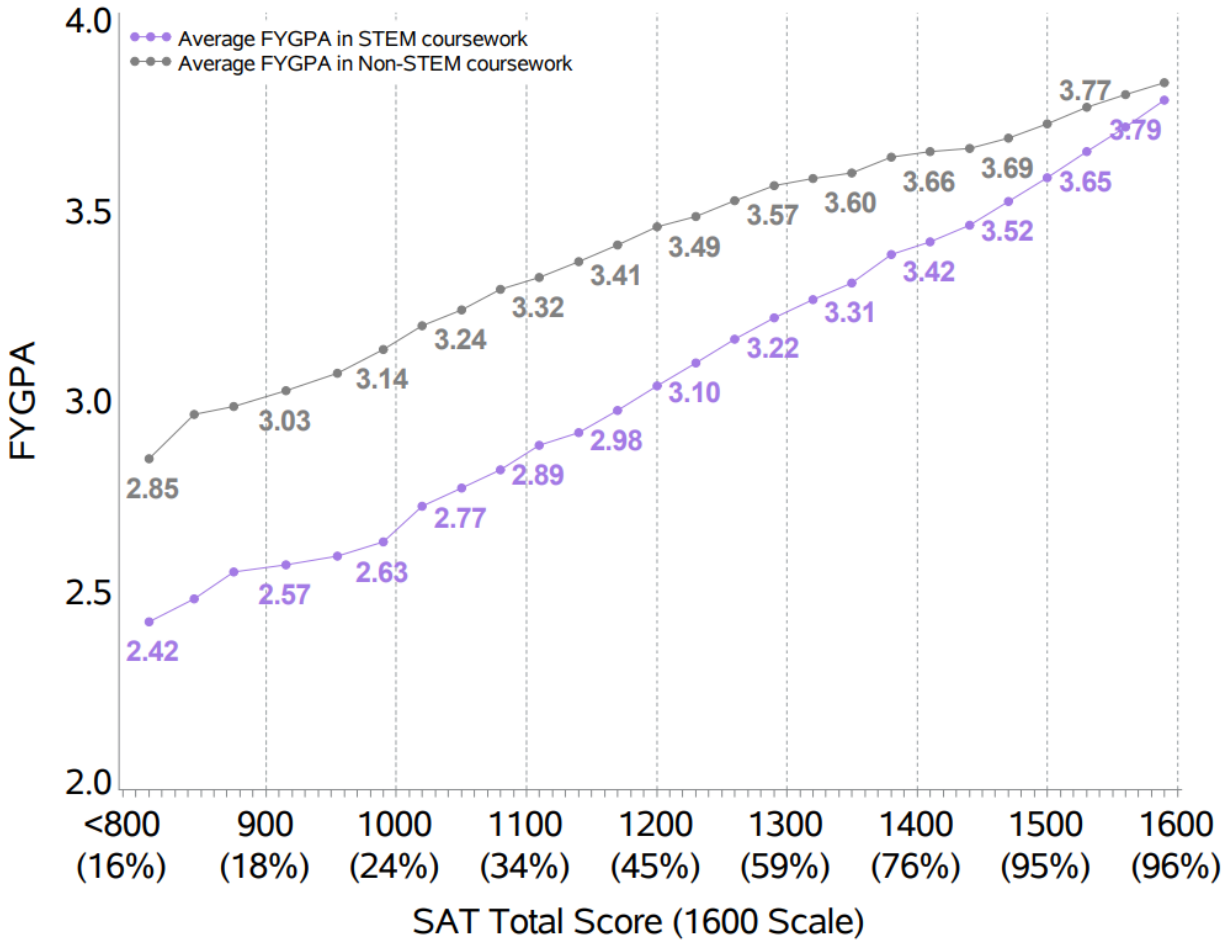

## Outcomes in STEM and Non-STEM College Coursework

The higher first-year college grades shown above result in minimal concerns about negative effects of the pandemic on college performance. In the 2023-24 academic year, 81.3% of first-year students at ARC institutions earned FYGPAs above 3.0, which is hardly a cause for alarm, particularly because that percentage is even higher than in 2018-19 (74.7%). Yet, faculty in some disciplines have been more vocal about reduced college readiness and first-year success, and in some rare cases have established policies to combat grade inflation (Butcher, McEwan, and Weerapana, 2014; Tillinghast et al., 2023; Kuperman et al., 2025). Many of those voices come from STEM classrooms, so first-year college performance changes may be better understood through the more nuanced lens of different types of college coursework.

Figure 39 shows the average FYGPA in STEM and non-STEM coursework by SAT score, regardless of student major, for first-year students admitted under test-optional policies. Performance in both STEM and non-STEM college courses is positively related to SAT scores. The visibly higher non-STEM course FYGPAs suggest that STEM course grading practices are more stringent and/or STEM course content is more difficult compared to non-STEM course content (Tomkin and West, 2022). On average, first-year performance in STEM courses yields FYGPAs below 3.0 for students with SAT scores below 1200. By contrast, all but the lowest SAT scoring students earn FYGPAs above 3.0 in non-STEM coursework.

Figure 39 also reveals a steeper positive relationship between STEM course performance and SAT scores than for non-STEM coursework. The steepness of the STEM line means that academic risk increases more rapidly as SAT scores fall for students in STEM college coursework. Despite this increased risk, institutions have less visibility into academic risk of students in STEM coursework because score disclosure rates fall with SAT scores. For example, roughly one-quarter of students with SAT scores of 1000 disclose those scores, which would have signaled a 2.63 FYGPA in STEM courses and a 3.14 FYGPA in non-STEM coursework. The strength of these results is driven primarily by the strength of the relationship between SAT Math scores and STEM outcomes, which is shown in Appendix Figure A2 (Westrick, Marini, and Shaw, 2021).

**Figure 39:** Average FYGPA in STEM and Non-STEM College Coursework in Post-Pandemic Cohorts, by SAT Score




Note: Data represent three cohorts of students who first entered ARC institutions in the fall of 2021, 2022, and 2023.

## Conclusion

This research provides the most extensive evidence to date on how selective colleges have adapted to and been shaped by two major recent shifts in admissions policy—widespread test-optional policies beginning after the pandemic and the advent of widespread race-neutral admissions following summer 2023 Supreme Court rulings. Across more than 60 institutions participating in the Admissions Research Consortium, findings reveal substantial growth in applications to consortium institutions with notable increases in admissions offers and enrollments at all but the More Selective Private institutions.

Our analyses show that the demographic composition of consortium members' student bodies has changed minimally. Test-optional policies are associated with modest gains in underrepresented minority (URM) student enrollment at More Selective Private colleges in fall 2021, but race-neutral policies effective for fall 2024 partially reversed these gains. Overall, the socioeconomic composition of enrolled students remains unchanged over time.

Student SAT scores, relative to other applicants at the same institution, remain the primary driver of test score disclosure and withholding choices. Other student-level characteristics like race/ethnicity, parental education, or college major are relatively unimportant in explaining students' score choices. SAT scores, whether disclosed or withheld, remain highly predictive of student outcomes, like first-year GPA (FYGPA), credit accumulation, and retention. Such relationships persist after controlling for high school GPA. This connection between test scores and first-year outcomes is especially pronounced in STEM coursework, in which students with lower test scores face higher risks of performing poorly. These same lower scoring students are also less visible to the institutions because of their tendency to withhold scores.

While average FYGPAs have risen across ARC institutions, this growth in performance likely reflects college grade inflation rather than improvements in academic preparedness. Among students with the same SAT scores, FYGPAs have increased by as much as 0.30 GPA points, relative to pre-pandemic FYGPAs. By contrast, first-year credits earned and retention have remained flat since the pandemic, despite declines in entering student academic preparation. College faculty have voiced concerns over declines in students' academic preparation and are reporting adjustments in course structure, content, and grading in response to declines in student preparation. Future research will examine retention to third and fourth year of college as well as bachelor's degree completion.

# Appendix

Table A1 compares ARC institutions to other four-year non-ARC institutions in the same segment for sample 1 (e.g., the application/admissions/enrollment sample). Table A2 makes the same comparisons between ARC and non-ARC institutions in sample 2 (e.g., the first-year college outcomes sample).

**Table A1:** Attributes of ARC and Non-ARC Institutions by Segment, Sample 1

| | More Selective Private Colleges | | Selective Private Colleges | | More Selective Public Colleges | | Selective Public Coleges | |
|---|---|---|---|---|---|---|---|---|
| | ARC | Non-ARC | ARC | Non-ARC | ARC | Non-ARC | ARC | Non-ARC |
| Number of Institutions | 24 | 52 | 18 | 1,015 | 13 | 73 | 8 | 450 |
| First-Year Enrollment | 1,496 | 799 | 1,049 | 387 | 6,279 | 2,784 | 6,115 | 1,709 |
| Admit Rate | 11% | 13% | 45% | 74% | 46% | 43% | 70% | 85% |
| Yield Rate | 49% | 55% | 22% | 32% | 28% | 33% | 22% | 25% |
| First-Year Pell Share | 17% | 18% | 15% | 38% | 24% | 44% | 20% | 41% |
| Percent In-State | 18% | 23% | 35% | 60% | 79% | 74% | 46% | 81% |
| Tuition and Fees | $64,948 | $51,829 | $58,018 | $32,642 | $12,940 | $10,035 | $13,001 | $10,462 |
| Graduation Rate | 93% | 88% | 84% | 56% | 83% | 65% | 74% | 51% |
| **First-Year Racial/Ethnic Composition** | | | | | | | | |
| Native American | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 1% |
| Asian American | 18% | 14% | 8% | 3% | 18% | 11% | 6% | 5% |
| Black/African American | 7% | 9% | 4% | 12% | 8% | 18% | 8% | 15% |
| Hispanic | 13% | 11% | 14% | 16% | 17% | 25% | 11% | 18% |
| Native Hawaiian | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| White | 40% | 41% | 59% | 55% | 44% | 35% | 66% | 51% |
| Two Or More Races | 7% | 7% | 6% | 4% | 5% | 4% | 5% | 5% |
| Unknown | 2% | 4% | 1% | 4% | 2% | 2% | 1% | 3% |
| International | 13% | 13% | 8% | 5% | 5% | 4% | 2% | 2% |

**Table A2:** Attributes of ARC and Non-ARC Institutions by Segment, Sample 2

| | More Selective Private Colleges | | Selective Private Colleges | | More Selective Public Colleges | | Selective Public Colleges | |
|---|---|---|---|---|---|---|---|---|
| | ARC | Non-ARC | ARC | Non-ARC | ARC | Non-ARC | ARC | Non-ARC |
| Number of Institutions | 23 | 53 | 16 | 1,017 | 9 | 77 | 8 | 450 |
| First-Year Enrollment | 1,531 | 797 | 1,237 | 385 | 5,596 | 3,046 | 5,995 | 1,711 |
| Admit Rate | 11% | 13% | 42% | 74% | 47% | 43% | 67% | 85% |
| Yield Rate | 48% | 56% | 22% | 32% | 26% | 33% | 23% | 25% |
| First-Year Pell Share | 17% | 18% | 14% | 38% | 24% | 43% | 21% | 41% |
| Percent In-State | 18% | 23% | 34% | 60% | 77% | 74% | 51% | 81% |
| Tuition and Fees | $64,891 | $52,101 | $58,553 | $32,684 | $13,047 | $10,181 | $13,453 | $10,453 |
| Graduation Rate | 93% | 88% | 85% | 56% | 82% | 66% | 76% | 51% |
| **First-Year Racial/Ethnic Composition** | | | | | | | | |
| Native American | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 1% |
| Asian American | 18% | 14% | 8% | 3% | 20% | 11% | 10% | 5% |
| Black/African American | 7% | 9% | 4% | 12% | 9% | 18% | 8% | 15% |
| Hispanic | 13% | 11% | 13% | 16% | 14% | 25% | 9% | 18% |
| Native Hawaiian | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| White | 40% | 41% | 59% | 55% | 44% | 35% | 63% | 51% |
| Two Or More Races | 7% | 7% | 5% | 4% | 5% | 4% | 5% | 5% |
| Unknown | 2% | 4% | 1% | 4% | 3% | 2% | 2% | 3% |
| International | 13% | 13% | 8% | 5% | 5% | 4% | 3% | 2% |

**Table A3**: Average First-Year College Outcomes by Score Disclosure, Withholding and Absence

| | SAT/ACT Disclosers | SAT Withholders | No SAT |
|---|---|---|---|
| **Average FYGPA** | | | |
| All ARC Institutions | 3.48 | 3.31 | 3.29 |
| More Selective Privates | 3.68 | 3.46 | 3.45 |
| More Selective Publics | 3.50 | 3.25 | 3.27 |
| Selective Privates | 3.54 | 3.35 | 3.32 |
| Selective Publics | 3.32 | 3.22 | 3.08 |
| **Percent with FYGPA<3.0** | | | |
| All ARC Institutions | 16.0% | 22.6% | 24.3% |
| More Selective Privates | 5.5% | 13.8% | 15.3% |
| More Selective Publics | 14.2% | 26.0% | 25.4% |
| Selective Privates | 12.2% | 20.4% | 22.9% |
| Selective Publics | 24.9% | 28.4% | 35.5% |
| **Average FY Credits** | | | |
| All ARC Institutions | 29.3 | 29.1 | 28.4 |
| More Selective Privates | 31.2 | 30.5 | 30.3 |
| More Selective Publics | 28.9 | 28.2 | 27.7 |
| Selective Privates | 30.4 | 29.3 | 28.8 |
| Selective Publics | 28.2 | 28.6 | 26.8 |
| **Average FY Retention** | | | |
| All ARC Institutions | 93.5% | 92.8% | 90.4% |
| More Selective Privates | 96.4% | 96.2% | 95.0% |
| More Selective Publics | 94.3% | 92.3% | 90.5% |
| Selective Privates | 93.2% | 91.4% | 89.9% |
| Selective Publics | 91.0% | 90.6% | 83.0% |

## **Table A4:** Average First-Year College Outcomes, by Academic Year and ARC Segment

| | More Selective Private | | | | | Selective Private | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % of enrollees | FYGPA | FYGPA<3.0 | FY Credits (30 Scale) | Retention | % of enrollees | FYGPA | FYGPA<3.0 | FY Credits (30 Scale) | Retention |
| **2018-19 Overall** | | 3.45 | 14.0% | 30.8 | 96.0% | | 3.36 | 20.1% | 29.7 | 92.3% |
| **2019-20 Overall** | | 3.57 | 7.9% | 30.9 | 93.5% | | 3.47 | 13.4% | 29.8 | 90.7% |
| **2020-21 Overall** | | 3.60 | 7.6% | 30.6 | 95.3% | | 3.41 | 17.2% | 29.2 | 91.4% |
| **2021-22 Overall** | | 3.53 | 11.3% | 30.4 | 95.9% | | 3.39 | 19.0% | 29.2 | 91.4% |
| Disclosers | 54.5% | 3.63 | 7.0% | 30.7 | 96.2% | 56.1% | 3.47 | 15.3% | 29.7 | 92.2% |
| Withholders | 26.6% | 3.42 | 16.3% | 30.1 | 96.3% | 21.4% | 3.29 | 23.4% | 28.7 | 90.9% |
| No SAT | 18.9% | 3.42 | 16.6% | 29.8 | 94.6% | 22.5% | 3.28 | 24.3% | 28.5 | 89.9% |
| **2022-23 Overall** | | 3.54 | 10.9% | 32.6 | 96.0% | | 3.42 | 17.1% | 29.7 | 91.8% |
| Disclosers | 55.2% | 3.65 | 6.5% | 32.8 | 96.2% | 53.7% | 3.52 | 12.5% | 30.2 | 92.5% |
| Withholders | 28.6% | 3.40 | 16.8% | 32.0 | 95.8% | 27.7% | 3.30 | 23.1% | 29.2 | 91.4% |
| No SAT | 16.3% | 3.44 | 15.5% | 32.8 | 95.9% | 18.6% | 3.32 | 21.5% | 29.1 | 90.3% |
| **2023-24 Overall** | | 3.58 | 9.7% | 30.8 | 96.1% | | 3.44 | 16.7% | 29.7 | 92.1% |
| Disclosers | 52.3% | 3.68 | 5.5% | 31.2 | 96.4% | 50.8% | 3.54 | 12.2% | 30.4 | 93.2% |
| Withholders | 32.4% | 3.46 | 13.8% | 30.5 | 96.2% | 31.4% | 3.35 | 20.4% | 29.3 | 91.4% |
| No SAT | 15.3% | 3.45 | 15.3% | 30.3 | 95.0% | 17.8% | 3.32 | 22.9% | 28.8 | 89.9% |

| | More Selective Public | | | | | Selective Public | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | % of enrollees | FYGPA | FYGPA<3.0 | FY Credits (30 Scale) | Retention | % of enrollees | FYGPA | FYGPA<3.0 | FY Credits (30 Scale) | Retention |
| **2018-19 Overall** | | 3.30 | 23.4% | 28.7 | 93.3% | | 3.12 | 36.1% | 27.8 | 89.3% |
| **2019-20 Overall** | | 3.45 | 14.8% | 28.6 | 93.3% | | 3.32 | 22.4% | 28.1 | 90.3% |
| **2020-21 Overall** | | 3.49 | 12.9% | 28.4 | 92.9% | | 3.31 | 23.5% | 27.4 | 88.9% |
| **2021-22 Overall** | | 3.34 | 21.5% | 27.9 | 92.8% | | 3.19 | 31.0% | 27.7 | 89.0% |
| Disclosers | 59.7% | 3.40 | 18.5% | 28.2 | 93.4% | 73.9% | 3.23 | 29.4% | 27.8 | 89.1% |
| Withholders | 21.8% | 3.24 | 26.2% | 27.6 | 92.8% | 14.0% | 3.12 | 34.8% | 28.1 | 90.9% |
| No SAT | 18.6% | 3.26 | 25.6% | 27.5 | 91.1% | 12.0% | 3.08 | 37.2% | 26.8 | 86.3% |
| **2022-23 Overall** | | 3.38 | 19.8% | 28.5 | 93.6% | | 3.23 | 29.0% | 27.7 | 90.0% |
| Disclosers | 62.3% | 3.47 | 15.1% | 28.9 | 94.8% | 68.0% | 3.29 | 26.3% | 28.0 | 90.7% |
| Withholders | 24.0% | 3.20 | 28.8% | 28.0 | 92.0% | 22.8% | 3.14 | 33.3% | 27.4 | 89.6% |
| No SAT | 13.7% | 3.25 | 25.4% | 27.9 | 90.9% | 9.3% | 3.05 | 38.5% | 26.1 | 84.8% |
| **2023-24 Overall** | | 3.40 | 19.0% | 28.6 | 93.3% | | 3.27 | 26.7% | 28.2 | 90.3% |
| Disclosers | 58.0% | 3.50 | 14.2% | 28.9 | 94.3% | 67.1% | 3.32 | 24.9% | 28.2 | 91.0% |
| Withholders | 29.7% | 3.25 | 26.0% | 28.2 | 92.3% | 23.8% | 3.22 | 28.4% | 28.6 | 90.6% |
| No SAT | 12.3% | 3.27 | 25.4% | 27.7 | 90.5% | 9.0% | 3.08 | 35.5% | 26.8 | 83.0% |

**Figure A1:** Average FYGPA at ARC Institutions by SAT Score Over Time, by ARC Segment

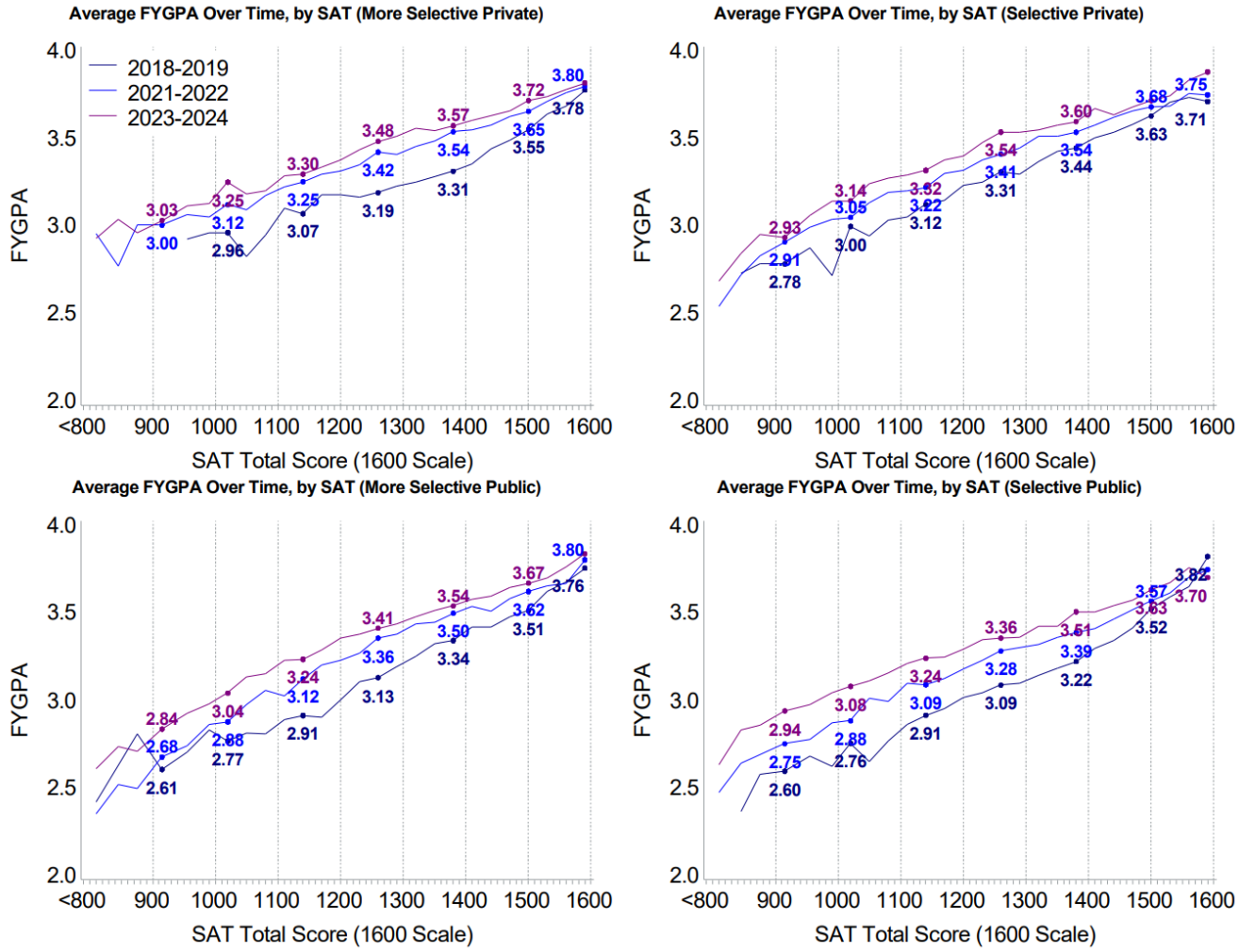
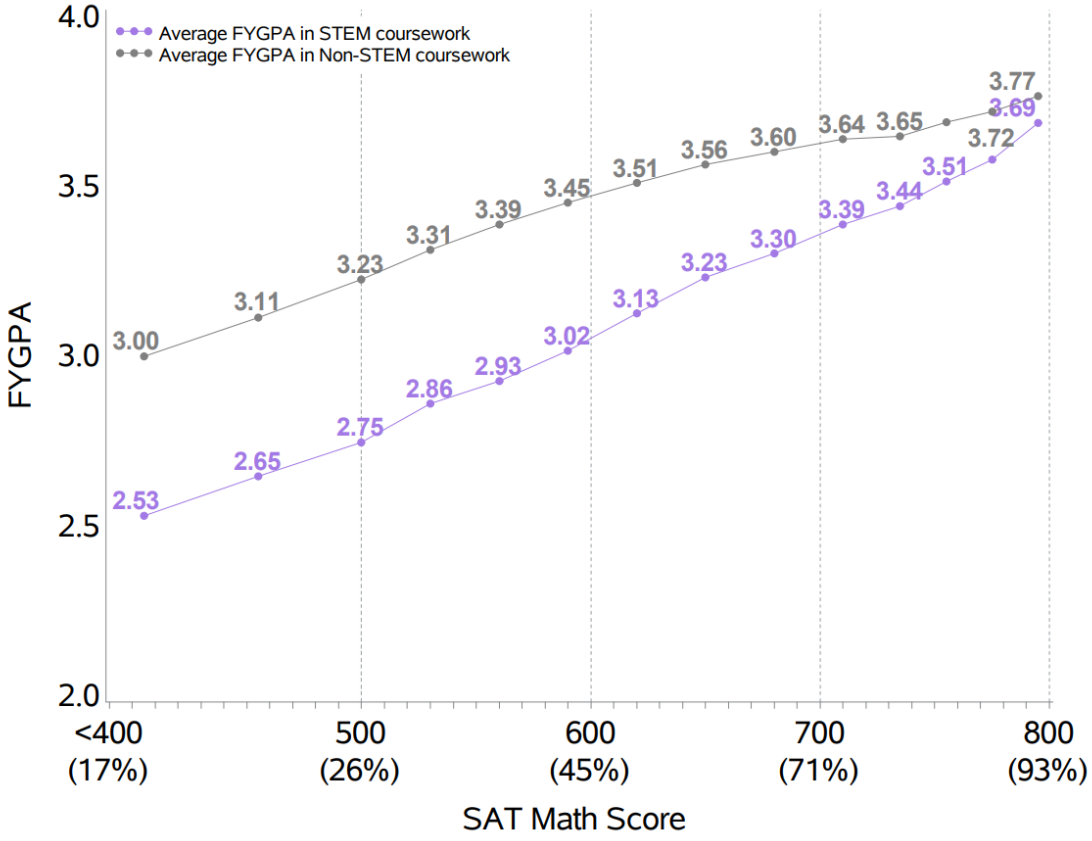


**Figure A2:** Average FYGPA in STEM and Non-STEM College Coursework in Post-Pandemic Cohorts, by SAT Math Score



## Appendix Figures with First-Year College Outcomes by Institutional Segment

**Figure A3:** Average FYGPA by Test Score Band and Disclosure Status, 2023-24 by ARC Segment

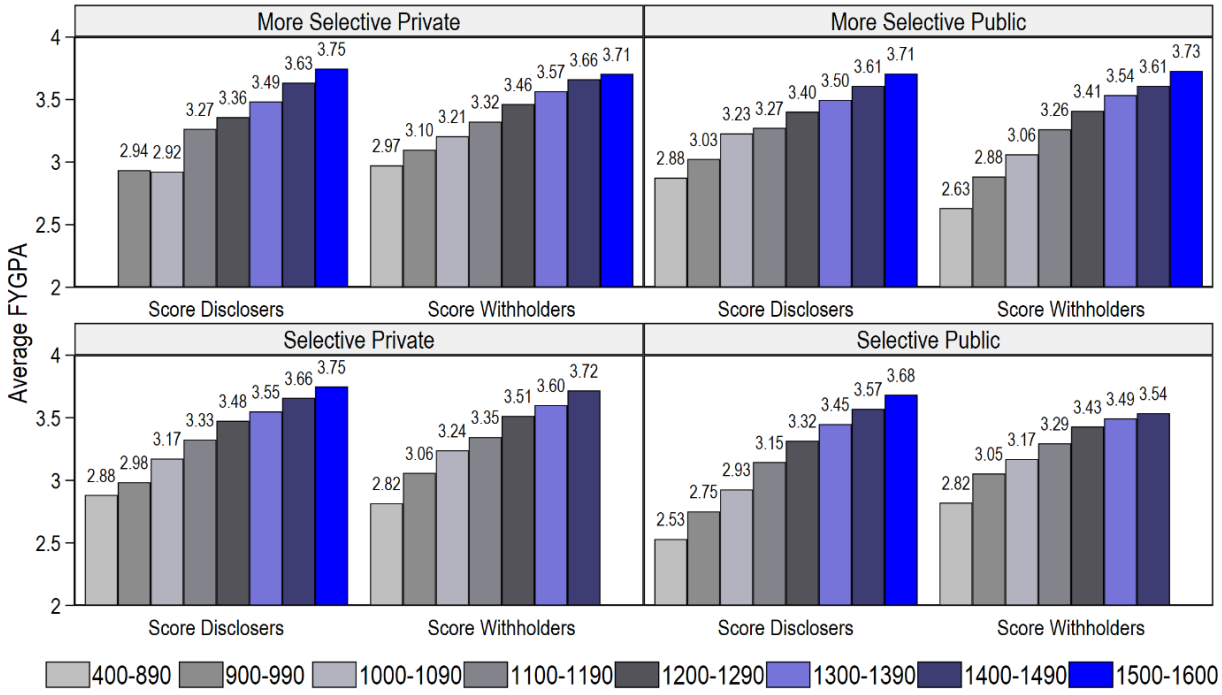



**Figure A4:** Academic Risk by Test Score Band and Disclosure Status, 2023-24 by ARC Segment

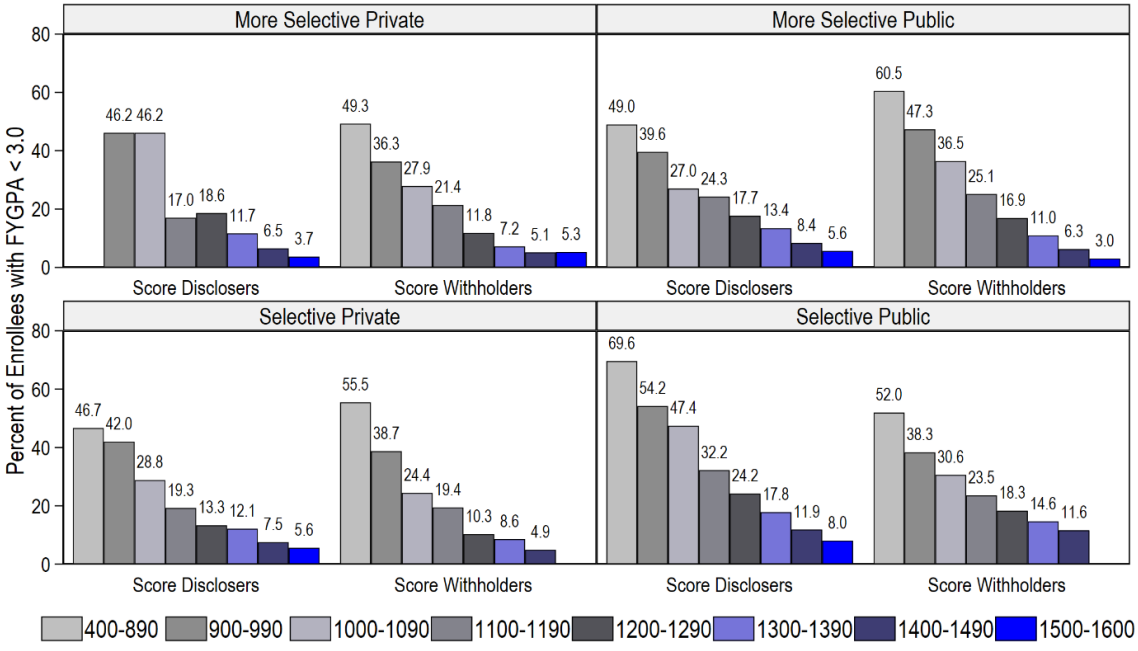


**Figure A5:** Average Credits by Test Score Band and Disclosure Status, 2023-24 by ARC Segment

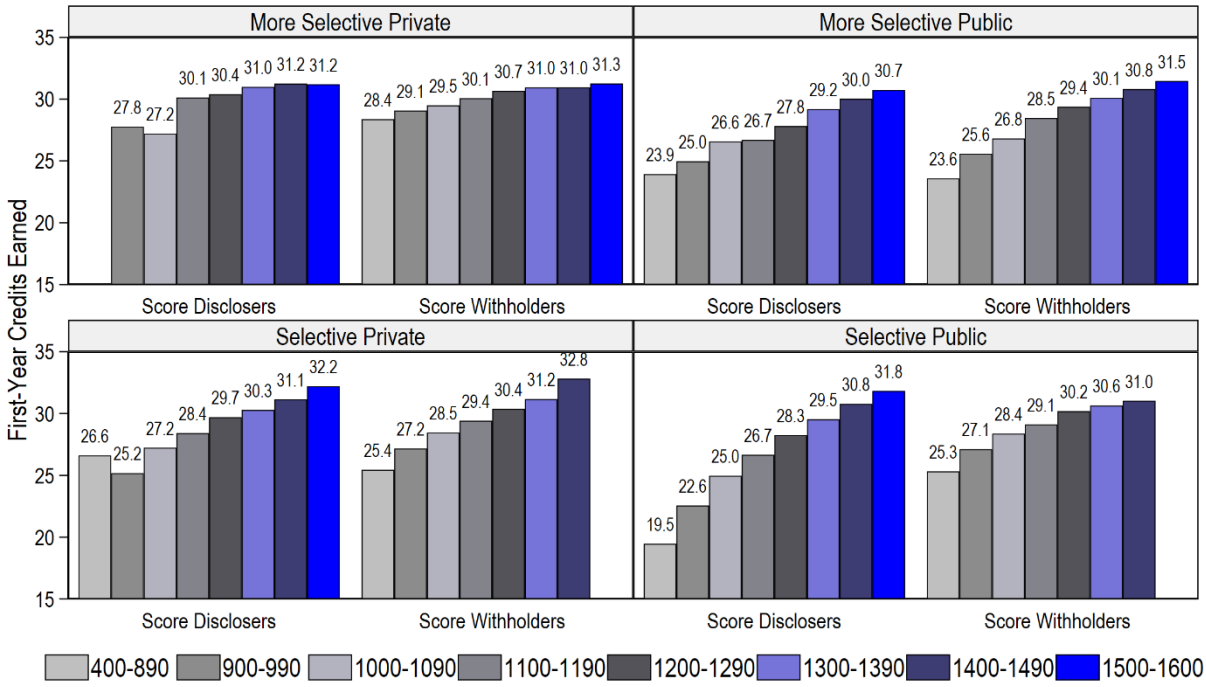
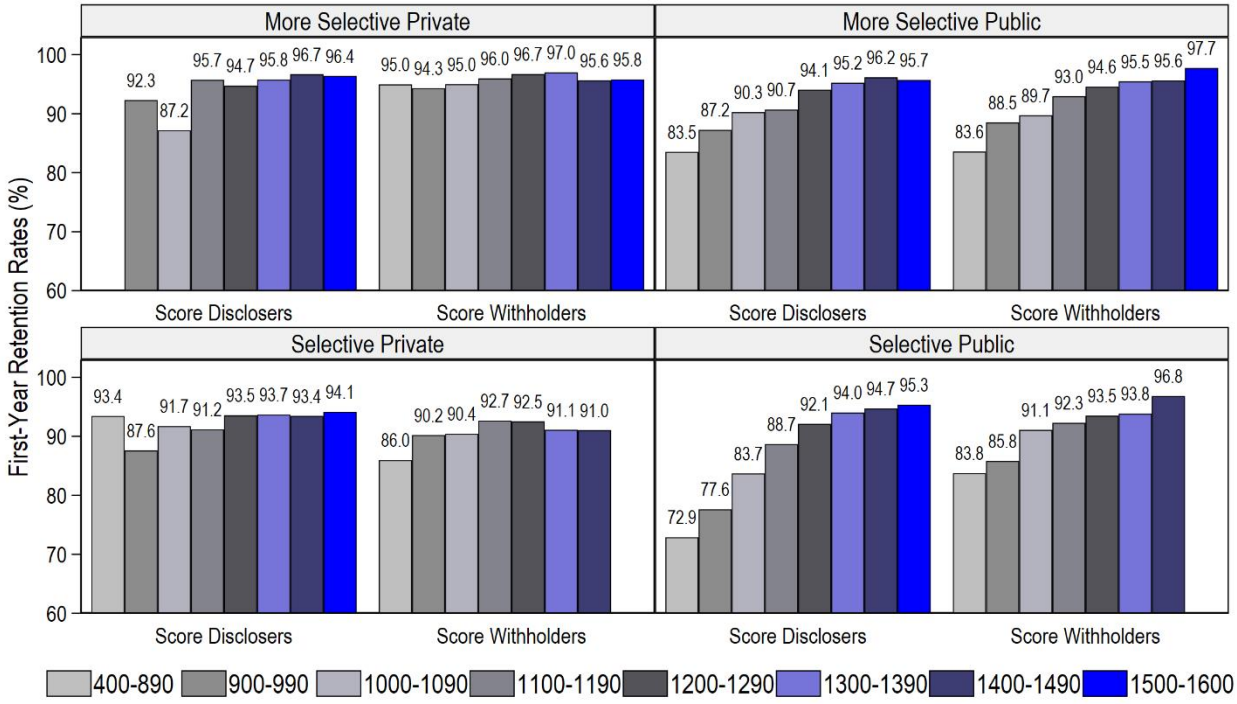



**Figure A6:** First-Year Retention by Test Score Band and Disclosure Status, 2023-24 by ARC Segment



## Appendix on Test Score Disclosure Regression Details

In order to estimate the how the probability of SAT score disclosure ($p_{Disclose}$) varies with a student's SAT score, we fit the ARC data with the logistic regression model expressed through Equation (1). In this model, the variables are defined as follows.

- *SATScore* is a student's actual SAT score inclusive of disclosed and withheld scores. Disclosed scores are sourced from ARC colleges, while withheld scores are the highest combination of SAT section scores from across all of a student's SAT scores in College Board administrative data.
- *Race* is a vector of indicator variables expressing the student race/ethnicity provided by the college.
- *ParentalEd* is a vector of indicator variables expressing the student's parental education from the College Board's Student Data Questionnaire (SDQ).
- *InState* is an indicator for whether the student resides in the same state as the college to which they applied.
- *HSGPA* is the student's self-reported high school GPA from the College Board's Student Data Questionnaire (SDQ) on a 0-4.33 scale.
- *HSChallenge* and *NHChallenge* express the student's high school and neighborhood challenge on a 1-100 scale, where higher challenge levels indicate more disadvantaged neighborhoods and high schools.
- *Feeder* is an indicator variable identifying students that attend a high school that sent 30 or more applications to the college between 2018 and 2020.
- *College* is a vector of college fixed effects to capture differences across ARC institutions that are constant for all students.

In equation (1), parameter $\tau$ identifies the interaction of the Race indicator variables and the student's SAT score. This interaction allows for different relationships between the student's SAT score and disclosure probability for different subgroups of students, defined by race. In models where we identify the relationships between HSGPA or Parental Education and SAT score disclosure, parameter $\tau$ expresses the interaction of these variables and SAT score.

To construct the fitted score disclosure curves depicted in Figures 13-16, we hold all variables constant at their sample means and use parameters $\beta$, $\gamma$, and $\tau$ to demonstrate how SAT disclosure probabilities change with SAT scores for different subgroups of students.

Equation (1):

$$ln\left(\frac{p_{Disclose}}{1-p_{Disclose}}\right) = \beta_0 + \beta SATScore_i + \gamma Race_i + \tau SATScore_i * Race_i + \delta ParentalEd_i +$$

$$\zeta InState_i + \phi HSGPA_i + \pi HSChallenge_i + \theta NHChallenge_i + \partial Feeder_i + College_i + \epsilon_i$$

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## About the College Board

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