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Do Financial Incentives Support Educational Programs to Scale? Experimental Evidence from a National College Advising Initiative

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Recent work highlights the challenge of scaling evidence-based strategies to achieve social policy objectives. In the context of education, programs that have had large effects on student attainment at the local level have had much smaller or insignificant effects when scaled more broadly. We evaluate, through a randomized control trial, a national financial incentive program designed to increase student engagement with college advising and completion of college and financial aid milestones that prior experimental studies demonstrate contribute to increased college enrollment and success. We find substantial positive effects of the incentive program on each of the incented behaviors: Treated students were more likely to engage regularly with a college advisor; apply to well-matched colleges and universities; and meet with an advisor to review their financial aid awards and discuss college costs. Impacts were largest for students with low baseline propensity to apply to selective colleges and universities and for students with low exposure to these institutions where they lived, suggesting the incentives were effective at overcoming informational and social capital barriers faced by these students. Yet students randomly offered the incentives were no more likely to enroll at higher-quality colleges and universities, despite being high in the distribution of college entrance exam scores and from a socioeconomic background that many institutions indicate is central to their diversity goals. Student responses to a survey administered the summer and fall after high school suggest that lack of admission to the most selective institutions, lack of affordability at selective institutions to which students were admitted, and student preferences to attend institutions closer to home explain the lack of enrollment effects. Interventions which increase completion of key college and financial milestones--even when effectively scaled--may thus be insufficient to increase socioeconomic representation at selective institutions without parallel investments to increase admissions and affordability.

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Do Financial Incentives Support Educational Programs to Scale? Experimental Evidence from a National College Advising Initiative

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Abstract

Recent work highlights the challenge of scaling evidence-based strategies to achieve social policy objectives. In the context of education, programs that have had large effects on student attainment at the local level have had much smaller or insignificant effects when scaled more broadly. We evaluate, through a randomized control trial, a national financial incentive program designed to increase student engagement with college advising and completion of college and financial aid milestones that prior experimental studies demonstrate contribute to increased college enrollment and success. We find substantial positive effects of the incentive program on each of the incented behaviors: Treated students were more likely to engage regularly with a college advisor; apply to well-matched colleges and universities; and meet with an advisor to review their financial aid awards and discuss college costs. Impacts were largest for students with low baseline propensity to apply to selective colleges and universities and for students with low exposure to these institutions where they lived, suggesting the incentives were effective at overcoming informational and social capital barriers faced by these students. Yet students randomly offered the incentives were no more likely to enroll at higher-quality colleges and universities, despite being high in the distribution of college entrance exam scores and from a socioeconomic background that many institutions indicate is central to their diversity goals. Student responses to a survey administered the summer and fall after high school suggest that lack of admission to the most selective institutions, lack of affordability at selective institutions to which students were admitted, and student preferences to attend institutions closer to home explain the lack of enrollment effects. Interventions which increase completion of key college and financial milestones--even when effectively scaled--may thus be insufficient to increase socioeconomic representation at selective institutions without parallel investments to increase admissions and affordability.

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Introduction

Recent work highlights the challenge of scaling evidence-based strategies to achieve social policy objectives. A recent review of RCTs across numerous policy domains found substantially smaller effects when interventions were implemented at scale than when the interventions were originally designed and evaluated by academic researchers (Dellavigna and Linos, 2022). In the context of education, resource-intensive and high-impact models like high-dosage tutoring and intensive college advising have respectively generated large improvements in academic performance in K-12 education and large gains in enrollment and attainment at the postsecondary level (Guryan et al., 2021; Nickow, Oreopoulos, and Kuan, 2021; Barr and Castleman, 2021; Carrell and Sacerdote, 2017; Castleman, Deutschlander, and Lohner. 2020). Yet attempts to scale these models through remote technologies, both to reach more students and reduce costs, have resulted in substantially smaller or insignificant effects (Kraft et al., 2022; Gurantz et al., 2019; Philips and Reber, 2022; Sullivan et al., 2021). Low-touch nudge strategies have been effective at increasing student completion of important college planning tasks, like applying for financial aid, and in turn improving the rate at which students enroll and persist in college (Castleman and Page, 2015; Page, Castleman, and Meyer, 2021). Similarly-designed nudges have been ineffective, however, when implemented at state or national scale (Avery et al., 2021; Bettinger et al., 2021; Bird et al., 2021).

There are multiple potential explanations for why evidence-based practices have been difficult to scale in education. Key features of the intervention may differ as the scale of implementation changes, such as how personalized the content or educational advice is for students, or differences in the efficacy of in-person vs. online delivery (Bird et al., 2021; Dellavigna and Linos, 2022). There may also be important contextual differences between original

implementation and scale implementation; academic support interventions delivered during or after the COVID-19 pandemic may have been less effective in general, let alone at scale, than similar interventions delivered prior to the pandemic (Kraft et al., 2022).

Another explanation for why evidence-based practices have not scaled is that it has been substantially more difficult to foster and sustain student engagement at scale. Across both intensive programs like high-dosage tutoring and college advising, as well as with light-touch nudges, intervention dosage tends to much lower at scale due to significantly lower levels of student participation and engagement. For example, students randomly assigned to the Bottom Line program, which provides intensive, in-person advising to high school students in several U.S. cities, participated in 10-15 hours of individualized college advising sessions during senior year of high school. In CollegePoint, a remote college advising model for high-achieving, low- and moderate-income students implemented at national scale, students had on average 5.7 interactions with an advisor during senior year of high school, inclusive of texts and emails, even though they had the option to engage with advisors as often as they chose over the course of roughly 12 months (Sullivan et al., 2021). Bottom Line's impact on enrollment at higher-quality colleges and universities was nearly five times as large as CollegePoint's effect (Barr and Castleman, 2021; Sullivan et al., 2021).

In this paper we investigate whether input-based incentives at the margin of college planning are an effective approach, at national scale, to increase student engagement with college advising and completion of key college and financial aid milestones. In 2021 Bloomberg Philanthropies launched a new national program, Advising Plus, designed to financially incent high-achieving, low- and moderate-income students to complete key college and financial aid milestones and in turn increase lower-income student enrollment at selective colleges and

universities across the U.S. The program was intended to address persistent underrepresentation of high-achieving students from lower-income backgrounds at selective institutions; this underrepresentation is one factor impeding greater intergenerational income mobility in the United States (Chetty et al., 2020). At the vast majority of selective colleges and universities in the U.S., the share of Pell Grant recipients among the student body has barely changed in over a decade (Leonhardt and Wu, 2023).

Advising Plus focused in particular on college and financial aid behaviors which prior experimental studies demonstrate can lead to higher-quality college enrollment: Engaging with a college advisor on a regular basis (Avery, 2013; Barr and Castleman, 2021; Carrell and Sacerdote, 2017; Castleman, Lohner, and Deutschlander, 2020); Applying to high-quality and well-matched colleges and universities (Hoxby and Turner, 2013); and meeting with an advisor to reviewing financial aid packages and compare affordability of colleges in students' admitted choice set (Barr and Castleman, 2021). Students could earn up to $500 by completing these milestones, and could earn an additional $500 to defray costs associated with successfully transitioning to their intended college or university, given the large body of research demonstrating the positive effects of additional financial assistance on college enrollment (Dynarski, Page, and Scott-Clayton, 2022) and the more focused literature on financial barriers that arise during the summer after high school that can deter students from following through on their college intentions (Castleman and Page, 2013).[1]

While several prior studies demonstrate that input incentives can positively affect student behaviors and achievement, most input-based interventions to date have focused on fairly routine educational practices among elementary- and middle-school age students, such as reading books

[1] We elaborate on the design of Advising Plus in Section II.

or attending school (Dearden et al., 2009; Dee, 2011; Fryer, 2011).[2] By contrast, there has been little research investigating whether input incentives positively influence student engagement with and completion of discrete but consequential decisions, such as whether and where students apply to college. Incentivizing completion of these milestones has the potential to yield a larger behavioral response among students than incenting postsecondary outcomes, since students can exert better control over college and financial aid planning activities than they can the output (e.g., gaining acceptance and matriculating to college) (Fryer, 2011). Input-based incentives at the margin of college planning are moreover an active area of innovation at the national and state level. Both the College Board BigFuture Scholarship Program and the Rhode Island-based Rhode2College program provide students with opportunities to earn money by completing college and financial activities.[3]

The Advising Plus experimental sample consisted of 4,815 high school seniors, representing all U.S. states and territories, who applied to participate in the CollegePoint initiative. CollegePoint is a Bloomberg Philanthropies-funded national remote advising program through which a consortium of four advising organizations offer remote college advising to high-achieving, low- and moderate-income high school seniors (we provide additional detail on CollegePoint in Section 2). CollegePoint focuses on supporting students to apply to colleges and universities with graduation rates of 70 percent or higher (referred to as "CollegePoint" schools). Among eligible applicants, students were randomly assigned to a control group that received the offer of remote

[2] Multiple studies use a hybrid of input and output incentives on postsecondary outcomes. For example, Barrow et al., (2014) provided students an incentive to enroll at least half-time (an input) and maintain a C or better (an output), and find positive effects on the number of credits community college students earned. Jackson (2010) studied the effect of providing students and teachers an incentive to take AP course and exams (an input) as well as passing the test (an output). The incentives led to improved college outcomes and higher wages among treated students.

[3] https://bigfuture.collegeboard.org/pay-for-college/bigfuture-scholarships; https://rhode2college.org. Examples of incented activities include building a college list, re-taking the SAT, and completing the Free Application for Federal Student Aid (FAFSA).

advising (Advising Standard) or to a treatment group that received the offer of remote advising AND the opportunity to earn up to $1,000 by completing the inputs described above (Advising Plus). Advisors were also randomly assigned to one of the two experimental conditions, such that each advisors' caseload consisted of either all Advising Standard or all Advising Plus students. A prior experimental evaluation of CollegePoint advising found only small positive effects (1.3 percentage point) on enrollment at selective colleges and universities, with 25 percent of the treatment group never interacting with an advisor and, as we note above, a mean of only 5.7 interactions (inclusive of email and text exchanges) between CollegePoint students and advisors. Part of the motivation for Advising Plus was therefore to increase student engagement with advising and completion of key college and financial aid milestones.

We use data from multiple administrative sources as well as self-reported data to examine the effects of Advising Plus on students' college planning, decision-making, and enrollment. The College Board provided a rich set of baseline characteristics including students' SAT and AP scores as well as demographic information on students' gender, race/ethnicity, and parental educational attainment. Data from the four advising organizations allows us to measure the frequency and timing of students' interaction with advisors; topics students discussed with advisors; and advisor reports of student milestone completion. We measure students' college application behavior, acceptances, and postsecondary intentions, as well as their assessment of advising, through a survey conducted by NORC at the University of Chicago. The response rate for the survey was over 70 percent and as we show in Section V, survey respondents are balanced on baseline characteristics across experimental conditions. We obtain college enrollment data from the National Student Clearinghouse.

We find that Advising Plus led to substantially higher rates of completion for each of the incented inputs. First, Advising Plus students had higher overall rates of engagement with their advisor and were substantially more likely to stay engaged with their advisor through the spring of senior year, when students make decisions about which college to attend. For instance, 41.3 percent of Advising Plus students were still engaged with their advisor as of May 1 of senior year, compared with 15.6 percent of Advising Standard students. Advising Plus students were 13 percentage points more likely to review their financial aid award letters with someone (74 percent vs. 61 percent). More generally, Advising Plus students were substantially more likely to report that their advisor was important in their decision about which college to attend (41 percent vs. 27 percent).

Second, Advising Plus positively influenced students' application behaviors and preferences to attend higher-quality institutions. Students reported substantially higher rates of application to selective institutions and were substantially more likely to list these institutions as their top choice. Advising Plus students were five percentage points more likely to report applying to at least one CollegePoint school (92 percent vs. 87 percent); we observe similar magnitude impacts when we use the Barron's Admissions Competitive Index, a commonly used measure of institutional selectivity. Advising Plus students were five percentage points more likely to report their top choice institution was a CollegePoint school (83 percent vs. 78 percent). Students report directionally higher though imprecisely estimated increases in acceptances at CollegePoint schools, and large increases in acceptance at highly selective Barron's 2 institutions (6.9 percentage points), though no effect on acceptances at Barron's 1 institutions, the most selective institutions in the country. We find that the positive impacts from Advising Plus on application quality and reported acceptances are much higher among students with a lower baseline propensity

to apply to a CollegePoint school: Advising Plus students with a lower baseline propensity were 22.4 percentage points more likely to apply to CollegePoint schools compared to their Advising Standard counterparts. We also estimate large but imprecisely-estimated effects of Advising Plus on reported acceptances to CollegePoint schools among students with a low baseline propensity to apply.[4]

Despite Advising Plus generating substantial positive effects on the incented inputs, however, we find no evidence that increasing student completion of key college and financial aid milestones, as incented by Advising Plus, resulted in improved enrollment quality. This is despite several prior experimental studies demonstrating strong links between milestone completion and improved enrollment quality. Across experimental conditions 55.2 percent of students enrolled at a CollegePoint school. Given our large sample size we can rule out impacts greater than three percentage points.[5] We do not find evidence of heterogeneity in the impacts of Advising Plus on enrollment quality by students' baseline propensity to apply, or across advising organizations or student subgroups.

Why, despite Advising Plus leading to a higher-quality choice set and greater advising support with financial aid, did this incentive program not result in improved enrollment quality? While Advising Plus students applied to the most selective colleges and universities, many of which meet students' full need with financial aid at substantially higher rates, they were no more likely to report being accepted to these institutions, despite being high in the national distribution of college

[4] The strongest predictor of whether students would apply to a CollegePoint school is whether they have a CollegePoint public college or university in their state. Advising Standard students without a public CollegePoint institution in their state are much less likely to apply, which is consistent with prior work documenting high rates of undermatch among students in rural communities who often lack access to school- or community-based college planning information or support (Hoxby and Avery, 2012; Hoxby and Turner, 2013).

[5] A three percentage point enrollment quality increase (the top of our confidence interval) could be consistent with the directional effect on college acceptances that we estimate. But our point estimate on enrollment quality is zero, so any true enrollment quality impact is a low probability.

entrance exam scores and from a socioeconomic background that many institutions indicate is central to their diversity goals.[6] The lack of a commensurate increase in acceptances given the substantial increase in application rate is inconsistent with prior experimental work, in which encouraging students to apply to highly-selective institutions resulted in both higher rates of admission and enrollment (Hoxby and Turner, 2013).[7] This result is, however, in line with recent evidence showing that students from families in the top one percent of income are substantially more likely to receive acceptance at an elite university compared to applicants lower in the income distribution with the same SAT and ACT scores (Chetty, Deming, and Friedman, 2023).

Another likely explanation for the lack of enrollment impacts is that the incentive program, while leading students to be more knowledgeable about the financial aid process, did not itself overcome college affordability barriers faced by students and their families. Students' survey responses suggest that affordability concerns were a potential barrier to enrollment at higher-quality colleges and universities. Half of students reported cost as the most important factor in their college choice, and approximately one quarter of students reported that their top choice was not an affordable option, even after financial aid was applied -- these views on affordability were consistent between Advising Plus and Advising Standard students. These affordability concerns may have been particularly salient at the Barron's 2 institutions to which Advising Plus report substantially higher rates of acceptance.[8] The average net price at these institutions for even the lowest-income families is almost $15,000 year, which may have been prohibitively expensive for students and their families.

[6] For instance, 135 colleges and universities participate in the American Talent Initiative, which comprises high graduation-rate institutions committed to increasing their share of low- and moderate-income students.
[7] Specifically, the Expanding College Opportunity intervention increased application to selective "peer" institutions by 22.3 percent, admission to these institutions by 31 percent, and enrollment at these institutions by 18.5 percent.
[8] Barron's 2 institutions roughly correspond to the 2nd and 3rd tercile in the quality distribution of CollegePoint schools

Further analysis suggests that some students may more heavily weight preferences related to geographic proximity of the college or university they attend over college quality. Among students who were admitted to a CollegePoint school but who chose not to attend, student survey responses showed that they placed substantially higher importance on the college they did attend being located near their family. This hypothesis is consistent with prior work showing that high-achieving lower-income students who exhibit "income-typical" college search behavior put significantly higher weight on being able to live at or visit home frequently (Hoxby and Avery, 2012).

On one hand, our paper demonstrates that input-based incentives can be effective at a national scale at increasing student completion of critical college and financial aid milestones; at increasing and sustaining engagement with college advising; and at increasing the influence that students feel advising has on their college planning and choices. These results build on the existing research on financial incentive in education, and show that input incentives (1) are effective at shaping discrete and consequential decisions like where to apply to college in addition to influencing more routine educational behaviors (e.g. reading books); and (2) can positively influence students' educational decisions even when implemented at a national scale.

On the other hand, our results suggest that even interventions which increase completion of important college and financial aid milestones may be insufficient to increase lower-income student representation at America's selective colleges and universities if they are not paired with parallel investments to increase admissions and affordability. The average institutional net price among colleges in students' accepted choice set in our experimental sample was $10,925 even for students from the lowest-income households (less than $30k). Consistent with conclusions from Chetty et al. (2020) and Chetty, Deming, and Friedman (2023), revisions to admissions practices

at selective colleges and universities (e.g. ending legacy preferences) and additional public and private investments to increase affordability at a broader set of selective institutions are likely necessary to meaningfully increase lower-income student representation--and in turn contribute to greater intergenerational income mobility--at selective institutions in the U.S.

I. Program Background

CollegePoint

CollegePoint is a national remote college advising program started by Bloomberg Philanthropies in 2014. CollegePoint focuses on increasing the share of high-achieving, low- and moderate-income students who enroll at selective colleges and universities across the country. CollegePoint has served tens of thousands of students since its inception. Historically to be eligible for CollegePoint students must have: (1) family income below $85,000; (2) a high school GPA of 3.5 or higher; and (3) score above the 90th percentile on the ACT, SAT, or PSAT. Students who met these criteria comprised just over half of the Advising Plus experimental sample. For the Class of 2022, CollegePoint expanded their eligibility criteria to include three types students who did not meet the 90th percentile requirement: "OnTrack" students with exam scores above the 85th percentile (this was first introduced for the Class of 2021); "Eligible-80" students with exam scores above the 80th percentile; and "Test-Optional" students with no exam scores but have taken at least three AP or IB courses. Each of these groups comprised approximately 15 percent of the Advising Plus experimental sample. CollegePoint primarily works with the College Board to identify and invite high-achieving low- and moderate-income students to participate in the program. Recruitment takes place in waves, starting in March or April of students' junior year in high school and continuing into September of students' senior year in high school. To be eligible

for the Advising Plus experimental sample, students must have met the CollegePoint eligibility criteria and have opted to participate in the program.

CollegePoint advising is provided by a consortium of non-profit college advising organizations: College Advising Corps, College Possible, Matriculate, and Scholar Match. Advisors connect with and advise students individually throughout the program, and all advising is conducted remotely. CollegePoint advisors leverage multiple outreach channels to reach and engage with students, including phone calls, mailing, email campaigns, and social media and text messaging outreach. Advisors provide support with college search, applications, financial aid, scholarships, and college choice. Given CollegePoint's focus on increasing the share of high-achieving, lower-income students that matriculate to top colleges and universities, advisors place particular emphasis on encouraging students to apply to well-matched institutions. CollegePoint uses a list of colleges—referred to as "CollegePoint schools"—with graduation rates above 70 percent to define well-matched institutions for this population.[9]

Sullivan et al. (2021) report results from a multi-cohort, randomized controlled trial of CollegePoint. The experimental sample consisted of approximately 25,000 students from the high school graduating classes of 2018 - 2020 who signed up for CollegePoint, met the eligibility criteria described above, and who were randomly assigned the offer to participate in CollegePoint or to a control group that did not receive services from CollegePoint. Approximately 75 percent of students assigned to CollegePoint interacted with their advisor at some point, but the mean number of interactions was quite modest (5.7; this includes asynchronous interactions like text messages and emails). CollegePoint led to a 1.3 percentage point increase in the share of students

[9] The 70 percent graduation rate threshold is based on the average six-year graduation rate over the past five years. CollegePoint schools must also meet the following criteria: (1) undergraduate enrollment of at least 500 students; and (2) be accredited and degree-granting as determined by the Carnegie Classification of Institutions of Higher Education.

that enrolled at a CollegePoint school (relative to a control mean of 50.1 percent), and a 1.1 percentage point increase in the share of students that enrolled at Barron's 1 institutions (relative to a control mean of 26.1 percent). The combination of modest impacts from the RCT and low student engagement were central motivators for the Advising Plus program we report on in this paper.

Advising Plus

The Advising Plus program provided CollegePoint students from the high school graduating class of 2022 with the opportunity to earn financial incentives for engaging with their advisor and for completing key college application and financial aid milestones. Specific to the incentives, students could earn up to $1,000 by (1) having an introductory meeting with their advisor ($50); (2) applying to at least four CollegePoint schools ($100 per school, for a maximum of $400); (3) Reviewing college acceptances and financial aid awards with their advisor ($50); and (4) Providing documentation of an enrollment commitment and the associated award letter ($500 towards pre-matriculation costs like a mandatory college orientation fee).[10] As we describe in the introduction, CollegePoint selected these milestones for incentives based on prior evidence that completion of each individual milestone (e.g. applying to selective institutions) can lead to higher rates of enrollment at selective institutions.

In addition to completing these activities, students were required to have "a substantial engagement" with their advisor at least once per month from September through May 31, 2022. CollegePoint defined a substantial engagement as "a two-way interaction via voice, video, or text about a college related topic, or socioemotional support related to the college application or

[10] The deadlines for completing these tasks were October 1st, 2021; December 3rd, 2021; April 16th, 2022, and May 31st, 2022, respectively.

transition process." In addition, students were required to submit verification for each incentive: screenshots of submitted college applications; screenshots of at least two college acceptances and award letters; and proof of a college commitment and award letter.

We discuss the randomization procedure and advisor assignment for Advising Plus in Section IV, and we discuss student take-up of the incentives in Section V.

II. Data

CollegePoint Student-Level Data

As part of the recruiting process, CollegePoint partners with the College Board and the ACT to collect the following information on students: broad family income categories (less than $40k or $40-80K); SAT, ACT, and PSAT scores, if available; high school GPA; high school name and location (zip code and state); and other limited demographic information.[11] The demographic information (gender, race, first generation status) is only available from the College Board, so this data is missing for a significant portion of our sample for whom the College Board does not have data (e.g. if the student has never taken the PSAT or SAT), or because the student was recruited for CollegePoint through the ACT or as part of the Test Optional group. We also observe when the student entered the CollegePoint program and to which advising organization they were assigned. Because receipt of the Advising Plus incentives was contingent on students having continued interactions with advisors on a monthly basis, CollegePoint asked advisors to document each of their meetings; we therefore are able to observe the timing, frequency, and content of meetings between each student and their advisor.

[11] All information besides SAT, PSAT, and ACT scores was self-reported by students through College Board or ACT questionnaires prior to taking college entrance exams.

National Student Clearinghouse

To observe enrollment outcomes for our full analytic sample, we rely on matched records from the National Student Clearinghouse (NSC). NSC data provides student-by-term-by-college level enrollment information; using this data to measure college enrollment is standard practice for a nationwide sample like the one in this study (Dynarski, Hemelt, and Hyman, 2015). As of Fall 2022, the NSC data covers 97.4 percent of all Title IV eligible degree-granting institutions.[12] The NSC performed the match for our analytic sample in early December 2022. Because academic terms vary widely across institutions in timing and length (e.g. semesters versus trimesters), we construct our primary outcome of enrollment in the fall following their senior year of high school as whether the student was enrolled as of October 1st, 2022.

College-level data

The primary college-level quality metric we use throughout our analysis is CollegePoint (CP) school status (defined in Section II). CollegePoint provided the full list of CP schools with institutional identifiers so that we could link to other common sources of college-level information. Second, we use an alternative measure of college quality: Barron's selectivity tiers 1 ("most competitive") and 2 ("highly competitive plus"). Examples of Tier 1 schools include Harvard University, Williams College, and University of Virginia; examples of Tier 2 schools include Boston University, Smith College, and University of Illinois at Urbana-Champaign. We include additional college-level characteristics to further measure quality and affordability from the College Scorecard, including average net price, average net price by student income-bin, six-year graduation rate, mid-point SAT scores of incoming class, and admission rate.[13] Finally, we identify

[12] Source: https://nscresearchcenter.org/workingwithourdata/
[13] See https://collegescorecard.ed.gov/data for more information about this data.

the subset of CP schools that meet full financial need for all admitted students, since these institutions enable students to attend high-quality institutions without incurring out-of-pocket expenses or student debt to cover tuition and living expenses.[14] Specifically, these are the schools that meet 100% of demonstrated financial need without loans, either for all students or for students from lower-income families. There are a total of 35 "meet full need" (MFN) schools, which represent the highest-quality colleges.

College Choice Survey

To supplement the enrollment outcomes from the NSC data, CollegePoint contracted with NORC at the University of Chicago to administer a detailed survey beginning in the summer after students graduated high school. Through this survey, we observe students' college application behavior (including which colleges they applied to; factors that influenced their application decisions; their ranking of colleges to which they applied based on their preference for attending; which colleges they considered applying to but did not and why); students' college acceptances (including whether the colleges they were accepted to offered sufficient financial aid and whether the net price to attend a given college or university was more or less than the student expected); and which college they planned to or were currently attending (including factors that influenced their decision, and who was most influential in making that decision). The survey also asked students specifically about their experiences with their CollegePoint advisor, including what topics they discussed and how helpful they found their advisor with various aspects of the college search process. We provide the full survey instrument in the Appendix.

[14] The American Talent Initiative collected this information from its member colleges, and we thank our partners at CollegePoint who shared this data with us.

Given budget constraints CollegePoint administered the survey to a randomly selected 75 percent of the full analytic sample. NORC administered the survey between August and November of 2022. The overall survey completion rate was 70.4 percent (n = 2,459) and was balanced between experimental conditions (70.8 percent for Advising Standard; 69.9 percent for Advising Plus). In the next section, we show balance on baseline observables, both for the overall sample and within the subset of survey completers.

III. Empirical Strategy

Randomization Procedure

For the Class of 2022, CollegePoint had the financial resources to support 2,000 students in the Advising Plus program, with the remainder participating in the traditional CollegePoint program ("Advising Standard"). CollegePoint contracted with the research services firm EASE to randomly assign students to Advising Plus versus Advising Standard. This randomization occurred *after* students had actively agreed to participate in the CollegePoint program. Specifically, students entered the CollegePoint program on a rolling basis between their junior spring and senior fall (Spring 2021 - Fall 2021) and EASE randomized incoming students in roughly weekly batches. Within each batch, students were first randomly assigned to one of the four advising organizations (College Advising Corps, CollegePossible, Scholar Match, and Matriculate) in proportions based on each organization's staffing capacity. Within each organization, students were then randomly assigned to Advising Plus or Advising Standard, blocked by the four eligibility categories described above (Traditional, OnTrack, Eligible-80, and Test-Optional).[15] When random assignment began on March 15th, 2021, the share of students assigned to Advising Plus out of all

[15] A small share of the Test-Optional students were randomly assigned to a pure control condition (n = 218). We do not include these students in our analysis.

eligible students was 33 percent. To ensure the Advising Plus condition would be fully filled, the share increased to 67 percent from July 27th through September 9th, 2021. The final analytic sample includes all students who entered the CollegePoint program between March 15th and September 9th, with 1,998 students assigned to Advising Plus and 2,817 students assigned to Advising Standard.

To eliminate potential confusion caused by a particular advisor's caseload including both Advising Plus and Advising Standard conditions, advisors were also randomly assigned to either the Advising Standard or Advising Plus condition.[16]

Estimating Intent to Treat Impacts

We estimate the intent to treat impacts using a standard OLS regression model:

$$Outcome_i = \beta_0 + \beta_1 AdvisingPlus_i + \beta_2 StudentChar_i + RandBlockFE_i + \epsilon_i \qquad (1)$$

Where $StudentChar_i$ is a vector of student baseline characteristics (see the first X rows of Table 1) and $RandBlockFE_i$ are randomization block fixed effects. We cluster robust standard errors at the level of randomization block. Because $AdvisingPlus_i$ is an indicator equal based on the *offer* to participate in Advising Plus, we interpret $\hat{\beta}_1$as the intent to treat impact estimate of Advising Plus, relative to Advising Standard.

Predicting Baseline Propensity to Apply to a CollegePoint School

Given the relatively high rate of CP applications among the Advising Standard students (87 percent applied to at least one, and 61 percent applied to four or more; see Table 2), we test

[16] Due to the rolling enrollment of students into CollegePoint, and due to expected staff turnover at the four advising organizations, EASE also performed the randomization of advisors to experimental conditions on a rolling basis between March and August 2021.

whether Advising Plus had differential impacts based on students' baseline propensity to apply to a CP school. Specifically, we predict CP application using a lasso logistic regression model with five-fold cross-validation, applied only to the sample of Advising Standard students.[17] We use all student baseline characteristics from Table 1 as predictors in this model. We then apply this model to the full experimental sample to generate the predicted probabilities of applying to a CP school. We convert the model raw output (continuous measure ranging from zero to one) to a binary prediction by flagging the 13 percent of students with the lowest scores as predicted to not apply (12.6 percent of the Advising Standard sample, and 13.5 percent of the Advising Plus sample). We use this threshold to reflect the share of Advising Standard students who did not submit a CP application. We provide more detailed model output in the Appendix.

IV. Results

Summary Statistics and Baseline Equivalence

We first test for baseline equivalence in our full analytic sample by regressing student baseline characteristics on an indicator for Advising Plus assignment and randomization block fixed effects. We present the results in Table 1, where columns 1 and 2 of each row display the coefficients and standard errors, respectively, from a separate regression, and column 3 displays the Advising Standard mean of the student characteristic (e.g. 35.3 percent of Advising Standard students are categorized as low-income). The results in Table 1 show that randomization had the desired result of producing balance between the two experimental conditions. Of the 28 characteristics we test, there are only two marginally significant and economically small differences between the Advising Plus and Advising Standard groups (Advising Plus students have

[17] We use the STATA command cvlassologit from the LASSOPACK (Ahrens, Hansen, and Schaffer, 2018)

0.6 percent lower SAT scores, and are 5 percent more likely to be in the Test-Optional eligibility group). In columns 4-6, we repeat the same analysis restricting the sample to survey completers, and find that the two groups are well balanced here too. As we describe above, we include all baseline student characteristics listed in Table 1 in our main regression models as covariates to increase the precision of our impact estimates.

Focusing on column 3 and 6 provides a summary of the students in the full analytic and survey sample, respectively. As expected based on CollegePoint's eligibility criteria, the sample includes academically high-achieving students from low- to moderate-income households: Over half of the sample are in the top decile of college entrance exam scores (Eligible-Regular), 17.1 percent are in the 85th-89th percentiles (Eligible-On Track); 16.0 percent are in the 80th-84th percentiles (Eligible-80); and 15.1 percent were eligible without a test score, based on their self-reported high school GPA and AP or IB course-taking (Eligible-Test-Optional). The specific test scores and demographic characteristics are missing for sizable portions of the sample due to data limitations we describe above. Among those for whom we do observe demographic characteristics, nearly 30 percent are Black or Hispanic students, and nearly half are first generation college-goers.

The final two rows of Table 1 measure the proximity and exposure of students to CP schools: whether the student's state has a public CP option (e.g. University of Virginia; University of Michigan-Ann Arbor) and the number of CP schools in the same core-based statistical area (CBSA). We construct these proximity measures using the students' high school zip code. We find that the majority of the sample has close proximity to CP schools, with 84.9 percent of students having a public CP option in their state, and the average student having 6.1 CP schools within their CBSA.

Comparing columns 3 and 6, we find that the sample of survey respondents is quite similar to the full analytic sample.

Impacts on incentivized behavior

Among students who signed up for CollegePoint advising services and were randomly offered the opportunity to participate in Advising Plus, nearly two-thirds (62.6 percent) completed the first milestone of having an introductory meeting with their advisor, and received the corresponding $50 incentive. In addition to completing a given milestone task (e.g. applying to at least four CP schools), the students also needed to have had at least one substantive interaction with their advisor in each month leading up to the milestone. Under half of Advising Plus students completed a second milestone and maintained consistent interaction with their advisor (minimum of once per month) leading up to the milestone in order to receive the associated financial incentive: 43.4 percent verified applying to four CollegePoint schools ($400 incentive); 33.9 percent reviewed their award letter with their advisor ($50 incentive); and 40.9 percent verified their enrollment commitment with their advisor ($500 incentive). We do not estimate and report Treated on Treated (TOT) impacts in the paper because it is possible that the offer of the incentives--and the associated salience that the incentives created for key college and financial aid milestones--affected students' decisions independent of actual receipt of the incentive. Furthermore, the ITT impact is more policy relevant, as in most applications of these incentives it is not possible to require students to participate.

In Table 2, we show the impacts of Advising Plus on the specific college and financial aid activities that the program incented. We find positive and significant impacts on each of the incented milestones, all of which prior research has found to be positively associated with

improved college enrollment outcomes. We find that, while Advising Plus and Advising Standard students were equally likely to ever interact with their advisor (approximately 72 percent of both groups) (column 1), Advising Plus students interacted substantially more frequently and for a longer period of time: They had an average of 2.7 more interactions (a 42.6 percent increase; column 2); 25.7 percentage points more likely to still be engaged as of May of their senior year (a 165 percent increase; column 3); and were over three times as likely to have engaged with their advisor in all months between program entry and May (column 4), all compared to their Advising Standard counterparts.

In terms of concrete college and financial aid milestones, Advising Plus students were 5.1 percentage points (5.8 percent) more likely to apply to at least one CP school (column 5), and were 6.5 percentage points (10.7 percent) more likely to apply to at least four CP schools.[18] In Appendix Table A1, we show that results are similar across a variety of other college application outcomes, including applications to Barron's 1 and Barron's 2 schools. Advising Plus students were 13.3 percentage points (21.8 percent) more likely to review a financial aid award letter with their advisor. The impact estimates in Table 2 show that Advising Plus successfully influenced the incented behaviors as intended, resulting in more frequent and sustained engagement of students with their advisors, higher quality application sets, and higher rates of discussing financial aid packages with their advisor.

In addition to having more frequent interactions with their advisors, we find that Advising Plus students had a more favorable view of the advising they received, and developed more meaningful and favorable relationships with their advisor, suggesting that the incentives were effective at increasing the efficacy of remote advising more generally. We find that Advising Plus

[18] Note that because nearly all students (over 99 percent) applied to at least one college, we find no impacts on the external margin of college application behavior (column 1).

students rated their CollegePoint advisor as significantly more important and influential in their college search process than Advising Standard students. Appendix Table A2 shows Advising Plus students were 14 percentage points (51.9 percent) more likely to rate their CollegePoint advisor as very or most important in understanding the financial aid process (column 2), and were 4.6 percentage points (36.5 percent) more likely to rate their CollegePoint advisor as very or most important in making their college decision (column 5). We further show in Appendix Table A3 that Advising Plus students were significantly more likely to report their advisor was helpful across a variety of aspects of the college search process, the financial aid process and the importance of applying to a large and diverse set of colleges, and also significantly more likely to discuss a variety of relevant topics with their advisor, such as how to estimate estimate net price at a specific college before applying and how to select safety match, and reach schools.

Impacts on College Choice and Enrollment Outcomes

We next consider how Advising Plus impacted students' preferences within their application set and their acceptance and enrollment outcomes. Table 3 shows the Advising Plus impact estimates for three outcomes from the survey: Whether the student's top choice within their application set was a CP school (column 1); whether the student was admitted to at least one CP school (column 2); and whether the student's top choice within the admitted set was a CP school (column 3). We find that Advising Plus students were 4.3 percentage points (5.5 percent) more likely to identify a CP school as their top application choice, compared to Advising Standard. We also find modest but imprecisely estimated impacts on acceptance to a CP school and on whether a CP school was students' top admitted choice. When we consider the alternative college-quality indicators in columns 4 through 9, we find that, while Advising Plus increased student's interest

in Barron's 1 schools, students were no more likely to be admitted to these most selective schools. As we show in Appendix Table A4, this pattern of higher rates of application but no increase in acceptance at Barron's institution holds even for students in the top five percent of the national distribution of college entrance exam scores. Conversely, while Advising Plus students were significantly more likely to be admitted to Barron's 2 schools (6.9 percentage points), they were no more likely to identify a Barron's 2 school as their top choice within their application or admittance sets.

In Panel A of Table 4, we present the impact estimates of Advising Plus on Fall 2022 enrollment outcomes from the National Student Clearinghouse data. Despite the Advising Plus incentives working as designed to positively influence students' application behaviors -- including their preferences among the colleges to which they applied -- and substantially increasing acceptances at Barron's 2 institutions, we observe no significant overall impact on enrollment quality. We have sufficient precision to rule out positive impacts on enrollment at CollegePoint schools of approximately three percentage points or greater. These null results are consistent with using the College Choice Survey to derive the enrollment outcome (Panel B). We explore why Advising Plus did not have the intended impact on enrollment quality in more detail below.

Heterogeneous Impacts: Baseline Propensity to Apply to CollegePoint Schools

We next test whether there were differential impacts of Advising Plus based on a student's baseline propensity to apply to a CP school, derived from the prediction model we describe above in Section IV.

We estimate a version of equation (1) that interacts the Advising Plus indicator with the indicator for "predicted to not apply to a CP school". We estimate the differential impacts for a

select group of outcomes from tables 3, 5, and 6, and present the results in Table 5. The first row of Table 5 describes application behaviors for Advising Standard students who are predicted to not apply to a CP school. As expected, these students are substantially less likely to apply to a CP school (69.9 versus 91.5 percent, column 4) and substantially less likely to be accepted to a CP school (61.9 versus 85.8 percent, column 5), compared to Advising Standard students who are predicted to apply to a CP school.

The second and third row of Table 5 provide the differential impacts of Advising Plus based on whether the student was predicted to apply to a CP school or not. While Advising Plus students with low application propensities had less engagement with their advisors compared to Advising Plus students with higher application propensities (columns 1, 2, and 3), column 4 shows that the application impacts of Advising Plus are substantially higher for students with lower application propensities. Specifically, Advising Plus led to a 22.4 percentage point (32 percent) increase in the share of lower-propensity students who applied to at least one CP school, but only a 2.8 percentage point (3.1 percent) statistically insignificant increase in the share of higher-propensity students applying to CP schools. This result is intuitive: because over 90 percent of students in the higher-propensity category were already going to apply to a CP school, there is a ceiling to the magnitude of impact that Advising Plus could have for these students.

Column 5 suggests that this increase in CP applications translated to an increase in the share of low-propensity students who were admitted to a CP school, though this result is not statistically significant ($p = 0.104$). However, we find no differential impacts on enrollment (column 6), reinforcing the conclusion from above that Advising Plus's success at increasing the incented behaviors did not translate to better enrollment outcomes.[19]

[19] The most influential predictor in the model predicting baseline propensity to apply to a CP school is whether the student lives in a state where there is a public CP school. Twenty-eight states have at least one public CP option, and

When we estimate the application, admittance, and enrollment outcomes at Barron's 1 and Barron's 2 schools (columns 7-12 of Table 5), we find that these differential impacts are driven by increased applications (and acceptances) at the highest quality schools (Barron's 1). Still, we find no enrollment impacts for low-propensity students. Two potential explanations, which we explore further in the next section, are that (1) Barron's 1 institutions remained prohibitively expensive for students and their families (the average net price for the lowest-income families at Barron's 1 institutions was still $10,000 per year); and/or (2) that attending a Barron's 1 institution competed with students' preferences to attend college closer to family.[20] We also explore whether there are differential impacts by student subgroups. We find no evidence that the impacts of Advising Plus differed systematically based on baseline student characteristics, as shown in Appendix Table A6.

Exploring Lack of Enrollment Impacts

Thus far, we have shown that Advising Plus successfully influenced incented college and financial aid milestones and behaviors as designed, but did not improve enrollment outcomes. We offer multiple potential explanations for this pattern of results, and explore each of these descriptively.

The first explanation is that while students were applying to and gaining admittance at higher-quality institutions, this did not appear to result in acceptance choice sets that included high-quality *and* affordable options. In Appendix Table A7, we estimate Advising Plus impacts on student application, acceptance, and enrollment outcomes at colleges and universities that meet

84.3 percent of our full analytic sample live in one of those states. When we estimate differential impacts based on whether the student lives in a state with a public CP school, we find very similar results (Appendix Table A5)

[20] The one exception is that we do find a significant enrollment impact for first generation students. Because we do not observe parental education for the full sample, and because we do not find similar impacts on the applicant and admittance outcomes for first generation students, we are hesitant to draw strong conclusions from this result.

full financial need for admitted students (MFN schools). While Advising Plus students were 5.2 percentage points more likely to *apply* to these institutions, they were no more likely to be admitted, and accordingly no more likely to enroll. These are similar to the Barron's 1 outcomes we observe in Tables 3 and 4.

The second explanation is that affordability remains a major barrier to attending a high-quality college even for high-achieving, lower-income students admitted to these institutions. We present a variety of results to support this first explanation. First, when survey respondents were asked to rate the importance of various factors in deciding where to attend, cost and affordability were always the top factor. In Table 6, we see that half of students rated cost to attend as "most important" in deciding which college to attend (column 1). Advising Plus had no impact on how students rated these factors.[21] Next, survey respondents were asked whether each college they were admitted to offered enough financial aid to make it an affordable option, and whether their individual net price was more or less than expected. In Table 6, we present student responses for their top choice within their admitted set. We find that 25 percent of students did not receive sufficient aid at their top admitted choice (column 3), and that one third of students underestimated their net price at their top admitted choice by $2,000 or more (column 6).[22] Furthermore, as we also showed in Tables 5 and 6, Advising Plus students were 6.9 percentage points more likely to report being *admitted* to Barron's 2 institutions, but no more likely to enroll. Affordability barriers may have been a contributing factor to the lack of enrollment effect: As we show in Table A10,

[21] We extend this analysis to include the full set of factors included in the survey instrument, and display the results in Appendix Table A8.

[22] When we repeat this analysis focusing on students' enrollment choice, as observed in the survey data, we find that students were more likely to think the school offered them sufficient aid, and were less likely to underestimate the cost (Appendix Table A9).

the average net price for even the lowest income students at Barron's 2 institutions was almost $15,000 per year.

To more broadly illustrate the net prices likely faced by students in our sample, we use data from the College Scorecard on the average net price among students within certain income bins (also presented in Appendix Table A10). We show the average net prices among the schools attended by students in our analytic sample, separately by category of college quality. While the net prices are significantly lower than these schools' total cost, they remain substantial and may have posed a prohibitive financial constraint on lower-income households. On average, the annual net price at CP schools ranges from $13,000 to $19,000 for families with incomes below $75,000. Even among the MFN schools, the annual net price ranges from $5,000 to $10,000 for families with incomes below $75,000 -- this is because students are typically still responsible for covering their expected family contribution (EFC). Two more general insights emerge from these results: The first insight is that gaining admittance to high-quality colleges and universities remains a barrier for lower-income students, even among students high in the national distribution of college entrance exams and with many of these colleges and universities committing to increase their socioeconomic diversity. The second insight is that most high-achieving students from lower-income backgrounds are likely to face at least thousands of dollars in net price even after financial aid is applied, which may be a sizeable barrier to their enrollment at selective colleges and universities.

The third explanation for the overall null impacts on enrollment is that some students weigh other preferences more heavily than quality. We explore this by focusing on the sample of Advising Plus students who were accepted to at least one CP school, and comparing the characteristics of: (1) the CP schools, for students who chose to attend a CP school; (2) the CP

school that students were accepted to, among students who chose to attend a non-CP school;[23] and (3) the non-CP school that students chose to attend over a CP school. We display these results in Appendix Table A11. Roughly one out of five Advising Plus students were admitted to at least one CP school, but chose not to attend a CP institution. Consistent with our first explanation, we find that students were more likely to attend a CP school they were admitted to if that CP school had a lower net price (comparing columns 1 and 2). However, the non-CP schools that students attended instead of a CP school to which they were admitted have slightly higher net prices compared to the CP schools not attended.[24] The non-CP schools that students chose to attend were significantly closer to their home (at the median, 60 miles away compared to 281 for the CP schools they were admitted to but did not attend). In Table 7, we investigate the factors most important to whether students chose to enroll at a CP school.[25] We find that students who did not attend a CP school placed more importance on location in their application and enrollment decisions, while students who did attend a CP school placed more importance on quality and academic reputation.

V. Discussion

Our paper demonstrates that input-based incentives at discrete and consequential decision points in students' educational trajectories, such as where to apply to college, can positively influence students' behaviors, even when implemented at a national scale. These incentives were particularly effective for students with low propensity to apply to selective colleges and

[23] If a student was accepted to more than one CP school, then we use their top choice within the set of admitted CP schools.

[24] Of course, it is possible that individual students' net prices differ substantially from these averages, and the non-CP school was the more affordable option in their specific circumstance.

[25] Specifically, this table shows a regression of the outcome (student importance placed on particular factors in deciding which college to attend) on an indicator of whether the student attended a CP school, and all other regression covariates included in all other models. The sample is limited to Advising Plus students who were admitted to at least one CP school.

universities and for students with little geographic exposure to these institutions near where they lived. Yet our results also highlight persistent barriers to expanding socioeconomic representation--and broader economic mobility--at America's selective colleges and universities. Students randomly assigned the offer of financial incentives to complete key college and financial aid milestones, including to apply to well-matched institutions, *did* apply to selective colleges and universities at substantially higher rates. They were no more likely, however, to be accepted to or to enroll at the subset of these institutions that meet full financial need, despite being from an academic and demographic profile that many top colleges and universities have indicated is a key priority for their campus diversity goals. Students randomly assigned the incentives were both more likely to apply to and be accepted at institutions at the second tier of selectivity (according to the Barron's ratings) but are no more likely to attend these institutions. The average net price for the lowest-income students was almost $15,000 per year at these Barron's 2 institutions--a net price that may have been prohibitively high for students and their families. Our results suggest that, in order to achieve greater representation and mobility for high-achieving, lower-income students, it will likely be necessary for colleges and universities to make further adjustments to their admissions processes and for both governments and institutions to further increase affordability for these students. For instance, Chetty, Deming, and Friedman (2023) show that removing long-standing legacy preferences at elite universities would substantially increase socioeconomic diversity; Amherst College recently did so and experienced a record number of first-generation students in their incoming freshmen class (Jaschik, 2023).

Our results on students' potential weighting of geographic preferences suggest that broader efforts to improve college enrollment quality among lower-income students may be better targeted among students on the extensive margin of going to college, for whom there are moderately-

selective institutions relatively close to where the students live. For instance, Castleman, Lohner, and Deustchlander's (2020) RCT evaluation of the College Forward advising program in Austin and Houston, Texas found large extensive margin effects on enrollment quality; the median distance between students' high school and the college at which they enrolled was 38 miles. This suggests that efforts to improve enrollment quality among lower-income populations may be more effective if the focus is on students who have options to meaningfully improve enrollment quality *and* remain close to home, rather than on students for whom increasing enrollment quality would require attending college several hundred miles from home.

We believe input incentives merit investigation at other important margins and with other priority populations. As we reference above, intensive, in-person college advising models like College Forward generate large effects on college enrollment and success, largely by shifting students on the extensive margin of going to college at all, or of going to a four-year institution, to attend higher-quality institutions. These programs are hard to scale, however, given their in-person design. Input incentives paired with remote advising have the potential to engage a more academically-mainstream high school population in key college and financial aid tasks and to encourage engagement with remote advising, and in turn lead to improvements in enrollment quality. We also believe input incentives merit investigation at other critical junctures in students' postsecondary trajectories, like major and course selection and career exploration. Consistent with our findings from this paper, however, it remains important to assess whether increasing completion of key milestones through input incentives (whether in education or other social programs) results in the desired effect on education, economic mobility, and general well-being.

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Table 1: Summary Statistics and Baseline Equivalence

	Full analytic sample (n = 4,815)			Survey sample (n = 2,459)		
	(1)	(2)	(3)	(4)	(5)	(6)
Low Income ($0-40k)	0.011	(0.016)	0.353	-0.003	(0.026)	0.367
Middle Income ($40k-80k)	-0.011	(0.016)	0.647	0.003	(0.026)	0.633
Eligible-Regular	-0.005	(0.005)	0.518	-0.012	(0.017)	0.530
Eligible-On Track	-0.003	(0.005)	0.171	0.020	(0.013)	0.164
Eligible-80	0.000	(0.004)	0.160	-0.014	(0.013)	0.148
Eligible-Test Opt	0.007*	(0.004)	0.151	0.005	(0.011)	0.158
SAT score	-8.45*	(4.933)	1377	-4.699	(7.971)	1379
Missing SAT	-0.020	(0.014)	0.651	-0.04*	(0.024)	0.653
ACT score	0.117	(0.133)	29.31	0.107	(0.247)	29.42
Missing ACT	0.005	(0.012)	0.726	0.012	(0.023)	0.737
PSAT score	0.861	(5.214)	1267	8.618	(10.151)	1270
Missing PSAT	0.011	(0.011)	0.794	0.016	(0.019)	0.781
Asian	-0.010	(0.020)	0.368	-0.015	(0.034)	0.379
Black	-0.011	(0.013)	0.0969	0.001	(0.019)	0.105
Hispanic	0.001	(0.018)	0.194	-0.011	(0.028)	0.198
White	0.012	(0.019)	0.286	0.010	(0.028)	0.262
Other Race	0.008	(0.010)	0.0555	0.015	(0.016)	0.0552
Missing Race	0.002	(0.014)	0.297	-0.006	(0.021)	0.290
First generation	-0.011	(0.020)	0.449	-0.012	(0.035)	0.469
Not first generation	0.011	(0.020)	0.551	0.012	(0.035)	0.531
Missing parental education	-0.005	(0.014)	0.304	-0.003	(0.021)	0.294
Female	0.011	(0.022)	0.626	0.009	(0.031)	0.647
Missing Gender	-0.005	(0.014)	0.289	-0.005	(0.020)	0.280
Public CP in state	0.000	(0.012)	0.845	0.009	(0.019)	0.854
Number of CPs in CBSA	-0.010	(0.251)	6.103	0.009	(0.019)	6.314

Notes: within each panel, each row represents results from a separate regression of the student baseline characteristic listed on an indicator for assignment to Advising Plus and randomization block fixed effects (batch assignment date x advising organization x eligibility category). For the four eligibility categories, we adjust the randomization block fixed effects to be batch assignment date x advising organization only. We exclude student observations for which the relevant baseline characteristic is missing. Rows (1) and (4) display the coefficient estimate on Advising Plus; rows (2) and (5) display the standard error of that estimate; and rows (3) and (6) display the mean of the baseline characteristic within the Advising Standard condition. ***p < 0.01; ** p < 0.05; * p < 0.1

Table 2: Advising Plus impacts on incented behaviors

	Any interaction with advisor	Number of interactions with advisor	Still engaged with advisor in May	Engaged with advisor each month	Any CP application	At least 4 CP applications	Reviewed aid letter
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Advising Plus	0.001	2.662***	0.257***	0.196***	0.051***	0.065***	0.133***
	(0.013)	(0.320)	(0.018)	(0.014)	(0.017)	(0.025)	(0.026)
N	4,815	4,815	4,815	4,815	2,459	2,459	2,459
R-squared	0.283	0.272	0.333	0.314	0.348	0.360	0.299
Advising Standard mean	0.718	6.248	0.156	0.0579	0.873	0.605	0.609

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes in columns (1)-(4) are based on advisors' records of their interactions with students; outcomes in columns (5)-(7) are based on student responses in the College Choice Survey. *** p<0.01, ** p<0.05, * p<0.1

Table 3: Advising Plus impacts on admissions and college preferences

	CP School			Barron's 1			Barron's 2		
	Top application choice	Admitted	Top Admitted Choice	Top application choice	Admitted	Top Admitted Choice	Top application choice	Admitted	Top Admitted Choice
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Advising Plus	0.043*	0.029	0.031	0.059**	0.003	0.007	-0.000	0.069***	0.027
	(0.023)	(0.019)	(0.024)	(0.027)	(0.024)	(0.023)	(0.021)	(0.027)	(0.025)
N	2,459	2,459	2,459	2,459	2,459	2,459	2,459	2,459	2,459
R-squared	0.362	0.402	0.393	0.361	0.370	0.343	0.272	0.352	0.278
Advising Standard mean	0.781	0.807	0.705	0.537	0.425	0.340	0.181	0.525	0.262

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student responses in the College Choice Survey. We derive the top application and top admitted choice outcomes from responses to "Please rank the colleges you applied to in order of your preference for attending at the time you applied" and "Please indicate the final status of your application at each of these schools [that you applied to]". *** p<0.01, ** p<0.05, * p<0.1

Table 4: Advising Plus impacts on Fall 2022 enrollment outcomes (NSC data)

Panel A: Enrollment outcome from NSC data

	Any	CP school	Barrons 1	Barrons 2
	(1)	(2)	(3)	(4)
Advising Plus	0.005	0.000	0.010	-0.002
	(0.013)	(0.015)	(0.014)	(0.015)
N	4,815	4,815	4,815	4,815
R-squared	0.183	0.265	0.248	0.203
Advising Standard mean	0.793	0.552	0.255	0.201

Panel A: Enrollment outcome from Survey data

	Any	CP school	Barrons 1	Barrons 2
	(1)	(2)	(3)	(4)
Advising Plus	0.008	0.008	0.016	-0.007
	(0.013)	(0.024)	(0.023)	(0.023)
N	2,459	2,459	2,459	2,459
R-squared	0.310	0.389	0.338	0.291
Advising Standard mean	0.937	0.667	0.325	0.248

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Enrollment outcomes in Panel A are based on National Student Clearinghouse enrollment records, for which we define Fall 2022 enrollment as the student was actively enrolled as of October 1st, 2022. Enrollment outcomes in Panel B are based on student responses to the College Choice Survey. *** p<0.01, ** p<0.05, * p<0.1

Table 5: Differential Advising Plus impacts, baseline propensity to apply to a CP school

	Engagement with Advisor			CP school		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any Application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Low propensity	0.469	0.032	-0.035	-0.216***	-0.241***	-0.071
	(0.946)	(0.046)	(0.092)	(0.075)	(0.082)	(0.055)
Advising Plus	2.771***	0.268***	0.141***	0.028	0.014	0
	(0.353)	(0.020)	(0.027)	(0.017)	(0.020)	(0.017)
Low Propensity * Advising Plus	-0.81	-0.079*	-0.062	0.196***	0.125	0.001
	(0.676)	(0.043)	(0.094)	(0.072)	(0.077)	(0.044)
N	4,815	4,815	2,459	2,459	2,459	4,815
R-squared	0.272	0.334	0.3	0.358	0.408	0.265
Advising Standard mean (High propensity)	6.48	0.158	0.615	0.915	0.86	0.598

	Barron's 1			Barron's 2		
	Any Application	Admitted	Enrolled	Any Application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
Low propensity	-0.115	-0.137*	-0.016	0.009	-0.021	0.014
	(0.078)	(0.078)	(0.046)	(0.093)	(0.091)	(0.038)
Advising Plus	0.035	-0.014	0.012	0.070***	0.073**	-0.003
	(0.025)	(0.026)	(0.015)	(0.027)	(0.029)	(0.016)
Low Propensity * Advising Plus	0.203***	0.142*	-0.014	0.013	-0.03	0.008
	(0.077)	(0.077)	(0.035)	(0.078)	(0.072)	(0.029)

N	2,459	2,459	4,815	2,459	2,459	4,815
R-squared	0.38	0.372	0.248	0.348	0.352	0.203
Advising Standard mean (High propensity)	0.738	0.453	0.269	0.702	0.568	0.224

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, an indicator for having a low baseline propensity to apply to a CP school, the interaction of these two indicators, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). We construct the baseline propensity to apply to a CP school measure by estimating a lasso logistic regression model with five-fold cross-validation using the Advising Standard sample only, and then flag the students at or below the 13th percentile of the likelihood. We use the 13th percentile as the cutoff because this is the share of Advising Standard students who did not submit any CP applications. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Advising Plus impacts on importance and views of affordability

	Importance of affordability in deciding…		Views of affordability at top admitted choice…				
	Which college to attend	Not to attend top choice	Enough aid?	Expected cost (scale)	Expected cost w/in $2k	Expected cost > $2k	Expected cost < $2k
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Advising Plus	0.028	0.021	-0.013	0.007	0.009	-0.003	-0.006
	(0.030)	(0.101)	(0.027)	(0.344)	(0.027)	(0.027)	(0.022)
N	2,335	580	2,317	2,300	2,300	2,300	2,300
R-squared	0.287	0.616	0.301	0.284	0.288	0.290	0.283
Advising Standard mean	0.501	0.466	0.750	0.840	0.456	0.338	0.206

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student responses in the College Choice Survey. Column (3): In considering which college to attend, how important were these factors? The cost to attend (after financial aid was applied); Column (4): How important were the following when deciding not to attend your top choice of college? Too expensive. Students responded on a scale of 1 (Not Important) to 5 (The Most Important) these outcomes are indicators for whether the student marked the specific factor as "most important"; students could mark multiple factors as most important. Column (3): Did you feel this school offered you enough financial aid money to make it affordable to attend? Student could respond Yes, No, or Unsure; Unsure response coded as Yes for this analysis. Columns (4)-(7): Was the net price of this college (total cost to you and your family after factoring in financial aid) more or less than you expected? Students chose between About the same, $1-2k more, $2-5k more, etc. *** p<0.01, ** p<0.05, * p<0.1

Table 7: Importance of factors in considering which college to attend, among Advising Plus students who were accepted to at least one CP school

	Cost to attend	Located near family	Racial/ethnic diversity	Opportunity to visit the campus	Quality and academic reputation	Academic programs or majors of interest	Conversations with college ambassador
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Enrolled at CP school	-0.078	-0.138**	-0.000	-0.026	0.188**	0.030	-0.039
	(0.075)	(0.065)	(0.038)	(0.040)	(0.087)	(0.081)	(0.045)
N	815	812	814	814	809	812	813
R-squared	0.502	0.472	0.532	0.457	0.491	0.495	0.485
Enrolled at non-CP mean	0.656	0.185	0.0701	0.0641	0.227	0.404	0.109

Notes: The sample is limited to Advising Plus students who were admitted to at least one CP school. Each column corresponds to a separate regression of the outcome of interest on an indicator for whether the student enrolled at a CP school, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). The outcome is based on student response in the College Choice Survey: "In considering which college to attend, how important were these factors?". Students responded on a scale of 1 (Not Important) to 5 (The Most Important); these outcomes are indicators for whether the student marked the specific factor as "most important"; students could mark multiple factors as most important. *** p<0.01, ** p<0.05, * p<0.1

Appendix A: Appendix Tables

Appendix Table A1: Advising Plus impacts on college applications, alternative quality measures

	Any college application	Number of CP applications	Any Barrons 1 applications	Number of Barrons 1 applications	Any Barrons 2 applications	Number of Barrons 2 applications
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	0.002	0.434***	0.059**	0.218*	0.072***	0.198***
	(0.005)	(0.139)	(0.024)	(0.112)	(0.024)	(0.072)
N	2,459	2,459	2,459	2,459	2,459	2,459
R-squared	0.170	0.387	0.376	0.359	0.348	0.356
Advising Standard mean	0.994	4.372	0.704	2.457	0.655	1.331

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student responses in the College Choice Survey. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A2: Advising Plus impacts on views of advising

	Importance of CollegePoint advisor in understanding financial aid process			Importance of CollegePoint advisor in college decision		
	Raw scale	Very/Most Important	Most Important	Raw scale	Very/Most Important	Most Important
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	0.467***	0.140***	0.093***	0.245***	0.046**	0.012
	(0.112)	(0.033)	(0.028)	(0.069)	(0.022)	(0.012)
N	1,599	1,599	1,599	2,315	2,315	2,315
R-squared	0.407	0.376	0.370	0.356	0.312	0.334
Advising Standard mean	2.385	0.270	0.114	1.916	0.126	0.0394

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student repsonses in the College Choice Survey: "How important were each of these people in helping you understand the financial aid you were awarded" and "How influential were these people in your college decision?"; students responded on a scale of 1 (Not Important) to 5 (The Most Important). *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A3: Advising Plus impacts on views of advising

	Helpfulness of advisor, on a scale of 1 to 6 (strongly disagree to strongly agree)								
	Financial Aid Process	Likelihood of being admitted	Importance of quality in application choices	Importance of applying to large/diverse set of colleges	Figuring out type of college would be the best fit	Encourage applying to college not on list	Deal with stress/anxiety about college process	Deal with Family issues around college	Understand financial aid award letters
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Advising Plus	0.432***	0.241***	0.280***	0.267***	0.296***	0.310***	0.211**	0.190**	0.513***
	(0.079)	(0.078)	(0.075)	(0.074)	(0.078)	(0.090)	(0.091)	(0.096)	(0.081)
N	2,392	2,387	2,391	2,389	2,387	2,387	2,387	2,381	2,385
R-squared	0.313	0.280	0.276	0.291	0.293	0.270	0.290	0.272	0.321
Advising Standard mean	4.308	4.224	4.263	4.387	4.321	4.087	4.274	3.679	4.124

(Appendix Table 3, continued)
Level of discussion with advisor about certain topics, scale of 1 to 4 (None to Extensively)

	How to estimate net price at specific college before applying	How to select safety, match, and reach schools	Applying to college on CollegePoint Schools List	Interpret a financial aid award letter	Opportunities to learn more about each school
	(10)	(11)	(12)	(13)	(14)
Advising Plus	0.413***	0.347***	0.496***	0.518***	0.246***
	(0.062)	(0.058)	(0.061)	(0.070)	(0.066)
N	2,411	2,406	2,403	2,401	2,398
R-squared	0.318	0.322	0.307	0.331	0.300
Advising Standard mean	2.332	2.819	2.446	2.423	2.506

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student responses in the College Choice Survey. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A4: Advising Plus impacts on admissions and college preferences, among students in the top 5 percentile of test scores

	CP School			Barron's 1			Barron's 2		
	Applied	Admitted	Enrolled	Applied	Admitted	Enrolled	Applied	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Advising Plus	0.051**	0.037	-0.026	0.058	-0.031	0.009	0.013	0.026	0.067
	(0.025)	(0.033)	(0.032)	(0.037)	(0.046)	(0.031)	(0.044)	(0.045)	(0.055)
N	729	729	1,324	729	729	1,324	729	729	729
R-squared	0.378	0.416	0.217	0.345	0.332	0.194	0.316	0.343	0.368
Advising Standard mean	0.916	0.873	0.678	0.817	0.568	0.383	0.443	0.699	0.577

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Application and Admission outcomes are based on student responses in the College Choice Survey; enrollment outcomes are based on the NSC data. Sample limited to students within the top five percentiles of SAT, ACT, or PSAT scores, based on 2022 distribution of scores (thresholds: SAT = 1430; ACT = 32; PSAT = 1270). *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A5: Differential Advising Plus impacts, based on whether there is a public CP school in state

	Engagement with Advisor			CP school		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Public CP in-state	0.361	-0.061**	-0.038	0.231***	0.302***	0.257***
	(0.387)	(0.024)	(0.053)	(0.043)	(0.046)	(0.029)
Advising Plus	2.119***	0.203***	0.127*	0.157***	0.094	0.030
	(0.571)	(0.038)	(0.075)	(0.057)	(0.062)	(0.036)
Public CP in-state * Advising Plus	0.649	0.065	0.007	-0.125**	-0.076	-0.036
	(0.619)	(0.040)	(0.079)	(0.059)	(0.066)	(0.042)
N	4,815	4,815	2,459	2,459	2,459	4,815
R-squared	0.272	0.334	0.299	0.351	0.402	0.262
Advising Standard mean (no public CP in-state)	4.991	0.158	0.582	0.634	0.498	0.279

	Barron's 1			Barron's 2		
	Any application	Admitted	Enrolled	Any application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
Public CP in-state	0.124***	0.095**	0.034	0.241***	0.223***	0.149***
	(0.044)	(0.037)	(0.026)	(0.049)	(0.049)	(0.021)
Advising Plus	0.172***	0.125**	0.052*	0.044	0.015	-0.008
	(0.062)	(0.063)	(0.031)	(0.060)	(0.060)	(0.023)
Public CP in-state * Advising Plus	-0.133**	-0.145**	-0.050	0.032	0.063	0.007
	(0.064)	(0.070)	(0.036)	(0.066)	(0.069)	(0.027)

N	2,459	2,459	4,815	2,459	2,459	4,815
R-squared	0.368	0.368	0.244	0.347	0.350	0.203
Advising Standard mean (no public CP in-state)	0.526	0.286	0.176	0.352	0.254	0.0571

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, an indicator for if the student has a public CP school in their state, the interaction of those two indicators, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes in columns (1)-(5), (7), (8), (10), and (11) are based on student responses in the College Choice Survey; outcomes in columns (6), (9), and (12) are based on NSC data. *** p<0.01, ** p<0.05, * p<0.1*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A6: Differential Advising Plus impacts based on student demographic subgroups

Panel A: Income

	Engagement with Advisor			CP school		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Low income	0.264	0.009	0.028	-0.027	-0.007	0.039
	(0.374)	(0.016)	(0.037)	(0.024)	(0.026)	(0.024)
Advising Plus	2.664***	0.261***	0.132***	0.030	0.025	-0.001
	(0.357)	(0.021)	(0.030)	(0.021)	(0.024)	(0.020)
Low income * Advising Plus	-0.005	-0.011	0.004	0.058*	0.012	0.002
	(0.542)	(0.029)	(0.049)	(0.031)	(0.039)	(0.037)
N	4,815	4,815	2,459	2,459	2,459	4,815
R-squared	0.272	0.333	0.299	0.349	0.402	0.265
Advising Standard mean	5.996	0.145	0.603	0.879	0.813	0.533

	Barron's 1			Barron's 2		
	Any application	Admitted	Enrolled	Any application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
Low income	0.030	0.071*	0.045**	-0.074**	-0.10***	-0.008
	(0.033)	(0.039)	(0.020)	(0.034)	(0.037)	(0.019)
Advising Plus	0.050*	0.014	0.000	0.060**	0.065*	0.005
	(0.028)	(0.033)	(0.017)	(0.030)	(0.033)	(0.018)
Low income * Advising Plus	0.026	-0.032	0.027	0.033	0.013	-0.021
	(0.047)	(0.061)	(0.031)	(0.049)	(0.055)	(0.030)
N	2,459	2,459	4,815	2,459	2,459	4,815
R-squared	0.376	0.370	0.248	0.348	0.352	0.203
Advising Standard mean	0.688	0.409	0.236	0.671	0.551	0.200

Panel B: Race/ethnicity

	Engagement with Advisor			CP school		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Black	1.042	0.043	0.128*	0.065	0.146**	0.080
	(0.742)	(0.036)	(0.076)	(0.048)	(0.060)	(0.050)
Hispanic	-0.074	0.011	0.052	0.013	0.056	0.044
	(0.670)	(0.033)	(0.068)	(0.046)	(0.055)	(0.044)
Asian	0.687	-0.011	-0.009	0.040	0.056	0.062*
	(0.544)	(0.026)	(0.055)	(0.034)	(0.043)	(0.032)
Other Race	0.621	0.045	0.062	-0.044	-0.032	0.051
	(0.881)	(0.054)	(0.073)	(0.064)	(0.075)	(0.066)
Advising Plus	2.332***	0.233***	0.165***	0.015	-0.000	-0.032
	(0.792)	(0.038)	(0.057)	(0.043)	(0.050)	(0.038)
Black * Advising Plus	1.028	0.065	-0.120	-0.015	-0.034	0.044
	(1.488)	(0.076)	(0.105)	(0.061)	(0.086)	(0.077)
Hispanic * Advising Plus	0.706	0.003	-0.037	0.034	-0.023	0.016
	(1.063)	(0.058)	(0.086)	(0.061)	(0.076)	(0.065)
Asian * Advising Plus	0.552	0.053	-0.023	0.002	-0.016	0.054
	(0.884)	(0.048)	(0.071)	(0.052)	(0.060)	(0.047)
Other Race * Advising Plus	-1.017	-0.026	-0.146	0.049	0.082	-0.014
	(1.421)	(0.077)	(0.118)	(0.086)	(0.099)	(0.100)
N	3,295	3,295	1,720	1,720	1,720	3,295
R-squared	0.285	0.352	0.324	0.358	0.411	0.255
Advising Standard mean	5.541	0.141	0.572	0.845	0.764	0.539

	Barron's 1			Barron's 2		
	Any application	Admitted	Enrolled	Any application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
Black	0.208***	0.217***	0.199***	-0.036	0.021	-0.034
	(0.070)	(0.076)	(0.048)	(0.081)	(0.078)	(0.037)
Hispanic	0.183***	0.176***	0.117***	0.058	0.039	0.010
	(0.060)	(0.064)	(0.041)	(0.060)	(0.061)	(0.029)
Asian	0.172***	0.082	0.018	0.108**	0.125**	0.111***
	(0.052)	(0.056)	(0.030)	(0.054)	(0.054)	(0.026)
Other Race	-0.056	0.015	0.060	-0.035	-0.122	0.017
	(0.091)	(0.087)	(0.052)	(0.092)	(0.104)	(0.054)

Advising Plus	0.114*	0.018	-0.000	0.119**	0.135**	-0.007
	(0.064)	(0.066)	(0.028)	(0.056)	(0.059)	(0.030)
Black * Advising Plus	-0.195*	-0.040	0.021	0.047	-0.075	0.002
	(0.117)	(0.125)	(0.079)	(0.122)	(0.123)	(0.066)
Hispanic * Advising Plus	-0.109	-0.043	-0.029	-0.155*	-0.153	0.008
	(0.097)	(0.104)	(0.060)	(0.090)	(0.095)	(0.049)
Asian * Advising Plus	-0.105	-0.053	0.057	-0.078	-0.117	-0.024
	(0.077)	(0.083)	(0.041)	(0.073)	(0.088)	(0.039)
Other Race * Advising Plus	0.082	0.062	-0.038	0.012	0.110	0.039
	(0.121)	(0.145)	(0.086)	(0.125)	(0.144)	(0.077)
N	1,720	1,720	3,295	1,720	1,720	3,295
R-squared	0.378	0.379	0.260	0.357	0.365	0.231
Advising Standard mean	0.598	0.351	0.196	0.624	0.498	0.184

Panel C: Gender

	Engagement with Advisor			**CP school**		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.448	0.019	-0.017	0.033	0.041	-0.013
	(0.474)	(0.020)	(0.043)	(0.029)	(0.034)	(0.026)
Advising Plus	2.123***	0.241***	0.078	0.039	-0.024	-0.023
	(0.572)	(0.035)	(0.047)	(0.032)	(0.040)	(0.033)
Female* Advising Plus	0.917	0.020	0.086	-0.024	0.025	0.024
	(0.633)	(0.036)	(0.063)	(0.039)	(0.049)	(0.044)
N	3,341	3,341	1,742	1,742	1,742	3,341
R-squared	0.286	0.349	0.325	0.350	0.406	0.257
Advising Standard mean	5.850	0.143	0.600	0.870	0.803	0.595

	Barron's 1			**Barron's 2**		
	Any application	Admitted	Enrolled	Any application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
Female	0.053	0.070*	0.010	0.058	0.068	0.000
	(0.036)	(0.038)	(0.024)	(0.044)	(0.042)	(0.024)
Advising Plus	0.067	0.007	0.026	0.062	0.046	-0.011
	(0.050)	(0.051)	(0.029)	(0.051)	(0.053)	(0.031)

Female* Advising Plus	-0.044	-0.026	-0.019	0.001	0.021	-0.004
	(0.059)	(0.063)	(0.039)	(0.062)	(0.070)	(0.039)
N	1,742	1,742	3,341	1,742	1,742	3,341
R-squared	0.370	0.378	0.260	0.346	0.355	0.229
Advising Standard mean	0.719	0.438	0.279	0.654	0.511	0.215

Panel D: Parental education

	Engagement with Advisor			**CP school**		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
First generation	-0.425	-0.006	-0.066	-0.024	-0.043	-0.045
	(0.343)	(0.021)	(0.043)	(0.024)	(0.030)	(0.029)
Advising Plus	1.785***	0.230***	0.077*	0.004	-0.019	-0.044*
	(0.531)	(0.028)	(0.042)	(0.025)	(0.029)	(0.027)
First generation * Advising Plus	2.129***	0.059*	0.109	0.047	0.015	0.086**
	(0.686)	(0.035)	(0.067)	(0.036)	(0.045)	(0.041)
N	3,276	3,276	1,708	1,708	1,708	3,276
R-squared	0.291	0.355	0.333	0.356	0.412	0.261
Advising Standard mean	6.500	0.164	0.639	0.903	0.857	0.613

	Barron's 1			**Barron's 2**		
	Any application	Admitted	Enrolled	Any application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
First generation	-0.038	0.006	0.024	-0.046	-0.040	-0.031
	(0.032)	(0.039)	(0.024)	(0.041)	(0.041)	(0.024)
Advising Plus	0.032	-0.028	-0.005	0.061	0.059	-0.029
	(0.038)	(0.041)	(0.025)	(0.042)	(0.050)	(0.023)
First generation * Advising Plus	0.038	0.047	0.042	0.012	0.005	0.045
	(0.053)	(0.063)	(0.037)	(0.067)	(0.072)	(0.036)
N	1,708	1,708	3,276	1,708	1,708	3,276
R-squared	0.379	0.387	0.263	0.351	0.364	0.227
Advising Standard mean	0.752	0.462	0.265	0.705	0.580	0.233

Panel E: Eligibility category

	Engagement with Advisor			CP school		
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Eligible-On Track	-0.325	-0.002	0.018	-0.016	0.002	-0.035
	(0.399)	(0.022)	(0.049)	(0.029)	(0.034)	(0.030)
Eligible-80	0.045	0.041	0.054	-0.019	-0.016	-0.053
	(0.469)	(0.026)	(0.048)	(0.034)	(0.040)	(0.036)
Eligible-Test Opt	1.033	0.043	0.094	0.047	0.042	0.093**
	(0.655)	(0.037)	(0.060)	(0.045)	(0.053)	(0.045)
Advising Plus	2.532***	0.257***	0.135***	0.042**	0.030	-0.014
	(0.443)	(0.026)	(0.029)	(0.018)	(0.020)	(0.018)
Eligible-On Track * Advising Plus	0.780	-0.004	-0.002	0.011	-0.019	0.043
	(0.597)	(0.032)	(0.063)	(0.038)	(0.043)	(0.042)
Eligible-80 * Advising Plus	-0.414	-0.016	-0.045	0.030	-0.026	0.039
	(0.692)	(0.038)	(0.056)	(0.044)	(0.053)	(0.045)
Eligible-Test Opt * Advising Plus	0.132	0.017	-0.007	0.002	0.048	-0.016
	(0.766)	(0.040)	(0.057)	(0.034)	(0.047)	(0.041)
N	4,815	4,815	2,459	2,459	2,459	4,815
R-squared	0.177	0.245	0.130	0.189	0.237	0.160
Advising Standard mean	6.353	0.158	0.592	0.890	0.831	0.605

	Barron's 1			Barron's 2		
	Any application	Admitted	Enrolled	Any application	Admitted	Enrolled
	(7)	(8)	(9)	(10)	(11)	(12)
Eligible-On Track	0.039	-0.036	-0.035	-0.065	0.012	0.010
	(0.035)	(0.040)	(0.027)	(0.040)	(0.042)	(0.022)
Eligible-80	-0.083*	-0.149***	-0.086***	-0.047	0.012	-0.004
	(0.045)	(0.045)	(0.026)	(0.043)	(0.045)	(0.028)
Eligible-Test Opt	0.080	0.050	0.068	0.080	0.097	0.009
	(0.057)	(0.069)	(0.042)	(0.060)	(0.067)	(0.034)
Advising Plus	0.046*	-0.005	0.004	0.049*	0.062*	-0.008
	(0.026)	(0.026)	(0.017)	(0.028)	(0.033)	(0.018)
Eligible-On Track * Advising Plus	-0.009	0.006	0.030	0.016	-0.038	0.000
	(0.050)	(0.062)	(0.036)	(0.056)	(0.059)	(0.035)

Eligible-80 * Advising Plus	0.028	0.019	0.032	0.005	-0.033	0.040
	(0.054)	(0.049)	(0.028)	(0.059)	(0.064)	(0.038)
Eligible-Test Opt * Advising Plus	-0.030	0.002	-0.027	0.009	0.027	0.003
	(0.056)	(0.062)	(0.037)	(0.051)	(0.057)	(0.038)
N	2,459	2,459	4,815	2,459	2,459	4,815
R-squared	0.224	0.215	0.155	0.196	0.194	0.092
Advising Standard mean	0.752	0.495	0.316	0.677	0.542	0.206

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, indicator(s) for if the student is a member of the particular subgroup, the interaction between Advising Plus and subgroup indicator(s), all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes in columns (1)-(5), (7), (8), (10), and (11) are based on student responses in the College Choice Survey; outcomes in columns (6), (9), and (12) are based on NSC data.
*** p<0.01, ** p<0.05, * p<0.1*** p<0.01, ** p<0.05, * p<0.1

Appendix Table A7: Advising Plus impacts on admissions outcomes, college preferences, and enrollment outcomes at MFN schools

	Any applications	Number of applications	Top application choice	Admitted	Top Admitted Choice	Enrolled (NSC)	Enrolled (NORC survey)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Advising Plus	0.054**	0.078	0.027	-0.027	-0.024	0.003	-0.033
	(0.026)	(0.096)	(0.027)	(0.021)	(0.020)	(0.011)	(0.020)
N	2,459	2,459	2,459	2,459	2,459	4,815	2,459
R-squared	0.347	0.343	0.352	0.328	0.322	0.217	0.315
Advising Standard mean	0.542	1.538	0.387	0.240	0.195	0.151	0.203

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Except for column (6), outcomes are based on student responses in the College Choice Survey. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A8: Advising Plus impacts on student decision making

Panel A: Importance of factors in deciding which colleges to apply to

	Quality and academic reputation	Chances of being accepted	Located near my family	Affordability	Flexible schedule that will allow me to work	Other students share my interests
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	0.034	0.007	0.019	0.004	0.018	0.016
	(0.029)	(0.014)	(0.015)	(0.029)	(0.012)	(0.015)
N	2,415	2,413	2,414	2,408	2,418	2,421
R-squared	0.299	0.298	0.274	0.268	0.332	0.322
Advising Standard mean	0.412	0.0861	0.0632	0.499	0.0447	0.0740

Panel B: Importance of factors in deciding not to apply to college(s) interested in

	Couldn't afford application fee	Didn't think would be accepted	Cost was too high	Didn't think they would offer financial aid	Too far from home	Wouldn't be able to work enough	Wouldn't fit in with student body
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Advising Plus	-0.009	-0.016	-0.031	-0.039	-0.002	-0.013	-0.018
	(0.016)	(0.030)	(0.039)	(0.033)	(0.025)	(0.012)	(0.022)
N	1,400	1,389	1,395	1,396	1,400	1,402	1,403
R-squared	0.365	0.416	0.345	0.373	0.379	0.384	0.408
Advising Standard mean	0.0426	0.166	0.254	0.186	0.0851	0.0213	0.0993

Panel C: Importance of factors in considering which college to attend

	Cost to attend	Located near family	Racial/ethnic diversity	Opportunity to visit the campus	Quality and academic reputation	Academic programs or majors of interest	Conversations with college ambassador
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Advising Plus	0.028	0.018	-0.018	0.008	0.008	0.008	0.006
	(0.030)	(0.018)	(0.015)	(0.015)	(0.027)	(0.029)	(0.015)
N	2,335	2,330	2,332	2,335	2,328	2,331	2,332
R-squared	0.287	0.276	0.277	0.283	0.289	0.275	0.298
Advising Standard mean	0.501	0.0869	0.0645	0.0752	0.340	0.392	0.0731

Panel C: Importance of factors in deciding not to attend top choice

	Too expensive	Didn't think would perform well academically	Classes too demanding; couldn't work	No friends are planning to attend	Wouldn't fit in with student body	Family wanted me to stay closer to home
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	0.021	0.007	0.009	0.009	-0.013	-0.005
	(0.101)	(0.046)	(0.017)	(0.020)	(0.027)	(0.051)
N	580	579	579	578	579	579
R-squared	0.616	0.687	0.862	0.473	0.746	0.582
Advising Standard mean	0.466	0.0381	0.0176	0.00882	0.0323	0.0557

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student responses in the College Choice Survey. Column (1): When you were deciding which colleges to apply to, how important was each of the following to you?: Column (2): How important were the following when deciding not to apply to the college(s) you were interested in?; Column (3): In considering which college to attend, how important were these factors?; Column (4): How important were the following when deciding not to attend your top choice of college? Students responded on a scale of 1 (Not Important) to 5 (The Most Important) these outcomes are indicators for whether the student marked the specific factor as "most important"; students could mark multiple factors as most important. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A9: Advising Plus impacts on views of affordability

	Enrolled college				
	Enough aid?	Expected cost (scale)	Expected cost w/in $2k	Expected cost > $2k	Expected cost < $2k
	(6)	(7)	(8)	(9)	(10)
Advising Plus	-0.013	0.071	0.018	-0.011	-0.007
	(0.020)	(0.317)	(0.028)	(0.024)	(0.025)
N	2,198	2,191	2,191	2,191	2,191
R-squared	0.316	0.284	0.301	0.294	0.280
Advising Standard mean	0.883	-0.218	0.513	0.250	0.237

Notes: Each column corresponds to a separate regression of the outcome of interest on an indicator for assignment to Advising Plus, all student characteristics listed in Table 1, and randomization block fixed effects (batch assignment date x advising organization x eligibility category). Outcomes are based on student responses in the College Choice Survey. Column (1): Did you feel this school offered you enough financial aid money to make it affordable to attend? Student could respond Yes, No, or Unsure; Unsure response coded as Yes for this analysis. Columns (2)-(5): Was the net price of this college (total cost to you and your family after factoring in financial aid) more or less than you expected? Students chose between About the same, $1-2k more, $2-5k more, etc. *** p<0.01, ** p<0.05, * p<0.1

Appendix Table A10: Comparing cost and quality across college types

	CP	Barrons 1	Barrons 2	MFN	Public CP	Non-CP
	(1)	(3)	(2)	(4)	(5)	(6)
Net price, overall	$24,262	$26,725	$24,469	$22,833	$24,143	$17,587
Net price, income $0-30k	$13,496	$9,786	$14,717	$5,050	$14,863	$10,197
Net price, income $30-48k	$14,733	$10,493	$16,000	$5,972	$16,035	$12,106
Net price, income $48-75k	$18,943	$15,305	$20,239	$9,979	$20,202	$16,495
SAT midpoint	1233	1363	1207	1413	1224	1191
Graduation rate	82.9%	91.0%	81.4%	93.2%	82.6%	80.6%
Admission rate	46.8%	20.4%	51.7%	13.2%	48.1%	53.2%
N	277	81	242	35	96	69

This table shows average college characteristics, among the colleges attended by students in our experimental sample. The six categories of schools are not mutually exclusive. These characteristics are from College Scorecard data.

Appendix Table A11: Characteristics of schools attended by students admitted to CP schools

	CP schools attended (1)	CP schools admitted, but not attended (2)	Non-CP schools attended (3)
Net price, income $0-30k	$9,655	$11,187	$12,336
Net price, income $30-48k	$10,859	$12,485	$13,416
Net price, income $48-75k	$15,137	$16,391	$16,736
Distance from high school (miles)	686	748	349
Distance from high school (median)	280	60	281
Percent Black	6.1%	5.8%	12.3%
Percent Hispanic	13.6%	13.8%	19.5%
Percent Pell	20.7%	20.4%	34.3%
Percent First Gen	50.7%	51.5%	70.8%
SAT 25th percentile	1310	1274	1067
Graduation rate	87.4%	85.2%	57.6%
Admission rate	29.9%	36.7%	69.6%
N	659	158	158

Notes: based on sample of Advising Plus students who were accepted to at least one CP school, based on their responses in the College Choice Survey. Columns (1) and (3) report the average statistics of the schools the student attended, separately based on whether the student attended a CP school or not. Column (2) reports the average statistics of the CP schools that students were admitted to but did not attend, among those students who did not attend a CP school. If such a student was admitted to multiple CP schools, we use their top choice CP school to construct these statistics. All college-level characteristics are from the College Scorecard.

Appendix B: College Choice Survey Instrument

CollegePoint Summer 2022
Student Survey

Contents

Pseudocode Notes: College/University Lookup

Several questions use an item input type unique to the CollegePoint surveys called “College/University Lookup.” This feature requires at most 3 screens which include:

1. Initial Build Screen
   A. Contains instructions on how to use the college/university lookup tool.
   B. Specifies the maximum number of schools that can be added.
   C. Includes a search text box that populates a drop-down menu of potential school matches based on the string entered.
   D. After selecting a school from the drop-down menu, both the school’s name and IPEDS code is stored.
2. Confirmation Screen
   A. Displays the list of built schools from the prior screen and asks the respondent to confirm by clicking “Next”.
   B. Provides a checkbox that can be selected indicating that a school is missing from this list, likely due to not being included in our backend list.
   C. If the maximum number of schools that can be built are built, screen does not display the aforementioned checkbox and its instructions.
3. Other Specify Screen
   A. Screen is only presented if the checkbox “School name not found on list” is checked.
   B. Displays again the list of schools previously entered.
   C. Provides verbatim entry text boxes equal to the maximum number of schools built minus the number of schools already built in Screen 1 to capture remaining schools.

The Lookup feature inputs two variables for each school listed: a school’s name and IPEDS code. IT notes for the item will specify the number of schools that can be entered. IPEDS codes are only assigned to schools selected through the lookup functionality. Schools manually entered are given code 999999. Below are screenshots from a previous round’s lookup feature for reference:

Class of 2016 College Application Survey

Progress 27%

Save & Exit

Build the list of all the 4-year schools you have or will apply to on this screen – up to 7 schools.

- Type in the box to filter the list.
- Select your school.
- Repeat up to 6 more times.
- If you can't find a school, let us know on the next screen.

School: Search school name

Previous Next

For help email collegept_help@norc.org or call 1-866-821-8616

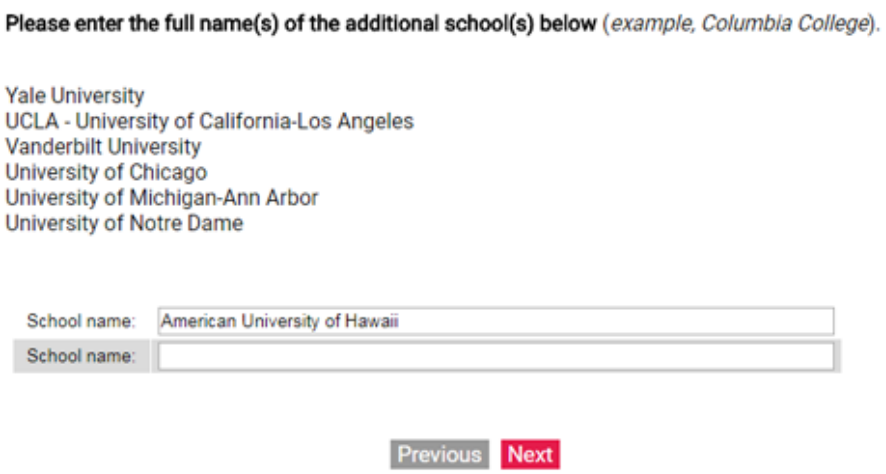
Please review your list. If you wish to make changes or enter more schools, return to the previous page.

Yale University
UCLA - University of California-Los Angeles
Vanderbilt University
University of Chicago
University of Michigan-Ann Arbor
University of Notre Dame

If you were unable to find a college/university in the look-up, please select "School name not found on list" below.

☐ School name not found on list

Previous Next



Preloaded Variable List

The following list of items were preloaded into A4S and used within the survey as logic drivers or merge variables in item text. Some variables are recoded variables from the original sample file received from EASE, such as ADVGROUP and CP_TREATMENT.

Preload Variable	Type	Values	Labels
FNAME	Char		First name of SM
LNAME	Char		Last name of SM
SYSTEM EMAIL	Char		Email of SM from sample file
SYSTEM PHONE	Char		Phone of SM from sample file
ADVTYPE	Num	1	CollegePoint coach
		2	College Advising Corps eAdvisor
		3	Matriculate advising fellow
		4	ScholarMatch coach
ADVSHORT	Char	1	Coach
		2	eAdvisor
		3	Advising Fellow
		4	Coach
ADVGROUPNAME	Char	1	College Possible
		2	College Advising Corps
		3	Matriculate
		4	ScholarMatch
ADVGROUP	Num	1	Advising Standard
		2	Advising Plus

Preload Variable	Type	Values	Labels
CP_TREATMENT	Num	1	Yes treatment
		0	No treatment
RECEIVED_AP_MONEY	Num	1	Received incentive from CollegePoint
		0	Did not receive an incentive from CollegePoint
TBD4	Num	15	Standard dollar amount received for incentive
		20	Incentive amount offered for those in the Advising Standard program or had a low advisor interaction flag (implemented 11/1/22)
		30	Incentive amount offered for those in the Advising Standard program and had a low advisor interaction flag (implemented 11/1/22)

Data File Notes

Reserve Codes

When an item was logically skipped (by design of the survey), a reserve code of -4 was assigned. When an item was not answered by the respondent (either due to not knowing the answer or refusing to answer), a reserve code of -5 was assigned. Preload variables used for piloting the survey were assigned a reserve code of -3 for null values.

Login, Consent, & Instructions

Login

DESIGN: Add CollegePoint logo at the top of the page, depending on flag.

CollegePoint Summer 2022 Student Survey

PIN: [ ]

NAVIGATION: Instead of the normal icons please use an icon with the word "LOGIN" of a similar style.

EXIT LOGIC: Go to InformedConsent.

InformedConsent

IT INFO: This section requires a merged preload, [ADVGROUPNAME].

This survey is part of a research study to improve the college application process for high achieving students like you.

You've been selected to participate because you have received CollegePoint advising from [ADVGROUPNAME]. CollegePoint is an organization that matches students with advisors who provide personalized college application and financial aid support.

This study is being conducted by Bloomberg Philanthropies' CollegePoint Initiative. **When you signed up for CollegePoint advising, you agreed to be contacted by partner organizations conducting services on behalf of Bloomberg Philanthropies. The information we can learn from your experience is extremely valuable as we work to ensure that community organizations, schools, and advisors do the best job possible to help students succeed throughout the college application process.** We hope the results will help make applying to college a positive experience for future college applicants.

The survey is easy, fast, and confidential. It will take about 10 to 15 minutes to complete. Participation is voluntary, and you can choose to skip any question you do not wish to answer. All data collected will be stored in a secure location and used only for research purposes. If the results of this survey are published, there will be no information that would identify you as a participant.

You will receive a $[TBD4] Amazon gift code for participating in this survey. We may also contact you in the future to participate in additional surveys. You can decide if you wish to participate in those surveys at that time.

If you have any questions or concerns pertaining to your participation in this research study, you can contact the NORC at the University of Chicago by email at collegepoint_survey@norc.org or by phone at 1-877-392-4914 or CollegePoint at contact@collegepoint.info.

If you have questions about your rights as a study participant, you may call the NORC Institutional Review Board Administrator, toll-free, at 1-866-309-0542.

Your participation is important to the success of this survey and the CollegePoint advising initiative. We appreciate your input.

If you agree to participate in this study, please click "Next" to continue.

EXIT LOGIC: Go to NAV_INSTRUCT.

NAV_INSTRUCT

Navigation Instructions

- Please use the *Next* or *Previous* buttons, not your browser´s *Back* or *Forward* buttons to move through the survey.
- Please use the *Save & Exit* button if you need to leave the survey before completing. When you log back into the survey you will be returned to the point where you left off.
- The responses you provide are being collected with software that is designed to secure your data and provide you with confidentiality. However, no one can guarantee complete confidentiality for data that is sent over the Internet.

EXIT LOGIC: Go to SPV_Intro.

Sample Person Verification

SPV_Intro

This survey is for students who have finished their last year of high school. These questions verify that we have reached the correct person.

EXIT LOGIC: Go to SPV_Q1.

SPV_Q1

ITEM INFO: Input should be radio buttons.
IT INFO: Name variables preloaded from sample file.

Our records show your name is:

[FNAME] [LNAME]

Is this correct?

1. Yes
2. No
3. Unsure

EXIT LOGIC: If “Yes”, go to SPV_Q2_1,
Else, go to SPV_Q1_2.

SPV_Q1_2

ITEM INFO: Input should be radio buttons.
IT INFO: Name variables preloaded from sample file.

Did you ever go by the name…

[FNAME] [LNAME]

1. Yes
2. No

EXIT LOGIC: If “Yes”, go to SPV_Q2_1,
Else, go to CLOSE.

SPV_Q2_1

ITEM INFO: Input should be radio buttons.

Did anyone from [ADVGROUPNAME] give you college application advice or help you apply for college financial aid?

IT INFO: Display the following options for all cases.

1. Yes
2. No
3. Unsure

EXIT LOGIC: If "Yes", go to SectA_Intro,
Else, go to SPV_Q3.

SPV_Q3

ITEM INFO: Input should be radio buttons.

Did you graduate from high school in 2022?

1. Yes
2. No

EXIT LOGIC: If "Yes", go to SectA_Intro,
Else, go to SPVCLOSE.

SPVCLOSE

This survey is for students who graduated high school in 2022 and were offered the opportunity to receive advising through CollegePoint. If you have reached this page in error and are eligible for this survey, please contact us by phone at 1-877-392-4914or by sending an email to collegepoint_survey@norc.org. Thank you very much for your time.

IT INFO: The only navigation button on this page should be "Exit Survey"

Section A. Application and College Search

SectA_Intro

The following questions ask about your college applications and search process.

A1:

INPUT VAR: COLLAPP
SOURCE: Class of 2018 Baseline
ITEM INFO: Drop down menu with number 0-15, more than 15 as options for selection.

How many colleges have you applied to? (Places to which you have submitted a complete application, with all required transcripts and test scores, and paid the application fee or obtained a fee waiver.)

0. None
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14
15. 15
16. More than 15

EXIT LOGIC: If COLLAPP is between "1" and "More than 15", go to A2
Else, go to A1a.

A1a

INPUT VAR: NOAPP_1 – NOAPP_9, NOAPP_OS
SOURCE: Class of 2018 Baseline
ITEM INFO: Input should be check boxes.
Input for NOAPP_OS should be a text box included with option 8 "Other".

If you did not and will not apply to college for Fall 2022, please share why.

Check all that apply.

1. Want to get a job/make money instead
2. Don't need a degree for what I want to do
3. Need to work to help support my family
4. Missed college admissions application deadlines
5. Can't afford college
6. Not sure what to study in college
7. Want a break from school right now but I plan to apply later
8. Waiting for a better college experience after COVID
9. Other (please describe)

EXIT LOGIC: Go to SectD_Intro if [CP_TREATMENT] == 1

A2

INPUT VAR: Z_SCHOOL1 – Z_SCHOOL8, Z_IPEDS1 – Z_IPEDS8
SOURCE: Class of 2018 Baseline
IT NOTES: This item's input requires the College/University Lookup feature with a maximum of 8 listed schools.

Please list up to 8 of the colleges you applied to.

If you applied to more than 8 colleges, please list those eight you were most interested in attending if accepted.

- Type in the box to filter the list.
- Select your school.
- Repeat up to 7 more times.
- If you can't find your school, add it on the next screen.

EXIT LOGIC: If Z_SCHOOL1 – Z_SCHOOL8 = DK/REF, go to A3,
If Z_SCHOOL1 != DK/REF AND Z_SCHOOL2 – Z_SCHOOL8 = DK/REF, go to A3,
Else, go to A2a.

A2a

INPUT VAR: COLLRANK_1 – COLLRANK_8
SOURCE: Class of 2022
ITEM INFO: Populate list with the colleges collected in A2.
Input should be a drop-down list for each college.
Drop-down options will be 1 to n where n=number of colleges entered in A2.
Users may only select each number once.
IT NOTES: Hard check that each number is selected only once.

Display this error in red if a number is selected more than once: Error, please select each number only once.

Please rank the colleges you applied to in order of your preference for attending *at the time you applied*, with 1 being the college you were most interested in attending *when you submitted your applications.*

1. Z_SCHOOL1
2. Z_SCHOOL2
3. Z_SCHOOL3
4. Z_SCHOOL4
5. Z_SCHOOL5
6. Z_SCHOOL6
7. Z_SCHOOL7
8. Z_SCHOOL8

A3

INPUT VAR: COLLIMPT_1 – COLLIMPT_6
SOURCE: Class of 2022, A7 Bottom Line survey
ITEM INFO: Input should be radio buttons.

When you were deciding which colleges to apply to, how important was each of the following to you:

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. Most important
A. Quality and academic reputation					
B. My chances of being accepted					
C. Located near my family					
D. Affordability					
E. Flexible schedule that will allow me to work					
F. Other students share my interests					

A4

INPUT VAR: COLLNOAPP
SOURCE: Class of 2022
ITEM INFO: Input should be radio buttons.

Were there any colleges that you considered applying to but did not?

1. Yes

2. No

EXIT LOGIC: If COLLNOAPP = “No” or DK/REF, go to SectB_Intro.

A4a

INPUT VAR: NOSCHOOL_1-NOSCHOOL_3, NO_IPEDS1- NO_IPEDS3
SOURCE: Class of 2022
IT NOTES: This item’s input requires the College/University Lookup feature with a maximum of 3 listed schools.

Please list up to 3 colleges that you considered applying to but did not.

If you considered applying to more than 3 colleges, please list the three you were most interested in applying to.

- Type in the box to filter the list.
- Select your school.
- Repeat up to 2 more times.
- If you can’t find your school, add it on the next screen.

EXIT LOGIC: If NOSCHOOL_1 – NOSCHOOL_3 = DK/REF, go to A5,
If NOSCHOOL_1 != DK/REF AND NOSCHOOL_2 – NOSCHOOL3 = DK/REF, go to A5,
Else, go to A4b.

A4b

INPUT VAR: NORANK_1 – NORANK_3
SOURCE: Class of 2022
ITEM INFO: Populate list with the colleges collected in A4a.
Input should be a drop-down list for each college.
Drop-down options will be 1 to n where n=number of colleges entered in A4a.
Users may only select each number once.
IT NOTES: Hard check that each number is selected only once.
Display this error in red if a number is selected more than once: Error, please select each number only once.

Please rank the colleges in order of your preference for attending *at the time you considered applying.*

1. NOSCHOOL_1
2. NOSCHOOL_2
3. NOSCHOOL_3

A5

INPUT VAR: NOCOLLIMPT_1 – NOCOLLIMPT_7

SOURCE: Class of 2022
ITEM INFO: Input should be radio buttons.

How important were the following when deciding not to apply to the college(s) you were interested in:

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
A. I couldn't afford the application fee					
B. I didn't think I would be accepted					
C. The cost was too high					
D. I didn't think they would offer me financial aid					
E. Too far from home					
F. I wouldn't be able to work enough while enrolled					
G. I didn't feel as though I'd fit in with the student body					

Section B. Acceptances

SectB_Intro

ENTRY LOGIC: If Z_SCHOOL1 – Z_SCHOOL8 = DK/REF, go to C1.
IT NOTES: This is an intro screen. No options presented and only timestamp recorded.

The next questions ask about the status of your college applications

B1

INPUT VAR: APPSTAT1 – APPSTAT8
SOURCE: Class of 2018 Baseline
ITEM INFO: Populate list with responses from A2.
Input should be radio buttons.
If less than 8 schools were provided, only display what was provided.

Please indicate the final status of your application at each of these schools.

	1. Did not receive a decision	2. Waitlisted	3. Not Accepted	4. Accepted
1. Z_SCHOOL1				
2. Z_SCHOOL2				
3. Z_SCHOOL3				
4. Z_SCHOOL4				
5. Z_SCHOOL5				
6. Z_SCHOOL6				
7. Z_SCHOOL7				
8. Z_SCHOOL8				

EXIT LOGIC: If any APPSTAT_x = 4, go to B2,
Else, go to C1.

B2

INPUT VAR: AID_AFFRD_A1 – AID_AFFRD_A8
SOURCE: Class of 2018 Baseline
ITEM INFO: Populate list with Z_SCHOOLx from B1 where APPSTAT_x = 4.
Input should be radio buttons.

Do you feel this school offered you enough financial aid money to make it affordable to attend?

	1. Did not receive a financial aid package	2. Yes	3. No	4. Unsure
1. Z_SCHOOL1				
2. Z_SCHOOL2				
3. Z_SCHOOL3				
4. Z_SCHOOL4				
5. Z_SCHOOL5				
6. Z_SCHOOL6				
7. Z_SCHOOL7				
8. Z_SCHOOL8				

B3

INPUT VAR: EXPCOST_A1 – EXPCOST_A8
SOURCE: Class of 2022
ITEM INFO: Populate list with Z_SCHOOLx from B1 where APPSTAT_x = 4.
Input should be radio buttons.

Was the net price of this college (total cost to you and your family after factoring in financial aid) more or less than you expected?

	1. About the same	2. $1-2k more	3. $2-5k more	4. $5-10k more	5. $10k+ more	6. $1-2k less	7. $2-5k less	8. $5-10k less	9. $10k+ less
1. Z_SCHOOL1									

	1. About the same	2. $1-2k more	3. $2-5k more	4. $5-10k more	5. $10k+ more	6. $1-2k less	7. $2-5k less	8. $5-10k less	9. $10k+ less
2. Z_SCHOOL2									
3. Z_SCHOOL3									
4. Z_SCHOOL4									
5. Z_SCHOOL5									
6. Z_SCHOOL6									
7. Z_SCHOOL7									
8. Z_SCHOOL8									

B4

INPUT VAR: AIDREVIEW
SOURCE: Class of 2022, B6 Bottom Line survey
ITEM INFO: Input should be radio buttons.

Did you review your financial aid award letter(s) with someone?

1. Yes
2. No
3. Don't know/Not sure

EXIT LOGIC: If AIDREVIEW = "No", "Don't know/Not sure", or DK/REF, go to C1.

B5

INPUT VAR: AIDREVIEWERS_1 – AIDREVIEWERS_7
SOURCE: Class of 2022, B7 Bottom Line survey
ITEM INFO: Input should be radio buttons.
Item F merges the preload ADVSHORT.

How important were each of these people in helping you understand the financial aid you were awarded?

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
A. Parent/guardian					
B. High school guidance counselor					
C. Teacher					
D. Friend					
E. Other					
F. [ADVSHORT]					
G. Financial aid counselor at a college					

Section C. College Decision

C1:

INPUT VAR: ENROLL
SOURCE: Class of 2017 Baseline Survey
ITEM INFO: Input should be radio buttons.

Do you plan to enroll, or are you currently enrolled, in college for fall of 2022?

1. Yes
2. No
3. Unsure

EXIT LOGIC: If ENROLL = 1, go to C2.
Else, go to C1a.

C1a

INPUT VAR: REASNOENR_1 – REASNOENR_9, REASNOENR_OS
SOURCE: Class of 2017 Baseline
ITEM INFO: Input should be checkboxes.
Input for REASNOENR_OS should be a text box included with option 9 “Other”

What best describes your current plans following high school graduation? *Check all that apply.*

1. Working full-time (on average, 30 hours or more per week)
2. Working part-time (on average, less than 30 hours per week)
3. Self-employed/starting own business
4. Serving in a branch of the U.S. Military
5. Pursuing vocational training
6. Participating in a volunteer program
7. Taking one or more college class(es)
8. Undecided at this time
9. Other

EXIT LOGIC: Go to SectD_Intro.

C2:

ENTRY LOGIC: If Z_SCHOOL1 – Z_SCHOOL8 = DK/REF, skip to C2_OS.
INPUT VAR: COMMIT_SCH (option code), COMMITSCHL (school name), & COMMITIPEDS (school IPEDS code)
SOURCE: Class of 2018 Baseline
ITEM INFO: Populate list with responses from A2.
Input should be radio buttons.

What college do you plan to attend?

1. Z_SCHOOL1
2. Z_SCHOOL2
3. Z_SCHOOL3
4. Z_SCHOOL4
5. Z_SCHOOL5
6. Z_SCHOOL6
7. Z_SCHOOL7
8. Z_SCHOOL8
9. School not listed

EXIT LOGIC: If COMMIT_SCH selects options 1 – 8, go to C3,
Else, go to C2_OS.

C2_OS

INPUT VAR: COMMIT_OS
SOURCE: Class of 2018 Baseline
ITEM INFO: Use College/University Lookup function with a maximum of 1 school.

What is the name of this college?
Begin typing the name of the school in the box to filter the list and then select school. If the college name is not in the list, check "not on list" and you will be able to type it in on the next page.

IT NOTES: Even if item is left unanswered, Code COMMITSCHL to "the school you'll be attending" and code COMMIT_IPEDS to 999999.

C3

INPUT VAR: FACTOR_A – FACTOR_G
SOURCE: Class of 2018 Baseline
ITEM INFO: Input should be radio buttons.

In considering which college to attend, how important were these factors?

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
A The cost to attend (after financial aid was applied)					
B. The college is located near my family					

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
C. The racial/ethnic diversity of the student body					
D. The opportunity to visit the campus of the college(s) I was interested in					
E. Quality and academic reputation					
F. Academic programs or majors of interest to me					
G. Conversation(s) with college ambassador or other contacts on campus (professor, advisor, etc.)					

C4:

INPUT VAR: INFLUENCE1 – INFLUENCE8
SOURCE: Class of 2017 Baseline
ITEM INFO: Input should be radio buttons.
Item 7 merges the preload [ADVSHORT].
How influential were these people in your college decision?

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
1. Parent(s) or guardian(s)					
2. Other family members or family friends					
3. High school counselor or teacher					
4. Friends					
5. Current student(s) at the college					

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
6. College faculty or staff member					
7. [ADVSHORT]					
8. Staff at other college access programs					

C5

ENTRY LOGIC: For colleges where APPSTAT_x = 4, if highest COLLRANK_x = COMMIT_SCH, or any of those 3 variables are DK/REF, skip to C6.
INPUT VAR: NOTTOP_1 – NOTOP_6
SOURCE: Class of 2022
ITEM INFO: Input should be radio buttons.

How important were the following when deciding not to attend your top choice of college?

	1. Not important	2. Somewhat important	3. Important	4. Very important	5. The most important
A. Too expensive					
B. I didn't think I would perform well enough academically					
C. Classes would be so demanding that I couldn't work while enrolled					
D. None of my friends were planning to attend					
E. I wasn't sure I would fit in with the student body					
F. My family wanted me to stay closer to home					

C6

INPUT VAR: HSWRKHRS
SOURCE: Class of 2022
ITEM INFO: Input should be radio buttons.

During your senior year of high school (not including the summer after graduation), approximately how many hours per week did you work for a paying job?

1. I did not have a paying job
2. Fewer than 5 hours
3. 5-10 hours
4. 11-20 hours
5. 21-30 hours
6. 30+ hours

EXIT LOGIC: If ENROLL = 1, go to C7,
Else, go to SectD_Intro.

C7

INPUT VAR: COLLWRKHRS
SOURCE: Class of 2022
ITEM INFO: Input should be radio buttons.

During your freshman year of college (not including the summer breaks), approximately how many hours per week do you *plan* on working for a paying job?

1. I do not plan to have a paying job
2. Fewer than 5 hours
3. 5-10 hours
4. 11-20 hours
5. 21-30 hours
6. 30+ hours

Section D. Advising

SectD_Intro

IT NOTES: This is an intro screen, no options presented and only timestamp recorded.

The next set of questions asks about your advising experiences.

D1

INPUT VAR: TOPICG, TOPICI, TOPICL, TOPICN, TOPICO
SOURCE: Class of 2017 Baseline, TOPICN and TOPICO are new
ITEM INFO: Input should be radio buttons.
Item prompt requires a merge of a preload variable, [ADVSHORT].

Did you and your [ADVSHORT] discuss…

		1. No	2. Yes, but only briefly	3. Yes, somewhat	4. Yes, extensively
TOPICN	How to estimate the price I and my family would pay for a specific college before applying				
TOPICG	How to select safety, match/target, and reach schools, based on the likelihood I'll be accepted				
TOPICO	Whether I would apply to the colleges on my CollegePoint Schools List				
TOPICI	How to interpret a financial aid award letter from a college that accepted me?				
TOPICL	Opportunities to learn more about each school, e.g. Virtual tours, connecting with current students, etc.?				

D2:

INPUT VAR: HELPFULF, HELPFULG – HELPFULJ, HELPFUL_W2_7, HELPFULK – HELPFULN
SOURCE: Class of 2017 Baseline, HELPFULK – HELPFULN are new
ITEM INFO: Input should be radio buttons.

Item prompt requires a merge of a preload variable, [ADVSHORT].

Please indicate whether your experience with your [ADVSHORT] was helpful in the following ways:

		1. Strongly disagree	2. Disagree	3. Somewhat disagree	4. Somewhat agree	5. Agree	6. Strongly agree
HELPFULF	Helping you understand the financial aid process						
HELPFULK	Helping you understand the likelihood you'd be admitted to certain colleges						
HELPFULL	Helping you understand the importance of quality (e.g., graduation rate) when deciding where to apply						
HELPFULM	Helping you understand the importance of applying to a large and diverse set of colleges						
HELPFULN	Helping you figure out what college (or type of college) would be the best fit for you						
HELPFULG	Encouraging you to apply to a college that wasn't previously on your list						
HELPFULH	Helping you deal with stress or anxiety about the college process						
HELPFULI	Helping you deal with family issues around college						

		1. Strongly disagree	2. Disagree	3. Somewhat disagree	4. Somewhat agree	5. Agree	6. Strongly agree
HELPFUL_W2_7	Helping you understand your financial aid award letters						

Section E. Programs

SectE_Intro

IT NOTES: This is an intro screen, no options presented and only timestamp recorded.

The next set of questions asks about your experiences with CollegePoint programs.

E1

INPUT VAR: EXPFINANCE_1 – EXPFINANCE_7
SOURCE: #2 on CCBC survey
ITEM INFO: Input should be radio buttons.
Only display items 3-6 if ENROLL = 1.

Display question stem if ENROLL = 1:
In thinking about what you expect your financial situation will be during your first year of college, please indicate your agreement or disagreement with the following statements:

Else display:
In thinking about what you expect your financial situation will be during the next year, please indicate your agreement or disagreement with the following statements:

	1. Strongly disagree	2. Disagree	3. Somewhat disagree	4. Somewhat agree	5. Agree	6. Strongly agree
I will have difficulty meeting my month expenses						
I am confident I could come up with $500 if an unexpected need arose						
I will need to borrow student loans to finance my education						
I am uncomfortable with the amount of student loans I will be borrowing						

	1. Strongly disagree	2. Disagree	3. Somewhat disagree	4. Somewhat agree	5. Agree	6. Strongly agree
I worry that the amount I'll need to work to cover my expenses will interfere with my studies						
I am confident in my ability to continue affording my chosen college until I graduate						
My family is unable to provide me with financial support						

EXIT LOGIC: If [ADVGROUP] = 2 (Advising Plus) and [RECEIVED_AP_MONEY] = 1, go to E2,
If [ADVGROUP] = 2 (Advising Plus) and [RECEIVED_AP_MONEY] = 0, go to E3,
if [ADVGROUP] = 1 (Advising Standard), go to E4.

E2

INPUT VAR: SPENT_1 – SPENT_11
SOURCE: Class of 2022
ITEM INFO: Input should be checkboxes.

You received some money for completing certain tasks with your CollegePoint advisor. How did you use this money? *Check all that apply.*

1. Applied to additional colleges
2. Paid for an SAT/ACT prep course or private tutoring
3. Retook the SAT or ACT
4. Visited one or more colleges that I was interested in
5. Saved it
6. Purchased materials I will need for college (e.g., laptop, supplies for dorm rooms)
7. Helped cover family/household expenses
8. Worked fewer hours at my job
9. Put toward a large purchase (e.g., a car)
10. Spent it on clothing
11. Spent it on fun activities

EXIT LOGIC: Go to F1.

E3

INPUT VAR: TASKS
SOURCE: Class of 2022
ITEM INFO: Input should be radio buttons.

You had the opportunity to receive up to $1,000 by completing certain tasks with your CollegePoint advisor, but you didn't complete all of these tasks. Why not?

1. I forgot to complete the tasks by the deadline
2. I didn't need the money
3. I thought it was a scam
4. I didn't want to share my personal information

EXIT LOGIC: Go to F1.

E4

INPUT VAR: SPEND_1 – SPEND_11
SOURCE: Class of 2022
ITEM INFO: Input should be checkboxes.

CollegePoint is considering giving $500 to students during their senior year of high school. If there were no limits on how you could use that money, what would you have done with that $500? *Check all that apply.*

1. Applied to additional colleges that I was interested in, but I couldn't afford the application fees
2. Paid for an SAT/ACT prep course or private tutoring
3. Retaken the SAT or ACT
4. Visited one or more colleges that I was interested in
5. Saved it
6. Purchased materials I will need for college (e.g., laptop, supplies for dorm rooms)
7. Helped cover family/household expenses
8. Worked fewer hours at my job
9. Put toward a large purchase (e.g., a car)
10. Spend it on clothing
11. Spend it on fun activities

Section F: Self-Assessment

F1

INPUT VAR: LIKEME_1 – LIKEME_14
SOURCE: CollegeForward Application
ITEM INFO: Input should be radio buttons.

Think about your behavior during your last semester of high school. Please indicate how well the statements below describe you. In answering each question, use a range from 1 to 6 where 1 stands for not at all like me and 6 stands for very like me.

	1 – Not at all like me	2	3	4	5	6 – Very like me
1. If I do not understand an assignment in class, I ask a teacher or other staff to explain it to me.						
2. If I need help with something at school, I ask a teacher, guidance counselor, or staff member for help.						
3. I don't ask for help in class, even when the work is too hard to complete on my own.						
4. I do not ask for help from teachers, guidance counselors, or staff members, even when I need it.						
5. I am confident in my ability to succeed in college.						
6. New ideas and projects sometimes distract me from previous ones.						
7. I don't give up easily.						
8. I continue steadily towards my goals.						
9. I finish whatever I begin.						
10. In preparation for some deadlines, I often waste time by doing other things.						
11. Even tasks that require little more than sitting down and doing them, I find that they seldom get done for days.						
12. I usually accomplish all the things I plan to do in a day						

	1 – Not at all like me	2	3	4	5	6 – Very like me
13. I often find myself performing tasks that I had intended to do days before.						
14. I often have a task finished sooner than necessary.						

Section G. Incentive and Future Contact Information

G1

INPUT VAR: INCENTIV
ITEM INFO: Input should be radio buttons
Display preloaded email.

Thank you for participating in our survey. As a token of our appreciation, we would like to send you an Amazon gift code.
Is this the email where you'd like the gift code sent?

[SYSTEM EMAIL]

1. Yes
2. No

EXIT LOGIC: If EMAILCNF = 1, go to G3.
Else, go to G2a2.

G2a2

INPUT VAR: EMAILUPD
ITEM INFO: Validate input as email address.

Please provide the email address where you'd like us to send the Amazon gift code.

Email: _____@_____ • ____

G3

INPUT VAR: As displayed in item.
IT INFO: Preload the primary/good email/phone currently stored in the CMS for the SM.
If collected, preload the EMAILUPD email.
Allow all fields to be updated.

We hope to continue the CollegePoint study in the future and would like it if you'd continue to participate. If a future study is conducted, you can decide whether you wish to participate or not at that time. We may also contact you in the future if we need to clarify one of your survey responses.

Please update your information.

CURADDL1
Street address1

CURADDL2
Street address2

CURADDL3
Apartment Number

CURRCITY
City

CURRST
State

CCURRCNTRY
Country

CURRZIP
ZIP/Postal Code

☐☐☐ - ☐☐☐ - ☐☐☐☐
Phone (primary) PHONE1

PHONE1TYPE
☐Home ☐Work ☐Cell
Select one.

☐☐☐ - ☐☐☐ - ☐☐☐☐
Phone (secondary) PHONE2

PHONE2TYPE
☐ Home ☐Work ☐Cell
Select one.

EMAIL1 @ •
Email (primary)

EMAIL2 @ •
Email (alternate)

EXIT LOGIC: Go to G4.

G4

INPUT VAR: As displayed in item.
IT INFO: Allow all fields to be updated.

Please provide the name and contact information of a parent or guardian or an older relative who is likely to know where you can be reached in case your address changes in the near future. We will only contact this person if we are unable to find you.

CNTFNAME
First name

CNTLNAME
Last name

☐☐☐ - ☐☐☐ - ☐☐☐☐
Contact's phone CNTPHONE

CNTEMAIL @ •
Email

CNTADD1
Street address1

CNTADD2
Street address2

CNTADD3
Apartment Number

CNTCITY
City

☐☐
CNTST
State

CNTCNTRY
Country

☐☐☐☐☐
CNTZIP
ZIP/Postal Code

EXIT LOGIC: Go to CLOSE.

Survey Closeout

CLOSE

Thank you for completing the CollegePoint Study questionnaire!
Please click the "submit survey" below to send us your survey.

You can expect to receive your Amazon gift code in the next five business days. If you have questions about this study or need assistance, please contact NORC by…

- Calling toll free at 1-877-392-4914, or
- Sending an email to collegepoint_survey@norc.org.

If you have questions about your rights as a study participant, you may call the NORC Institutional Review Board Administrator, toll free, at 1-866-309-0542.

IT NOTES: Standard navigation icons should be replaced with a "SUBMIT SURVEY" icon.

Submit Survey

Appendix C: Prediction model output

```
      name:  <unnamed>
       log:  /Users/kb7ud/Library/CloudStorage/Box-Box/Bloomberg Advising/Coll
> egePoint Classes/Class of 2022/results/cvlassologit_logfile.smcl
  log type:  smcl
 opened on:  26 Jul 2023, 12:02:33

1 .
2 .         * First, showing output from a basic logistic regression
3 .         * to show the coeficient estimates
4 .         logit any_aspen_applied_nr $regcovars _Ielig* if advisingplus==0

Iteration 0:   log likelihood = -554.11498
Iteration 1:   log likelihood =  -488.2355
Iteration 2:   log likelihood = -465.93287
Iteration 3:   log likelihood = -465.58211
Iteration 4:   log likelihood = -465.58125
Iteration 5:   log likelihood = -465.58125

Logistic regression                             Number of obs     =      1,454
                                                LR chi2(22)       =     177.07
                                                Prob > chi2       =     0.0000
Log likelihood = -465.58125                     Pseudo R2         =     0.1598

------------------------------------------------------------------------------
> ----------
 any_aspen_applied_nr |      Coef.   Std. Err.      z    P>|z|     [95% Conf.
> Interval]
-------------------------------------------------------------------------------
> ----------
          low_income |  -.2520033   .1787084    -1.41   0.158    -.6022654
>  .0982588
           black_reg |   .9338874   .4472839     2.09   0.037      .057227
>  1.810548
            hisp_reg |   .1722676   .2907337     0.59   0.553     -.39756
>  .7420952
           asian_reg |   .8838061   .3086713     2.86   0.004     .2788214
>  1.488791
           other_reg |  -.2380686    .413395    -0.58   0.565    -1.048308
>  .5721708
        missing_race |   .9804415   .7344938     1.33   0.182    -.4591398
>  2.420023
          female_reg |   .4616027   .2281651     2.02   0.043     .0144074
>  .9087981
      missing_gender |   -.502116   .6900161    -0.73   0.467    -1.854523
>  .8502907
       firstgen2_reg |  -.0821639   .2313948    -0.36   0.723    -.5356893
>  .3713616
   missing_firstgen2 |  -.5202692   .5674911    -0.92   0.359    -1.632531
```

```
>   .591993
            clean_gpa |   .6632099   .4912077     1.35   0.177    -.2995394
>  1.625959
        sat_score_reg |   .0025738   .0017089     1.51   0.132    -.0007756
>  .0059232
        act_score_reg |   .1269067   .0610758     2.08   0.038     .0072004
>   .246613
       psat_score_reg |   .0015926   .0019043     0.84   0.403    -.0021398
>   .005325
         missing_sat |  -.5525483   .3475486    -1.59   0.112    -1.233731
>  .1286345
         missing_act |   .1515087   .3387358     0.45   0.655    -.5124013
>  .8154186
        missing_psat |   .2870714   .3078953     0.93   0.351    -.3163923
>   .890535
public_cp_instate_reg |   1.307072   .2107993     6.20   0.000     .8939129
>  1.720231
      num_cp_cbsa_reg |   .0081134   .0152938     0.53   0.596     -.021862
>  .0380888
        _Ieligibili_2 |  -.0813694   .3081794    -0.26   0.792    -.6853899
>  .5226511
        _Ieligibili_3 |  -.1875612   .2750248    -0.68   0.495       -.7266
>  .3514775
        _Ieligibili_4 |   .7898308   .4305981     1.83   0.067     -.054126
>  1.633788
                _cons |  -11.13881   4.871063    -2.29   0.022    -20.68592
> -1.591699
----------------------+-------------------------------------------------------
> ---------

5 .
6 .         * Now, running Lasso Logit with 5-fold cross validation
7 .         cvlassologit any_aspen_applied_nr $regcovars _Ielig* if advisingplus
  > ==0, ///
  >                 stratified verbose long seed(1234)
  K-fold cross-validation with 5 folds.

    Knot|  ID    Lambda/n    s     L1-Norm     EBIC     Pseudo-R2 | Entered/remo
  > ved
  ------+-------------------------------------------------------+-------------
  > ---
       1|   1    0.09900     1     1.93268    885.67686   0.0039  | Added public
  > _cp_instate_reg _cons.
       2|   6    0.04892     2     2.13606    825.40003   0.0745  | Added missin
  > g_act.
       3|   7    0.04249     3     1.75725    819.75362   0.0835  | Added clean_
  > gpa.
       4|   9    0.03205     6     2.62585    812.97877   0.0991  | Added asian_
  > reg act_score_reg missing_sat.
```

```
     5|   11    0.02418     7     4.55110    801.06075   0.1152   | Added female
> _reg.
     6|   12    0.02100     8     5.21577    797.30552   0.1221   | Added _Ielig
> ibili_3.
     7|   14    0.01584    11     6.25182    794.34342   0.1334   | Added low_in
> come num_cp_cbsa_reg _Ieligibili_4.
     8|   15    0.01376    13     6.86850    793.37862   0.1398   | Added sat_sc
> ore_reg missing_psat.
     9|   16    0.01195    14     8.09420    789.92809   0.1463   | Added other_
> reg.
    10|   18    0.00901    15    10.16567    784.07179   0.1555   | Added black_
> reg.
    11|   21    0.00590    16    12.47453    779.56128   0.1633   | Added _Ielig
> ibili_2.
    12|   29    0.00191    18    15.45457    779.19107   0.1690   | Added missin
> g_race firstgen2_reg.
    13|   30    0.00166    19    15.82018    781.30485   0.1692   | Added psat_s
> core_reg.
    14|   31    0.00144    21    16.26312    785.70538   0.1696   | Added hisp_r
> eg missing_gender.
    15|   32    0.00125    22    16.80833    787.59137   0.1701   | Added missin
> g_firstgen2.
Use 'long' option for full output.
Type e.g. 'lassologit, lic(ebic)' to run the model selected by EBIC.

  Knot|   ID    Lambda/n     s     L1-Norm     EBIC     Pseudo-R2 | Entered/remo
> ved
------+-------------------------------------------------------------+-----------
> ---
     1|    1    0.09900     0     1.92543    886.52953   0.0000   | Added _cons.
     2|    2    0.08598     1     1.97388    865.87229   0.0259   | Added public
> _cp_instate_reg.
     3|    6    0.04892     2     1.84343    826.76169   0.0727   | Added clean_
> gpa.
     4|    8    0.03690     4     3.08822    815.47672   0.0907   | Added act_sc
> ore_reg missing_act.
     5|   10    0.02784     5     5.60392    804.59091   0.1057   | Added asian_
> reg.
     6|   11    0.02418     7     6.50609    803.42798   0.1123   | Added missin
> g_firstgen2 missing_sat.
     7|   12    0.02100     9     7.35059    802.40663   0.1187   | Added black_
> reg female_reg.
     8|   13    0.01824     8     8.16975    794.86567   0.1246   | Removed miss
> ing_firstgen2.
     9|   15    0.01376    10     9.48183    792.10224   0.1330   | Added low_in
> come _Ieligibili_4.
    10|   16    0.01195    12    10.10991    792.28626   0.1381   | Added other_
> reg _Ieligibili_2.
    11|   17    0.01038    13    10.68611    790.92237   0.1423   | Added missin
```

```
> g_firstgen2.
    12|  18    0.00901    14    11.26847    790.29387   0.1456  | Added sat_sc
> ore_reg.
    13|  19    0.00783    15    12.08205    790.00253   0.1486  | Added num_cp
> _cbsa_reg.
    14|  21    0.00590    14    13.38938    784.06009   0.1527  | Removed miss
> ing_act.
    15|  23    0.00445    16    14.39562    786.62990   0.1551  | Added psat_s
> core_reg missing_psat.
    16|  26    0.00292    15    16.43142    782.11210   0.1575  | Removed _Iel
> igibili_2.
    17|  27    0.00253    16    17.15347    783.57394   0.1585  | Added missin
> g_race.
    18|  29    0.00191    18    18.60134    786.58359   0.1604  | Added missin
> g_gender firstgen2_reg.
    19|  30    0.00166    19    19.38028    788.03446   0.1614  | Added hisp_r
> eg.
    20|  39    0.00047    20    23.45074    787.60902   0.1645  | Added _Ielig
> ibili_3.
    21|  40    0.00041    21    23.71639    789.88489   0.1646  | Added missin
> g_act.
    22|  41    0.00035    22    24.10878    792.15902   0.1647  | Added _Ielig
> ibili_2.
Use 'long' option for full output.
Type e.g. 'lassologit, lic(ebic)' to run the model selected by EBIC.

  Knot|  ID    Lambda/n    s     L1-Norm     EBIC     Pseudo-R2 | Entered/remo
> ved
------+-------------------------------------------------------+-------------
> ----
     1|   1    0.09900     0     1.92543    886.52953   0.0000  | Added _cons.
     2|   2    0.08598     1     1.95523    874.64057   0.0161  | Added public
> _cp_instate_reg.
     3|   8    0.03690     4     1.66607    830.36294   0.0739  | Added asian_
> reg missing_gender clean_gpa.
     4|   9    0.03205     5     1.67500    824.42569   0.0833  | Added missin
> g_act.
     5|  10    0.02784     7     2.31506    822.16593   0.0911  | Added act_sc
> ore_reg missing_sat.
     6|  11    0.02418     9     3.29313    819.26385   0.0997  | Added black_
> reg female_reg.
     7|  12    0.02100    10     4.20344    813.71479   0.1086  | Added _Ielig
> ibili_3.
     8|  14    0.01584    11     5.70392    803.86910   0.1224  | Added other_
> reg.
     9|  16    0.01195    15     7.24468    804.16589   0.1326  | Added sat_sc
> ore_reg missing_psat num_cp_cbsa_reg
      |                                                 | _Ieligibili_
> 2.
```

```
    10|  19    0.00783    16     9.56136    796.46262   0.1440  | Added _Ielig
> ibili_4.
    11|  20    0.00680    17    10.24282    796.72818   0.1463  | Added missin
> g_firstgen2.
    12|  24    0.00387    18    12.28323    794.53158   0.1514  | Added psat_s
> core_reg.
    13|  33    0.00109    20    15.86535    796.72283   0.1543  | Added hisp_r
> eg firstgen2_reg.
    14|  34    0.00094    21    16.06187    798.99241   0.1544  | Added low_in
> come.
    15|  36    0.00071    22    16.47499    801.16827   0.1545  | Added missin
> g_race.
Use 'long' option for full output.
Type e.g. 'lassologit, lic(ebic)' to run the model selected by EBIC.

  Knot|  ID    Lambda/n    s     L1-Norm     EBIC     Pseudo-R2 | Entered/remo
> ved
------+-------------------------------------------------------+-------------
> ---
     1|   1    0.09900     1     1.96976    865.18999   0.0267  | Added public
> _cp_instate_reg _cons.
     2|   5    0.05633     2     1.89427    812.99788   0.0882  | Added clean_
> gpa.
     3|   6    0.04892     3     1.87123    805.36790   0.0995  | Added asian_
> reg.
     4|   7    0.04249     5     3.00199    797.97901   0.1131  | Added missin
> g_gender missing_act.
     5|   8    0.03690     6     3.77536    789.13603   0.1257  | Added missin
> g_sat.
     6|  10    0.02784     7     5.00777    774.43448   0.1450  | Added missin
> g_firstgen2.
     7|  11    0.02418     9     5.83832    772.36583   0.1526  | Added female
> _reg act_score_reg.
     8|  14    0.01584    12     7.78308    765.25212   0.1686  | Added black_
> reg _Ieligibili_3 _Ieligibili_4.
     9|  15    0.01376    14     8.34388    764.34143   0.1749  | Added low_in
> come _Ieligibili_2.
    10|  20    0.00680    13    10.13414    746.19005   0.1927  | Removed miss
> ing_act.
    11|  21    0.00590    12    10.35760    742.48620   0.1943  | Removed miss
> ing_gender.
    12|  22    0.00513    13    10.54191    743.76781   0.1955  | Added num_cp
> _cbsa_reg.
    13|  25    0.00336    14    11.09081    744.13672   0.1977  | Added sat_sc
> ore_reg.
    14|  27    0.00253    16    11.89145    747.99862   0.1986  | Added psat_s
> core_reg missing_psat.
    15|  30    0.00166    18    13.21740    751.92581   0.1995  | Added other_
> reg firstgen2_reg.
```

```
    16|  31    0.00144    19    13.67108    753.98070   0.1998  | Added missin
> g_race.
    17|  32    0.00125    20    14.17326    755.96216   0.2002  | Added missin
> g_gender.
    18|  37    0.00062    21    16.11093    757.29830   0.2014  | Added missin
> g_act.
    19|  44    0.00023    22    17.77447    759.28318   0.2018  | Added hisp_r
> eg.
Use 'long' option for full output.
Type e.g. 'lassologit, lic(ebic)' to run the model selected by EBIC.

  Knot|  ID    Lambda/n    s     L1-Norm     EBIC     Pseudo-R2 | Entered/remo
> ved
------+-------------------------------------------------------+-------------
> ---
     1|   1    0.09900     0     1.92543    886.52953   0.0000  | Added _cons.
     2|   2    0.08598     1     1.94405    879.96673   0.0101  | Added public
> _cp_instate_reg.
     3|   8    0.03690     3     1.81708    832.46674   0.0689  | Added clean_
> gpa missing_act.
     4|   9    0.03205     4     1.45958    829.81644   0.0746  | Added asian_
> reg.
     5|  10    0.02784     7     2.21678    829.19715   0.0832  | Added female
> _reg act_score_reg missing_sat.
     6|  11    0.02418     8     3.00634    824.29268   0.0914  | Added _Ielig
> ibili_2.
     7|  16    0.01195     9     5.40724    807.85038   0.1126  | Added _Ielig
> ibili_4.
     8|  17    0.01038    12     5.77418    812.14138   0.1157  | Added low_in
> come missing_firstgen2 missing_psat.
     9|  19    0.00783    13     6.56063    809.99701   0.1208  | Added black_
> reg.
    10|  21    0.00590    14     7.47708    809.32360   0.1242  | Added psat_s
> core_reg.
    11|  22    0.00513    16     8.25895    812.78283   0.1256  | Added sat_sc
> ore_reg _Ieligibili_3.
    12|  23    0.00445    15     9.16444    809.38387   0.1267  | Removed _Iel
> igibili_3.
    13|  24    0.00387    16     9.99207    810.84204   0.1277  | Added hisp_r
> eg.
    14|  29    0.00191    17    12.85154    810.99201   0.1302  | Added firstg
> en2_reg.
    15|  31    0.00144    18    13.75961    812.71446   0.1309  | Added missin
> g_race.
    16|  32    0.00125    19    14.28016    814.69204   0.1313  | Added other_
> reg.
    17|  33    0.00109    20    14.74300    816.75110   0.1317  | Added num_cp
> _cbsa_reg.
    18|  37    0.00062    21    16.10238    818.47599   0.1324  | Added missin
```

```
> g_gender.
    19|  47    0.00015    22    17.69364    820.45902   0.1328  | Added _Ielig
> ibili_3.
Use 'long' option for full output.
Type e.g. 'lassologit, lic(ebic)' to run the model selected by EBIC.
```

	Lambda	Deviance	St. err.	
1	143.94517	.759959	.00164532	
2	125.01802	.74562701	.00162784	
3	108.57957	.73174528	.00312493	
4	94.302594	.72211884	.00539872	
5	81.902875	.71521617	.00725817	
6	71.133579	.71000368	.0088026	
7	61.780322	.70571709	.01033874	
8	53.656912	.70116191	.01246182	^
9	46.601639	.69643357	.01478921	
10	40.474053	.69130023	.01742431	
11	35.152176	.68627626	.01962419	
12	30.530064	.68262027	.02130967	
13	26.515708	.68016895	.02277464	
14	23.029194	.67872874	.02397788	
15	20.001117	.67766541	.02481868	
16	17.371198	.67685106	.02569195	
17	15.087083	.67636244	.02665707	
18	13.103303	.67608898	.02756153	
19	11.380368	.67582004	.0284967	
20	9.8839787	.6756466	.02941283	*
21	8.5843479	.67567171	.03022191	
22	7.4556038	.67572112	.03098165	
23	6.4752767	.67576778	.03171513	
24	5.6238515	.67582229	.0323655	
25	4.884379	.67586349	.03288274	
26	4.2421387	.67591221	.03328786	
27	3.6843457	.67605543	.03358089	
28	3.1998961	.67625934	.03380838	
29	2.7791462	.67652753	.03400537	
30	2.4137201	.67683033	.03415278	
31	2.0963433	.67704947	.03429557	
32	1.820698	.67726152	.03437688	
33	1.581297	.67746409	.03442947	
34	1.3733744	.67765406	.0344829	
35	1.1927913	.67783793	.03453369	
36	1.0359528	.67795575	.03459211	
37	.89973678	.67807525	.03471003	
38	.78143163	.6781862	.03481707	
39	.67868226	.6783065	.03491103	
40	.58944326	.67843829	.03499313	
41	.51193817	.67859664	.03506331	
42	.44462413	.67873427	.03512591	

```
          43 |      .38616111      .67885834      .03518118
          44 |      .33538532      .67896385      .03522513
          45 |      .29128596      .67905482      .03526093
          46 |      .25298517       .6791356      .03529236
          47 |       .2197205      .67921148       .0353173
          48 |      .19082975      .67928085      .03533768
          49 |      .16573781      .67934174      .03535549
          50 |      .14394517      .67939553      .03537117
  * lopt = the lambda that minimizes loss measure.
    Run model: cvlassologit, lopt
  ^ lse = largest lambda for which MSPE is within one standard error of the mini
  > mum loss.
    Run model: cvlassologit, lse

 8 .
 9 .         * Ending log file
10 .         log close
       name:  <unnamed>
        log:  /Users/kb7ud/Library/CloudStorage/Box-Box/Bloomberg Advising/Coll
  > egePoint Classes/Class of 2022/results/cvlassologit_logfile.smcl
    log type:  smcl
   closed on:  26 Jul 2023, 12:02:46
  ------------------------------------------------------------------------------
```