Diversifying Society's Leaders? The Determinants and Causal Effects of Admission to Highly Selective Private Colleges

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Share of Individuals in Leadership Positions who Attended Ivy-Plus Colleges Ivy-League, Chicago, Duke, Stanford, MIT



Percent Who Attended Ivy-Plus Colleges

Ivy-Plus College Attendance Rates Controlling for SAT/ACT Scores, by Parental Income Students Students with SAT Score of 1510 (out of 1600) or ACT Score of 34 (out of 36)



Question

- Do highly selective private colleges amplify the persistence of privilege across generations?
 - Could they diversify society's leaders by changing their admissions policies?

Overview

- Answer depends on two sub-questions:
 - 1. [Inputs] Why are students from high-income families more likely to attend highly selective private colleges?
 - Admissions policies or students' choices about where to apply or matriculate? [Bowen & Bok 1998, Hoxby & Avery 2013, Gurantz et al. 2021, Dynarski et al. 2021, Autor et al. 2022]

- 2. [Outputs] What is the causal effect of these colleges on marginal students' post-college outcomes?
 - Perhaps students at highly selective schools would have done equally well no matter where they attended [Dale & Krueger 2002, 2014, Mountjoy & Hickman 2022 vs. Zimmerman 2019, Michelman Price & Zimmerman 2022, Bleemer 2022]

Data

- 1. Federal income tax records, 1996-2021
- 2. Federal college attendance records, 1999-2015
- 3. Standardized test score data, 2001-2015
- 4. Applications and Admissions Records from Colleges
 - Several Ivy-Plus colleges, various years
 - Highly Selective Public institutions: UC-Berkeley, UCLA, UT-Austin, plus other most selective public flagships
 - Several college systems: UC system, Cal State, Texas system (THECB)
 - Detailed student characteristics, admissions outcomes, internal ratings

Question 1

Why Are Students from High-Income Families More Likely to Attend Highly Selective Colleges?

Disparities Before College

- Begin by adjusting for disparities by socioeconomic status before college application using SAT/ACT scores
 - Standardized test scores are an imperfect measure of latent potential, and may exhibit biases potentially correlated with parental income [e.g., Goodman et al. 2020]
 - Use scores as a benchmark to start from and revisit latent potential by parental income at the end of the talk by examining post-college outcomes

 Reweight test-score distribution within each parent income group to match distribution of scores for attendees of lvy-plus colleges Ivy-Plus College Attendance Rates at the 99th Percentile of Test Score, by Parental Income Students Students with SAT Score of 1510 (out of 1600) or ACT Score of 34 (out of 36)



Ivy-Plus Attendance Rates by Parental Income Reweighted on SAT/ACT Scores to Match Current Attendees



Attendance Rates at Selective Colleges by Parental Income Reweighting on Test Score

5. 4.4x - Dartmouth 3.4x - Stanford Relative Attendance Rate 4. 3.3x - Duke 3.3x - Penn 2.9x - Yale 3. 2.6x - Brown 2.3x - Columbia 2.3x - Harvard 2-1.9x - Princeton 1.7x - Cornell 1.1x - MIT 1.0x - Chicago 60-70 70-80 80-90 90-95 95-96 96-97 97-98 98-99 99-99.9Top 0.1 0-20 20-40 40-60

Parent Income Percentile

Attendance Rates at Selective Colleges by Parental Income, Controlling for Test Score



Flagship Public: Florida, Georgia, Michigan, Ohio State, UC-Berkeley, UCLA, UNC-Chapel Hill, UT-Austin, Virginia

How Many "Extra" Students from Top 1% at Ivy-Plus Colleges?

 Actual attendance rate at college c for students from top 1% can be written as a countweighted average of attendance rates across test score bins a:

Actual Attendance_{Top 1%,c} =
$$\sum_{a} N_{Top 1\%,a} AttendRate_{Top 1\%,ac}$$

 Counterfactual: suppose attendance rates of students from top 1% were equal to that of middle-class (p70-80) students with same scores

Counterfactual Attendance_{Top 1%,c} =
$$\sum_{a} N_{Top 1\%,a} AttendRate_{P70-80,ac}$$

- Define "extra" students from top 1% as difference between these measures
 - No normative claim about whether the "extra" top 1% presence is merited

Ivy-Plus Attendance Rates by Parental Income Reweighted on SAT/ACT Scores to Match Current Attendees



Pipeline Analysis

- What accounts for the "extra" 168 students from the top 1%?
 - Applications, admissions, or matriculation?

- Athletes admitted through separate recruitment process without clear distinction between different stages of process [see e.g., Bowen and Levin 2003, Arcidiacono 2019]
 - Exclude recruited athletes from what follows and return to them below

Relative Application Rates at Highly Selective Colleges, by Parental Income Reweighted on SAT/ACT Scores to Match Current Attendees



Admissions Rates for Non-Athletes at Ivy-Plus Colleges, by Parental Income Reweighted on SAT/ACT Scores to Match Current Attendees



Admissions Rates for Non-Athletes at Highly Selective Colleges, by Parental Income Reweighted on SAT/ACT Scores to Match Current Attendees



Matriculation Rates at Highly Selective Colleges, by Parental Income Reweighted on SAT/ACT Scores to Match Current Attendees



Counterfactuals: Quantification of Components of Pipeline

- Now measure relative contributions of admissions vs. other margins
- Attendance rate at college *c* for top 1% is:

$$Attendance_{Top \ 1\%,c} = \sum_{a} N_{Top \ 1\%,a} \times Apply_{Top \ 1\%,ac} \times Admit_{Top \ 1\%,ac} \times Matric_{Top \ 1\%,ac}$$

 How much of the gap in attendance could be closed by eliminating differences in admissions rates, holding fixed other rates?

$$EqualAdmit \ CF_{Top \ 1\%,s} = \sum_{a} N_{Top \ 1\%,a} \times Apply_{Top \ 1\%,ac} \times Admit_{p70-80,ac} \times Matric_{Top \ 1\%,ac}$$

Why Are Students from High-Income Families More Likely to Attend Ivy-Plus Colleges? Pipeline Decomposition



Share of Students Admitted to Selected Colleges who are Recruited Athletes Reweighted on SAT/ACT Scores to Match Current Attendees



Why Are Students from High-Income Families More Likely to Attend Ivy-Plus Colleges? Pipeline Decomposition



Why Are Students from High-Income Families More Likely to Attend Ivy-Plus Colleges? Pipeline Decomposition



Why Do Admissions Rates Differ by Parental Income?

Determinants of Admissions Rates

- Begin by examining contribution of other preferences in admissions documented in prior work for children of alumni ("legacies") and faculty children, excluding athletes [e.g., Bowen and Levin 2003, Arcidiacono et al. 2019]
- Focus here on how much this contributes to gaps by parental income

Share of Applicants at Selected Ivy-Plus Colleges who are Legacies



Relative Admissions Rates for Legacy Applicants at Ivy-Plus Colleges Reweighted on SAT/ACT Scores to Match Current Attendees



Effects of Legacy Preferences

What would admissions rate be for legacy students absent legacy preference?

- First estimate an admissions model for non-legacy students based on application characteristics [Card 2017, Arcidiacono et al. 2020]
 - Observable student chars: test score, GPA, internal ratings, gender, race, first-gen, early / regular decision round, high school FE, parent income, application year
- Then predict admissions rates for legacy students in this model, with their own chars

Relative Admissions Rates for Legacy Applicants at Ivy-Plus Colleges Reweighted on SAT/ACT Scores to Match Current Attendees



Effects of Legacy Preferences

- Key assumption: observable characteristics capture all factors that differentiate legacy students from non-legacies in admissions
 - Test by examining admissions decisions at **other** lvy-plus colleges

Admissions Rates for Legacy Students

Admission Rate by Legacy Status



Admissions Rates for Legacy Students, by Parental Income

Admission Rate by Legacy Status



Effect of Legacy Preferences



Explaining Remaining Admissions Preference

- To understand source of remaining difference in admissions rates, turn to detailed information on applicant ratings
 - Focus first on non-legacy applicants (to avoid contamination from legacy effect)

Admissions Office Ratings of Applicants by Parental Income: Academic Rating Reweighting on Test Scores, Excluding Legacies, Athletes, and Faculty Children


Admissions Office Ratings of Applicants by Parental Income: <u>Non-Academic</u> Rating Reweighting on Test Scores, Excluding Legacies, Athletes, and Faculty Children



Non-Academic Ratings by Parental Income

Reweighting on Test Scores, Excluding Legacies, Athletes, and Faculty Children



High School Effects on Admissions and Ratings

- Differences in ratings and admissions are mediated by high schools
- Estimate HS fixed effects on admissions by regressing Ivy-plus admission indicator on HS dummies, SAT scores, & demographic controls (race, gender, parent income)

High-School Fixed Effects on Admissions vs. Parental Income



High School Effects on Ivy-Plus Admissions, by High School Type



High School Effects on Non-Academic Rating, by High School Type



Ratings vs. High School Fixed Effects on Admissions, Controlling for SAT Score

Share of Ivy-Plus Applicants with High Ratings vs. (Shrunken) High School FE on Admissions



Effect of Non-Academic Ratings Preferences



Question 2

Does Admission to an Ivy-Plus College Have a Causal Effect on Students' Post-College Outcomes?

Identifying the Causal Effects of Attending Highly Selective Colleges

 Goal: identify causal effects of lvy-plus attendance relative to average state flagship university (elastic outside option for highly qualified students)

- Use two research designs to estimate this causal effect
 - 1. Isolating idiosyncratic variation in **admissions** among marginal students (new method introduced here)
 - 2. Isolating idiosyncratic variation in matriculation among admitted students (replicating Mountjoy and Hickman 2022, building on Dale and Krueger 2002)

 Start with admissions design, motivated by preceding evidence on importance of admissions margin

Empirical Model of College Admissions

Consider a student *i* who applies to colleges *j* ∈ {*A*, *B*, ...}, each of which assesses student quality as

$$Z_{ij} = \gamma_{1j}' X_{1i} + \gamma_{2j} X_{2i} + \epsilon_{ij}$$

where

 X_{1i} is a vector of **observable** characteristics, potentially correlated w/ outcomes X_{2i} is a scalar **unobservable** characteristic, potentially correlated w/ outcomes γ_{1j} and γ_{2j} are college-specific weights ϵ_{ij} is a college-specific unobservable $Corr(\epsilon_{ij}, \epsilon_{ij'}) = 0$, uncorrelated w/ outcomes

- College *j* admits student *i* iff $Z_{ij} > C_j$
 - Let P_{ij} and D_{ij} denote if student *i* is admitted to and attends college *j*, respectively

Empirical Model of Post-College Outcomes

Post-college outcome (e.g., earnings) for student *i* is

$$Y_{i} = \sum_{j \in J_{i}} D_{ij}\phi_{j} + \beta_{1}'X_{1i} + \beta_{2}X_{2i} + \epsilon_{i}^{Y}$$

where ϕ_j is the causal effect of college *j* on outcomes (normalized to 0 for mean state flagship, j = 0) and $Corr(\epsilon_{ij}, \epsilon_i^Y) = 0$ by definition

• Goal: estimate $\phi_{I\nu\nu+}$

Selection Bias in Estimating College Fixed Effects

• Observational value-added estimator for ϕ_{IVY+} :

$$\hat{\phi}_{IVY+,OLS} = E[Y_i | X_{1i}, D_{iA} = 1] - E[Y_i | X_{1i}, D_{iO} = 1]$$

- Problem: $\hat{\phi}_{IVY+, OLS} \neq \phi_{IVY+}$ due to bias created by colleges selecting on X_{2i}
- Need to isolate variation in admissions/attendance that arises from factors orthogonal to potential outcomes Y_i(Dij)

Research Design #1: Isolating idiosyncratic Variation in Admissions

- First approach: isolate variation in admissions due to idiosyncratic factors ϵ_{ij} unrelated to post-college outcomes
 - Ex: availability of slots in orchestra or variation in essay ratings across readers

How to isolate such variation?

- Start by focusing on students placed on admissions waitlist
 - Similar to logic of regression discontinuity, but no exogenous running variable local to cutoff here, so cannot directly implement RD design

Research Design #1: Isolating idiosyncratic Variation in Admissions

• Obvious concern: admissions from waitlist may still be driven by variation in X_{2i}

 Key idea: exploit fact that we observe multiple independent evaluations of same student to test whether we are isolating idiosyncratic variation ε_{ij}

- Test if admissions decisions and ratings at other lvy-plus colleges are related to admissions decision from waitlist at a given college
 - Intuition: if waitlist admissions are based on idiosyncratic factors at a given college, decisions made at college B should not be related to admissions decision at A

Two-Rater Test for Idiosyncratic Selection

• Assumption 1: Correlated Admissions Criteria

$\gamma_{2A} \cdot \gamma_{2B} > 0$

 Requires that colleges place same-signed (but not identical) weights on applicant characteristics X_{2i} that matter for potential outcomes

Two-Rater Test for Idiosyncratic Selection

• Test statistic for selection bias:

$$T = E[P_{iB}|W_{iA} = 1, P_{iA} = 1] - E[P_{iB}|W_{iA} = 1, P_{iA} = 0]$$

• Under Assumption 1, T = 0 implies that residual variation in P_{iA} among waitlist students is driven purely by idiosyncratic variation ϵ_{ij}

 Hence comparison of outcomes for students admitted vs. rejected from waitlist (adjusting for attendance rate) identifies causal effect of interest:

$$\hat{\phi}_{A,W} = \frac{E[Y_i|W_{iA} = 1, P_{iA} = 1] - E[Y_i|W_{iA} = 1, P_{iA} = 0]}{E[D_i|W_{iA} = 1, P_{iA} = 1] - E[D_i|W_{iA} = 1, P_{iA} = 0]} = \phi_A$$

Correlated Admissions Assumption Underlying Two-Rater Test

- To understand assumption, consider two cases where it fails:
 - 1. College *A* practices holistic admissions while college *B* uses a test-score cutoff $(\gamma_{2A} > 0, \gamma_{2B} = 0)$
 - 2. College *A* seeks students interested only in math with 0 weight on arts;, college *B* does the reverse $(\gamma_{2A} \cdot \gamma_{2B} = 0)$
- We believe that similarity of admissions processes makes this condition likely to hold in our application
 - Empirically, ratings at one lvy-plus college strongly predict admissions at other lvy-plus colleges outside waitlist pool
 - Further validate assumption using standard balance tests with observables and using additional variation in outside options after presenting baseline results

Two-Rater Test for Idiosyncratic Selection



Admit
Waitlist Admit
Waitlist Reject
Reject

Treatment Effects of Ivy-Plus College Attendance

Comparing Waitlist Admits vs. Rejects



Balance Test

- Multiple-rater test shows no significant difference in admissions at other colleges
 - Quantitatively, upper bound of 95% CI is 2.0pp
 - Admissions at other school predicts +2pp in top 1%
 - Can rule out bias of +0.04pp from this estimate
- Waitlist admits and rejects also balanced on placebo outcomes
 - Some imbalance on covariates, particularly from legacy students and top 1% who may use connections to get off waitlist
 - Drop these students below, results unchanged. This is because characteristics like legacy not positively correlated with outcomes (more on this below).

Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Earnings in Top 1% at Age 33



Increasing Precision Using Predictions Based on Initial Firm

 Outcomes at age 33 observed for relatively few cohorts in our sample, limiting precision and capacity to examine heterogeneity

 Can gain precision by studying earlier ages, but earnings change rapidly especially for lvy-plus graduates in their late twenties...

Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants, by Age Earnings in Top 1% at Age 33



Increasing Precision Using Predictions Based on Initial Firm

- To increase precision, predict age 33 earnings using employer at age 25
 - Use historical data from universe of tax records to calculate fraction in top 1% at age 33 by age 25 firm (or graduate school, for those not employed)

Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Predicted Earnings in Top 1%



Distribution of Outside Options

Colleges Attended by Ivy-Plus Applicants Rejected from Waitlist



Exploiting Heterogeneity by Outside Options

- Next, estimate heterogeneity in treatment effects by outside option
 - Define student subgroups g to identify differences in mean outside options by home state, parent income, race, and school applied (estimates from waitlist rejects)
 - Estimate quality of outside options for each group as mean observational VA of college that non-waitlisted students rejected from Ivy-plus colleges attend
- Key assumption: no essential heterogeneity in treatment effect of attending lvyplus college across groups
 - Implies heterogeneity in effects across groups driven purely by differences in outside options (as in Bleemer 2022)

Heterogeneity in Waitlist Admission Effects by Strength of Outside Options



Implied Mean Observational Value-Added of Outside Options

Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Predicted Mean Income Rank



Non-Monetary Outcomes

- Does attending an Ivy-plus college have an impact on non-monetary outcomes as well?
- Begin by examining impacts on attending an elite (top 10) graduate program

Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Non-Monetary Outcomes



Expanding Non-Monetary Outcomes

- To obtain more general measures of non-monetary success, define a revealed preference measure of working at a prestigious firm
 - Calculate ratio of Ivy-plus to flagship public attendees at each firm using historical data (leaving out own observation)
 - Define firms that rank highest on this ratio as "elite" firms, counting firms up to the number required to account for 25% of Ivy-plus employment
 - Then regress this ratio on predicted top 1% share and rank firms on the residual to obtain a measure of "prestigious" firms
 - Significant overlap between this list and publicly available lists of 10 most prestigious hospitals, research institutions, etc. (e.g., Mass General Hospital, Mayo Clinic, Johns Hopkins)

Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Non-Monetary Outcomes



Summary of Magnitudes: Causal Effect of Attending Ivy-Plus vs. Average State Flagship



Research Design #2: Variation in Matriculation Conditional on Admission

- Compare students who choose different colleges conditional on being admitted to the same set of colleges
 - Relies on different identification assumption: idiosyncratic student preferences conditional on choice set [Mountjoy and Hickman 2022, Assumption 1]

Implement this design in our data for Ivy-plus and state flagship public colleges

 Then reconcile our findings with previous papers that use this design [Dale and Krueger 2002, 2014, Mountjoy and Hickman 2022]
Flagship Public and Ivy-Plus Schools, Predicted Top 1%



Texas, California, Elite Public, and Ivy-Plus Schools, Predicted Top 1%



Texas, California, Elite Public, and Ivy-Plus Schools, Predicted Mean Income Rank



Treatment Effects of Ivy-Plus College Attendance

Comparing All Methods



Reconciliation with Dale and Krueger

- Why do our conclusions differ from Dale and Krueger (2002, 2014) who find that attending a more selective college has small/zero impact on earnings?
 - 1. We find a large effect of Ivy-Plus attendance solely on **top-tail outcomes**; Dale and Krueger focus on mean impacts on log earnings
 - 2. Dale and Krueger proxy for college quality using **average SAT scores**; we directly estimate colleges' effects on outcomes
 - Earnings outcomes are not highly correlated with mean SAT scores within subset of highly selective colleges [Chetty et al. 2020]

Heterogeneity by Parent Income



Outcome-Based Tests of Admissions Preferences



Outcome-Based Tests of Admissions Preferences

- Are the factors that lead to high-income admissions advantage (legacy, athlete status, high non-acad ratings) associated with better post-college outcomes?
 - More broadly, is there a tradeoff between admitting more students from middle class families and class "quality"?
- Helpful for evaluating whether admissions preferences that favor students from high-income families are "merited" from an outcome-based perspective
- And critical for understanding whether diversifying student body would translate to greater diversity among society's leaders
- In this section, answer this question by examining how outcomes vary with admissions preferences

Post-College Outcomes by Application Credentials Among Ivy-Plus Matriculants Predicted Top 1%



Post-College Outcomes by Application Credentials Among Ivy-Plus Matriculants Non-Monetary Outcomes



Attending Elite Graduate School

Working at Prestigious Firm

Impact of Admissions Changes on Students' Post-College Outcomes

- Adjust for selection when conditioning on matriculants by returning to applicant sample and using our causal effect estimates
- Identify potential outcomes of marginal rejected students (from waitlist) had they attended an Ivy-plus college by adding in our VA estimates

Post-College Outcomes Among Ivy-Plus Applicants

Predicted Top 1% by Non-Academic Rating



Low Non-Academic Rating



High Non-Academic Rating

Post-College Outcomes Among Ivy-Plus Applicants

Predicted Top 1% by Non-Academic Rating



High Non-Academic Rating

Post-College Outcomes Among Ivy-Plus Applicants

Predicted Top 1% by Non-Academic Rating



Post-College Outcomes by Application Credentials Among Ivy-Plus Applicants Predicted Top 1%



Post-College Outcomes by Application Credentials Among Ivy-Plus Applicants Non-Monetary Outcomes



Attending Elite Graduate School

Working at Prestigious Firm

Fraction who Reach Top 1% by SAT Score, Controlling for Parent Income and College



Fraction who Reach Top 1% by SAT/ACT Score vs. High School GPA Ivy-Plus Students



Note: figures are binned scatter plots controlling for parent income, race, gender, legacy status, recruited athlete status, and HS GPA (left panel) or SAT score (right panel).

Differences in Outcomes by Parental Income

 How do these findings fit with prior evidence that children from high-income families have significantly higher levels of earnings among lvy-plus attendees? [Chetty et al. 2020, Zimmerman 2022]

Share of Ivy-Plus Matriculants in Top 1% by Parental Income



Share of Ivy-Plus Matriculants in Various Sectors by Parental Income Business vs. Social Impact



Share of Ivy-Plus Matriculants in Elite Positions by Parental Income



Counterfactuals: Impacts of Changes in Admissions Practices

Diversifying Society's Leaders?

Conclude by returning to our motivating question: can lvy-plus colleges diversify society's leaders by changing their admissions practices?

- Predict impacts of feasible changes in admissions practices on socioeconomic diversity of class and post-college outcomes
 - Colleges could fill newly opened slots in many ways; here, assume they keep the distribution of SAT, race, and gender unchanged

Assumptions

- Policy counterfactuals rely on two key additional assumptions:
 - 1. No behavioral responses in application or matriculation rates (unlikely to hold exactly, but plausible that behavioral responses are small relative to mechanical effects)
 - 2. Causal effects of colleges unaffected by changes in composition of student body

 Precise numerical predictions should be interpreted with caution; analysis gives a sense of order of magnitude of potential impacts

Predicted Impacts of Changes in Admissions Practices

Socioeconomic Composition of Student Body



Policy Counterfactual

Impact of Admissions Changes on Students' Post-College Outcomes

- Would these increases in diversity of student body translate to analogous increases in diversity of society's leaders?
- Predict post-college outcomes of newly admitted students to answer this question, based on potential outcomes adjusted for college VA as above

Predicted Impacts of Changes in Admissions Practices

Socioeconomic Composition of Student Body



Policy Counterfactual

Conclusion: Diversifying Society's Leaders

 Changes in admissions practices at Ivy-plus colleges could increase socioeconomic diversity of the student body, holding fixed pre-college academic credentials

 These changes would not reduce and may even increase lvy-plus graduates' probabilities of reaching the upper tail of society

→ A handful of colleges could diversify socioeconomic backgrounds of society's leaders significantly by changing their admissions practices

Trends in Socioeconomic Diversity at Ivy-Plus Colleges, Entering Classes of 1998-2018 Ratio of Attendance Rates for Students from Middle Class (P70-80) vs. Top 1%







Attendance Rates at Selective Public Flagship Universities, Controlling for Race



Admission Rates at Selective Public Flagship Universities, Controlling for Race



Attendance Rates at Selective Public Flagship Universities

Reweighting on Test Score



Attendance Rates at Selective Public Flagships by Parental Income Reweighting on Test Score



Attendance Rates by Parental Income and College, Controlling for Test Score In-State Attendance at Selective Public Flagships


Attendance Rates by Parental Income and College, Controlling for Test Score Out-of-State Attendance at Selective Public Flagships



Attendance Rates by Parental Income and College

Attendance Rates to Selective Private Colleges



Conditional Attendance to Ivy-Plus Colleges



Conditional Attendance to Selective Private Colleges



Conditional Attendance to Selective Public Colleges



In-State Conditional Attendance to Selective Public Colleges



Out-of-State Conditional Attendance to Selective Public Colleges



Application Rates by Parental Income and College, Controlling for Test Score Application to Ivy-Plus Colleges



Application Rates at Selective Colleges by Parental Income, Controlling for Test Score



Application Rates by Parental Income and College, Controlling for Test Score Application to Selective Public Flagships



Application Rates at Selective Public Flagship Colleges



Application Rates by Parental Income and College, Controlling for Test Score In-State Application to Selective Public Flagships



Application Rates by Parental Income and College, Controlling for Test Score Out-of-State Application to Selective Public Flagships



Application Rates by Parental Income and College, Controlling for Test Score Application to Selective Private Colleges



Admissions Office Ratings vs. Test Scores, by Parental Income



Teacher and Guidance Counselor Ratings by High School Fixed Effect on Ivy-Plus Admissions



Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Attending Elite Graduate School



Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Working at Elite Firm



Treatment Effects of Ivy-Plus College Admission for Waitlisted Applicants Working at Prestigious Firm



Quantiles of Income Distribution at Age 33 Ivy-Plus vs. Highly Selective Public Flagship Students



Ratio of Density of Income Distribution at Age 33 Ivy-Plus vs. Highly Selective Public Flagship Students



Fraction Attending Elite Grad School by SAT Score, Controlling for Parent Income and College



Fraction Working at a Prestigious Firm by SAT Score, Controlling for Parent Income and College



Attending Elite Grad School: Matriculation Design



Working at an Elite Firm: Matriculation Design



Working at a Prestigious Firm: Matriculation Design

