Do Financial Incentives Increase the Impact of National-Scale Educational Programs?

Experimental Evidence from a National College Advising Initiative

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Abstract

Recent work highlights the challenge of scaling evidence-based educational programs. We report on a randomized controlled trial of a financial incentive program designed to increase the efficacy of a national remote college advising initiative for high-achieving students. We find substantial positive effects of the program on student engagement with college advisors; applications to well-matched colleges and universities; and review of financial aid awards. Yet treated students were no more likely to enroll at higher-quality institutions. Student survey responses suggest that institutional admissions and affordability barriers, alongside student preferences to attend institutions closer to home, explain the lack of enrollment effects.

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The authors declare that they have no relevant or material financial interests that relate to the research described in this paper.

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I. Introduction

Recent work highlights the challenge of scaling evidence-based strategies to achieve social policy objectives (List, 2022). Reviews of RCTs across numerous policy domains document 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; Saccardo et al., 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 to reduce costs, have resulted in substantially smaller or insignificant effects (Kraft et al., 2022; Gurantz et al., 2019; Loeb et al., 2023; Philips and Reber, 2022; Sullivan et al., 2021).

Specific to college advising, substantially lower rates of student engagement with remote advising appears to be a primary contributor for why scaled-up advising programs are less effective. Both in-person and remote advising are designed to provide "on-demand" advising support whenever students request it, so differences in student engagement appear to be a function of lower student *take-up* of available advising resources rather than reduced advising *availability*. In the most impactful in-person advising models, students engage in more than ten hours of individualized college and financial aid advising during senior year of high school; this compares to relatively few interactions (many of which consist of text and email exchanges) between students and advisors in remote advising models (Barr and Castleman, 2021; Carrell and Sacerdote, 2017; Castleman,

Deutschlander, and Lohner, 2020; Gurantz et al., 2019; Philips and Reber, 2022; Sullivan et al., 2021).

In this paper we investigate whether input-based incentives at the margin of college and financial aid planning are an effective approach to increase student engagement with college advising and completion of key college and financial aid milestones, and therefore to increase the efficacy of a national-scale college advising intervention. In 2021 Bloomberg Philanthropies launched a new national program, Advising Plus, designed to financially incent key college and financial aid inputs. The program was broadly 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).

More specifically, Bloomberg Philanthropies intended Advising Plus to increase the efficacy of its existing national college advising program, CollegePoint. CollegePoint is a consortium of four advising organizations that has offered remote college advising to tens of thousands of high-achieving, low- and moderate-income high school seniors over the last decade (we provide additional detail on CollegePoint in Section 2). A prior experimental evaluation of CollegePoint advising found no impact on applications to and only small positive effects (1.3 percentage point) on enrollment at selective colleges and universities.³ A quarter of the treatment group never interacted with an advisor, and students had a mean of only 5.7 interactions (inclusive of email and text exchanges) with advisors (Sullivan et al., 2021).

Advising Plus focused in particular on incentivizing college and financial aid behaviors which prior experimental studies demonstrate can lead to higher-

³ CollegePoint focuses on supporting students to apply to colleges and universities with graduation rates of 70 percent or higher (referred to as "CollegePoint" schools).

quality college enrollment. First, Advising Plus offered students up to \$400 for applying to high-quality and well-matched colleges and universities, given prior evidence that customized information about colleges and universities that were a good match for students' academic profile and application fee waivers increased application and enrollment rates at selective institutions by 22 and 19 percent, respectively (Hoxby and Turner, 2013). Second, a requirement of Advising Plus was that students engage at least monthly with their college advisor to maintain incentive eligibility, given evidence that working with a college advisor on a regular basis increases enrollment at four-year colleges and universities by 13 to 34 percent (e.g. Avery, 2013; Barr and Castleman, 2021; Carrell and Sacerdote, 2017; Castleman, Lohner, and Deutschlander, 2020). Students additionally earned \$50 for their initial advisor meeting and earned another \$50 to meet with an advisor to review financial aid packages and compare affordability of colleges in students' admitted choice set, given evidence that this review is strongly associated with higher quality enrollment (Barr and Castleman, 2021). Students 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).

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. Among eligible applicants, students were randomly assigned to a control group that received the offer of remote advising (the standard CollegePoint program, which we refer to as 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.

We use data from multiple administrative sources as well as advisor- and student-reported data to examine the effects of Advising Plus on students' college planning, decision-making, and enrollment. We measure students' college application behavior, acceptances, and postsecondary intentions, as well as their assessment of advising, through advisor interaction records and through a student 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 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 5.1 percentage points more likely to report applying to at least one CollegePoint school (92.4 percent vs. 87.3 percent) and 5.9 percentage points more likely to apply to the most selective colleges and universities in the country (Barron's 1 institutions⁴; 76.3 percent vs. 70.4 percent), which also tend to offer the most institutional grant aid to lower-income students. Advising Plus also shifted student preferences in the direction of higher-quality institutions: Students were 4.3 percentage points more likely to report their top choice institution was a CollegePoint school (82.4 percent vs. 78.1 percent) and 5.9 percentage points more likely to indicate a Barron's 1 institution was their top choice (59.6 percent vs. 53.7

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⁴ The Barron's Admissions Competitive Index is a commonly used measure of institutional selectivity; see section III.C. for more detail

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. 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.⁵

Second, Advising Plus students had substantially more intensive and sustained engagement with their advisor. Advising Plus increased total interaction time with advisors by 36 percent; increased the share of students meeting with an advisor each month by 338 percent; and increased the share of students still engaged with their advisor through May of senior year (when students choose which college to attend) by 165 percent. Both advisor and student reports indicate Advising Plus led students to be substantially more likely to discuss important topics (e.g. where to apply and separately where to enroll in college) and to complete important actions (e.g. applying to multiple CollegePoint schools). More generally, Advising Plus students were substantially more likely to report their advisor being helpful and influential in their college choice process. For instance, 41 percent of Advising Plus students reported their advisor was very or most important in their decision about which college to attend, compared to 27 percent of Advising Standard students.

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 resulted in improved enrollment quality.

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⁵ 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).

This is despite several prior experimental studies demonstrating strong links between college and financial aid application milestone completion and improved enrollment quality. Given our large sample size we can rule out impacts greater than three percentage points. 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, did this incentive program not result in improved enrollment quality? Results from the survey suggest a combination of factors contribute to the lack of enrollment effects, including 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. While Advising Plus students applied to the most selective colleges and universities, many of which meet students' full need with financial aid, they were no more likely to report being accepted to these institutions, despite being high in the national distribution of college entrance exam scores and from a socioeconomic background that many institutions indicate is central to their diversity goals. This result is 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 contributing factor 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 some students who were admitted to CollegePoint schools but chose to enroll

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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.

elsewhere. Among these students, for instance, only 39.1 percent of students reported that the CollegePoint school to which they were admitted provided sufficient financial aid to make it an affordable option, and over half indicated their net price was at least \$2,000 more than they anticipated. A final contributing factor appears to be 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 than they did on the quality of the institution.

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. 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 or attending school (Dearden et al., 2009; Dee, 2011; Fryer, 2011).⁷

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

⁷ 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.

colleges and universities if they are not paired with parallel investments to increase admissions and affordability. 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 at selective institutions in the U.S., and in turn contribute to greater intergenerational income mobility in the U.S.

II. Program Background

A. 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. CollegePoint criteria for the Class of 2022 were: (1) family income below \$85,000; (2) a high school GPA of 3.5 or higher; and (3) either a score above the 80th percentile on the ACT, SAT, or PSAT, or a "Test-Optional" pathway for students who did not submit exam scores but who had taken at least three AP or IB courses. 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 CollegePoint.

CollegePoint advising is provided by a consortium of non-profit college advising organizations: College Advising Corps, College Possible, Matriculate, and Scholar Match. CollegePoint advising shares key design components of interventions previously shown to have a positive impact on student enrollment and college success outcomes. Through CollegePoint, students have access to individualized, "on-demand" college advising throughout senior year of high school (Barr and Castleman, 2021) and receive personalized information about selective colleges and universities where they appear admissible based on their academic profile (Hoxby and Turner, 2013).

CollegePoint 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, email campaigns, video conferencing, document collaboration, 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; hereafter we refer to these as "CP schools".8

Figure 1 illustrates the geographic distribution of CollegePoint students and CP schools. The shading of the states represents the deciles of the number of all CollegePoint students who live in a given state, with a darker shade indicating more

⁸ The 70 percent graduation rate threshold is based on the average six-year graduation rate over the past five years. CP 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.

students. This pattern largely reflects the general population distribution in the United States. The dots show the location of all private CP schools, and the triangles show the location of all public CP schools.

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 that enrolled at a CP 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.

B. 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 at least once a month 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 CP 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). 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 in every month preceding the completion of the milestone, 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 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.

Nearly two-thirds (62.6 percent) of Advising Plus students completed the first milestone of having an introductory meeting with their advisor. Under half (43.4 percent) of Advising Plus students verified applying to at least one CP school (\$100 incentive per college, up to \$400)¹⁰; 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 discuss the randomization procedure and advisor assignment for Advising Plus in Section IV.

III. Data

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⁹ The deadlines for completing these tasks were October 1st, 2021; December 3rd, 2021; April 16th, 2022, and May 31st, 2022, respectively.

¹⁰ 26.5 percent of all Advising Plus students earned the full \$400 incentive by applying to at least four CollegePoint schools.

A. 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 not observable in the College Board 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 (in both the Advising Standard and Advising Plus groups) 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.

B. 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

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.

¹² Source: https://nscresearchcenter.org/workingwithourdata/

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 students' senior year of high school as whether the student was enrolled as of October 1st, 2022.

C. 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, midpoint SAT scores of incoming class, and admission rate. 13 Finally, we identify 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, beyond what students and their families are expected to contribute as determined by their FAFSA application. ¹⁴ Specifically, these are the schools that meet 100% of demonstrated financial need without loans, either for all students or

¹³ See https://collegescorecard.ed.gov/data for more information about this data.

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.

for students from lower-income families. There are a total of 35 "meet full need" (MFN) schools, which represent the highest-quality colleges and universities in the U.S.

D. 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 they applied to 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 Appendix B.

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.

IV. Empirical Strategy

A. 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 standardized exam score percentile bin (>90th percentile, 85th-90th percentile, 80th-85th percentile) or if students entered through the Test-Optional pathway. 15 When random assignment began on March 15th, 2021, the share of students assigned to Advising Plus out of all eligible students was 33 percent. In order 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

 $^{^{15}}$ 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.

assigned to Advising Standard. Advisors were also randomly assigned to either the Advising Standard or Advising Plus condition. 17

B. Estimating Intent to Treat Impacts

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

$$Outcome_{i} = \beta_{0} + \beta_{1}AdvisingPlus_{i} + \beta_{2}StudentChar_{i} + \\ + RandBlockFE_{i} + \epsilon_{i}$$
 (1)

Where $StudentChar_i$ is a vector of student baseline characteristics 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 based on the *offer* to participate in Advising Plus, we interpret $\hat{\beta}_I$ as the intent-to-treat impact estimate of Advising Plus, relative to Advising Standard. We do not estimate or 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.

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¹⁶ We registered the randomized controlled trial described in this paper with the American Economic Association's RCT registry: https://www.socialscienceregistry.org/trials/11413

¹⁷ 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. Two of the advising organizations provided unique, anonymous advisor identifiers in the student-level data they provided. The College Advising Corps had 11 advisors serving students in our analytic sample (4 of whom were randomly assigned to Advising Plus), and College Possible had 43 advisors serving students in our analytic sample (13 of whom were randomly assigned to Advising Plus). The other two advising organizations (Scholar Match and Matriculate) use near-peer advising models, employing more advisors who work part-time with substantially lower case loads.

C. Predicting Baseline Propensity to Apply to a CP school

We test 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. We use all student baseline characteristics from Table 1 (which we present in Section V.A below) 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 Appendix C, which shows the lasso logit model performance within each of the five cross-validation folds, as well as the optimally chosen model.

V. Results

A. Summary Statistics and Baseline Equivalence

We first test for baseline equivalence in our full analytic sample by regressing individual student baseline characteristics on an indicator for Advising Plus assignment and randomization block fixed effects. We present the results in Table 1, where column 1 displays the Advising Standard mean of the student characteristic (e.g. 35.3 percent of Advising Standard students are categorized as low-income), and columns 2 and 3 display the coefficient estimate from the Advising Plus indicator and the p-value of this estimate, respectively. The results in Table 1 show that randomization had the desired result of producing balance

¹⁸ We use the STATA command cylassologit from the LASSOPACK (Ahrens, Hansen, and Schaffer, 2018)

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 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 1 and 4 of Table 1 provides a summary of the students in the full analytic and survey sample, respectively. Comparing columns 1 and 4, we find that the sample of survey respondents is quite similar to the full analytic sample. As expected based on CollegePoint's eligibility criteria, the full analytic 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; 17.1 percent are in the 85th-89th percentiles; 16.0 percent are in the 80th-84th percentiles; and 15.1 percent were eligible without a test score, based on their self-reported high school GPA and AP or IB course-taking. Roughly a third of students report having family incomes under \$40,000, and the balance indicate family incomes between \$40,000 - \$80,000. 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 row of Table 1 measures a proxy for 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). We construct these proximity measures using the students' high school state. We find that the majority

of the sample has close proximity to CP schools, with 84.5 percent of students having a public CP option in their state.

B. Impacts on incentivized behavior

In Table 2, we find positive and significant impacts on each of the college and financial aid milestones incented by Advising Plus, all of which prior research has found to be positively associated with improved college enrollment outcomes. While Advising Plus and Advising Standard students were equally likely to ever interact with their advisor (71.8 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, for an additional 50 minutes of total advising time (42.6 percent and 35.7 percent relative increases, respectively; columns 2 and 3); were 25.7 percentage points more likely to still be engaged as of May of their senior year (a 165 percent increase; column 4); and were over three times as likely to have engaged with their advisor in all months between program entry and May (column 5), all compared to their Advising Standard counterparts. ¹⁹

Data from student surveys and advisors' records suggest that the additional interactions caused by Advising Plus were not just pro forma check-ins so that students could collect the incentive money. According to student surveys, Advising Plus students were significantly more likely to report their advisor was helpful across a variety of aspects of the college search and financial aid processes, such as the importance of considering quality in choosing where to apply to college and were also significantly more likely to report they discussed a variety of relevant topics with their advisor, such as how to estimate estimate net prices at a specific

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¹⁹ Three out of four advising organizations provided length of interactions in minutes. One of these three organizations provided categorical data; we convert these categories to continuous values using the midpoint of these categories, e.g. the "11-30" minutes became 20 minutes. The results are very similar if we only use data from the two organizations that provided continuous

college before applying and how to select safety match, and reach schools (Appendix Table A1). These survey results are corroborated by advisor interaction records showing that Advising Plus students were more likely to discuss pertinent topics with their advisors (Appendix Table A2, columns 1-4). As we also show in Appendix Table A2, Advising Plus students were also substantially more likely to interact through formats conducive to more substantive discussions (columns 5-8):²⁰ Advising Plus students had nearly double the number of Video and Phone interactions with their advisor, while the number of text interactions increased by only 34 percent.

In terms of concrete college and financial aid milestones, we also show in Table 2 that 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 6.4 percentage points (9.8 percent) more likely to apply to at least four CP schools. In Appendix Table A3, 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 collectively 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, in which they were more likely to discuss relevant college and financial aid topics, we

²⁰ Note that sum of the point estimates or Advising Standard means in columns 5 through 8 do not equal those of column (2) in Table 2 for two reasons: there are other less frequently used interaction methods not shown (in person, social media, other); and one of the advising orgs did not provide interaction method, only the number of interactions.

²¹ 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).

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. Advising Plus students rated their CollegePoint advisor as significantly more important and influential in their college search process than Advising Standard students. Appendix Table A4 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).²²

C. 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 significantly increased student's interest in Barron's 1 schools (5.9 percentage points; 11 percent relative increase), students were no more likely to be admitted to these most selective schools. Conversely, while Advising Plus students were significantly more likely to be admitted to Barron's 2

²² The survey did not ask students how important their advisor was in choosing where to apply.

schools (6.9 percentage points; 13 percent relative increase), they were no more likely to identify a Barron's 2 school as their top choice within their application or admittance sets. As we show in Appendix Table A5, this pattern of higher rates of application but no increase in acceptance at Barron's 1 institutions holds even for students in the top decile of the national distribution of college entrance exam scores. The point estimates are also very similar, though more imprecise, when we limit the sample to students in the top five percent of the test score distribution. This lack of admission is surprising given how high-achieving these students were and the fact that many elite colleges and universities publicly express a commitment to expanding their socioeconomic diversity.

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 -- and induced students to prefer the highest-quality institutions -- we observe no significant overall impact on enrollment quality. We have sufficient precision to rule out positive impacts on enrollment at CP 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.

D. Heterogeneous Impacts: Baseline Propensity to Apply to CP 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 (70.8 versus 91.5 percent, column 4) and substantially less likely to be accepted to a CP school (62.4 versus 85.9 percent, column 5), compared to Advising Standard students who are predicted to apply to a CP school.

The second and third rows of point estimates of Table 5 show 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 19.5 percentage point (28 percent) increase in the share of lower-propensity students who applied to at least one CP school, but only a 2.7 percentage point (3 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 likely 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 = 0.105). However, we find no differential impacts on enrollment (column 6), reinforcing the conclusion from above that Advising Plus' success at increasing the incented behaviors did not translate to better enrollment outcomes.²³

²³ 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

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 low-propensity 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 low-propensity students' preferences to attend college closer to family. As we describe earlier, the strongest predictor of students not applying to a CP school is that they did not have a public CP institution in their state. These students would both face additional costs (e.g. transportation) to attend a CP school and would, on average, face a more salient trade-off between college quality and distance than students who lived more geographically proximate to CP colleges and universities.

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 $A7.^{24}$

E. Exploring Lack of Enrollment Impacts

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have at least one public CP option, and 84.3 percent of our full analytic sample live in one of those states. Figure 1 shows which states have a public CP option and which do not. 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 A6).

²⁴ 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.

We offer multiple potential explanations with supporting descriptive analysis for the lack of enrollment effects despite substantial increases in both college advisor engagement and college and financial aid milestone completion.

The first explanation is that, while Advising Plus led students to be more likely to apply to and prefer the highest quality--and most affordable net of financial aid--institutions (Barron's 1), they were no more likely to gain acceptance to these institutions.²⁵ This pattern of results holds (though the estimates are more imprecise) when we limit the sample to students in the top decile of the test score distribution, i.e. those students who should have the strongest chances for admission to the most selective schools (Appendix Table A5). Furthermore, when we focus on the subset of schools that meet full need for all admitted students -- 32 out of 35 of which are Barron's' 1 schools -- we again find that AdvisingPlus students were 5.4 percentage points (10 percent) more likely to apply to these schools, but no more likely to be admitted (Appendix Table A8). These results indicate that gaining admittance to the highest-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 publicly committing to increase their socioeconomic diversity. We do find that Advising Plus led students to be substantially more likely to gain admittance to Barron's 2 institutions, but these colleges and universities have 50 percent higher costs, on average, for low-income students compared to Barron's 1 institutions (see Appendix Table A9).

The higher average net price to attend Barron's 2 institutions connects to our second explanation for the lack of enrollment impacts from Advising Plus: affordability remains a barrier to attending a high-quality college or university,

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²⁵ The one exception is students with low propensity to apply to CollegePoint schools, but as we describe in the prior section, affordability and distance barriers likely contributed to the lack of observed enrollment impacts for those students.

even among some high-achieving, lower-income students who are admitted to these institutions. We present a variety of results to support this second explanation. 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 Appendix Table A10, we show that half of students rated cost to attend as "most important" in deciding which college to attend (column 4).26 We explore the potential role of affordability concerns in students' college choice decisions by comparing their views on affordability and cost expectations between the schools they were admitted to and the schools they actually attended. We focus on all Advising Plus students who were admitted to at least one CP school, and show, in Table 6, student responses about affordability separately for: (1) CP schools attended (80.7 percent of admitted students); (2) CP schools that students were admitted to but did not attend (19.3 percent of admitted students)²⁷; and (3) the non-CP schools that students attended in their place. ²⁸ The vast majority of students (85.4 percent) who were admitted to and attended a CP school responded they received enough aid to attend that institution, and just over a quarter (27.6 percent) indicated that the final net cost they faced was \$2,000 or more than they expected. For the roughly twenty percent of students who were admitted to but did not attend a CP school, on the other hand, only 39.1 percent of students reported that the CP school to which they were admitted provided sufficient financial aid to make it an affordable option, and over half indicated their net price was at least \$2,000 more than they anticipated. By contrast, 91.2 percent of these students reported the non-

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²⁶ As we show in Appendix Table A10, Advising Plus had no impact on how students rated these factors.

²⁷ If a student was accepted to more than one CP school, then we use their top choice within the set of admitted CP schools.

²⁸ This analysis includes only students who reported enrolling in any college in Fall 2022. There were 26 Advising Plus students who were admitted to a CP school but did not enroll anywhere, which translates to 3 percent of this population. It is possible that affordability barriers contributed to these 26 students not enrolling in college anywhere despite having been accepted to a CP school.

CP school they ended up attending provided enough financial aid.²⁹ We repeat this analysis separately for Advising Plus students who were admitted to at least one Barron's 1 school and for Advising Plus students who were not admitted to a Barron's 1 school but were admitted to a Barron's 2 school. Appendix Table A12 shows that student views on Barron's 1 affordability generally follow the same patterns as CP schools overall. Among both Barron's 2 attendees and students who were accepted to but did not enroll at Barron's 2 colleges and universities, however, students were substantially less likely to view the Barron's 2 institution as having provided enough financial aid (76.5 percent among attendees; 33.3 percent among Barron's 2 admits who enrolled elsewhere).

While CP schools typically offer significant financial aid packages to lower-income students, especially relative to the broader distribution of four-year institutions in the U.S., the generosity of the aid may be insufficient. At the CP schools attended by Advising Plus students, the average annual net price for even the lowest income group is \$9,655 (Table 6). Even at the 35 schools that meet the full financial need of all admitted students, the average net price for the lowest income students is \$5,050 (Appendix Table A9), since "meeting full need" typically does not cover a student's expected family contribution. These results indicate that most high-achieving students from lower-income backgrounds are likely to face at least thousands of dollars in net price per year, even after financial aid is applied, which may be a sizeable barrier to their enrollment at selective colleges and universities.

Interestingly, the average net price at non-CP schools students chose to attend is slightly higher than the CP school they were admitted to but did not attend, as seen in Table 6. It is possible that these high-achieving students were more

²⁹ We show in Appendix Table A11 that Advising Plus did not impact student's views on affordability or their expected cost, either at their top admitted choice or the college they enrolled at.

competitive for additional institutional aid at comparatively less selective institutions, so that their actual net price at the college they attended could have been lower than the college-level average -- this hypothesis is supported by fact that 91.2 percent of students who chose not to attend the CP school to which they were admitted thought that the non-CP school they chose provided them with sufficient financial aid to be affordable (first row of Table 6).

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 again focusing on the sample of Advising Plus students who were admitted to a CP school, and examine the characteristics of the CP schools to which they were admitted versus the non-CP schools they actually attended. As shown in Table 6, the non-CP schools that students chose to attend were significantly closer to their home (at the median, 60 miles away compared to 287 for the CP schools they were admitted to but did not attend). Students who were admitted to but choose not to enroll at a Barron's 2 school attend colleges even closer to home, 45 miles away at the median (Appendix Table A12).³⁰ We investigate the factors most important to whether students chose to enroll at a CP school, by again limiting the sample to Advising Plus students who were admitted to at least one CP school, and then regressing the outcome (student importance placed on particular factors in deciding which college to attend) on an indicator of whether the student attended the CP school. In Appendix Table A13, we show that students who were admitted to but 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

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³⁰ It is possible that students have other preferences about college characteristics that contribute to their decision to not attend a CP school. One hypothesis is that students want to attend colleges with a more diverse student body, though column (3) of Appendix Table A13 does not support this hypothesis.

importance on quality and academic reputation, holding constant observable characteristics of the student.³¹

VI. 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 universities and for students with little geographic exposure to these institutions near where they lived. 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.³²

Advising Plus students' substantially more positive views on remote advising also extends ongoing research on the relationship between financial incentives and prosocial behavior (e.g. Ariely et al., 2009; Gneezy and Rustichini, 2000). While some prior work suggests financial incentives can crowd out prosocial behavior, our findings suggest that the college planning input incentives led students to engage *more* frequently with their advisor, and in turn to report their advisor was helpful and influential at substantially higher rates.

³¹ The results are similar, though imprecisely estimated, when we separate the sample into students who were admitted to at least one Barron's 1 school versus students admitted to at least one Barron's 2 school but no Barron's 1 school.

³²https://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).

Yet our results also highlight persistent barriers to expanding socioeconomic representation at highly 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.

The lack of enrollment quality impacts from Advising Plus translate to two broad implications for future college access interventions and policy. First, in the decade since Hoxby and Turner (2013) demonstrated that a low-touch informational intervention plus application fee waivers could improve enrollment quality among high-achieving, low-income students, selective colleges and universities have not sufficiently revised their admissions practices or financial aid offers to meaningfully increase their socioeconomic diversity. If anything, recent work demonstrates that the highest-income students are substantially *more* likely to gain admission to selective institutions, holding constant academic performance. 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).

Second, broader efforts to improve college enrollment quality among lowerincome students may be better targeted among students who are not at the top of the distribution of academic achievement, and for whom there are well-matched moderately-selective institutions relatively close to where the students live. In other words, interventions that support academically college-ready students to "move up the selectivity ladder" may have greater marginal benefit than interventions focused on supporting the highest-achieving students to attend the most selective institutions in the country. 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, shifting students who would not have gone to college to attend four-year institutions; 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, especially given our finding that, in this context, the college planning input incentives increased the frequency with which students engaged with advising and their perceived helpfulness and influence of the advising they received. In-person college advising models like College Forward that generate large effects 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 an	alytic sample (n	= 4,815)	Survey sample $(n = 2,459)$			
	Advising Standard Mean (1)	Advising Plus Difference (2)	P-value of difference (3)	Advising Standard Mean (4)	Advising Plus Difference (5)	P-value of difference (6)	
Low Income (\$0-40k)	0.353	0.011	0.495	0.367	-0.003	0.902	
Middle Income (\$40k-80k)	0.647	-0.011	0.495	0.633	0.003	0.902	
90th+ Percentile	0.518	-0.005	0.328	0.530	-0.012	0.499	
85th - 89th Percentile	0.171	-0.003	0.903	0.164	0.020	0.292	
80th - 84th Percentile	0.160	0.000	0.500	0.148	-0.014	0.134	
Eligible-Test Opt	0.151	0.007	0.087	0.158	0.005	0.626	
SAT score	1377	-8.454	0.087	1379	-4.699	0.556	
Missing SAT	0.651	-0.020	0.154	0.653	-0.044	0.071	
ACT score	29.31	0.117	0.383	29.42	0.107	0.665	
Missing ACT	0.726	0.005	0.668	0.737	0.012	0.622	
PSAT score	1267	0.861	0.869	1270	8.618	0.397	
Missing PSAT	0.794	0.011	0.330	0.781	0.016	0.408	
Asian	0.368	-0.010	0.616	0.379	-0.015	0.654	
Black	0.0969	-0.011	0.367	0.105	0.001	0.973	
Hispanic	0.194	0.001	0.937	0.198	-0.011	0.706	
White	0.286	0.012	0.521	0.262	0.010	0.725	
Other Race	0.0555	0.008	0.409	0.0552	0.015	0.338	
Missing Race	0.297	0.002	0.897	0.290	-0.006	0.793	

First generation	0.449	-0.011	0.600	0.469	-0.012	0.728
Not first generation	0.551	0.011	0.600	0.531	0.012	0.728
Missing parental education	0.304	-0.005	0.718	0.294	-0.003	0.867
Female	0.626	0.011	0.600	0.647	0.009	0.778
Missing Gender	0.289	-0.005	0.714	0.280	-0.005	0.815
Public CP in state	0.845	0.000	0.972	0.854	0.009	0.630

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.

Table 2: Advising Plus impacts on incented behaviors

	Any interaction with advisor (1)	Number of interactions with advisor (2)	Total length of interactions (minutes) (3)	Still engaged with advisor in May (4)	Engaged with advisor each month (5)	Any CP application (6)	At least 4 CP applications (7)	Reviewed aid letter (8)
Advising Plus	0.001 (0.013)	2.662 (0.320)	50.375 (10.426)	0.257 (0.018)	0.196 (0.014)	0.051 (0.017)	0.064 (0.025)	0.133 (0.026)
N R-squared Advising Standard mean	4,815 0.283 0.718	4,815 0.271 6.248	3,207 0.511 141.2	4,815 0.333 0.156	4,815 0.314 0.0579	2,459 0.347 0.873	2,459 0.354 0.651	2,459 0.299 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)-(5) are based on advisors' records of their interactions with students; outcomes in columns (6)-(8) are based on student responses in the College Choice Survey. One out of the four advising organizations provided any data on length of interactions. Three out of four advising organizations provided length of interactions in minutes. One of these three organizations provided categorical data; we convert these categories to continuous values using the midpoint of these categories, e.g. the "11-30" minutes became 20 minutes. The results are very similar if we only use data from the two organizations that provided continuous data.

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)	(0.028)	(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	0.360	0.401	0.391	0.353	0.366	0.339	0.270	0.350	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]".

Table 4: Advising Plus impacts on Fall 2022 enrollment outcomes

Panel A: Enrollment outcome from NSC data

	Any (1)	CP school (2)	Barron's 1 (3)	Barron's 2 (4)
	(1)	(2)	(3)	(-1)
Advising Plus	0.005	0.000	0.010	-0.002
	(0.013)	(0.016)	(0.014)	(0.015)
.,	4.04.7	4.04.7	4.04.5	4.04.7
N	4,815	4,815	4,815	4,815
R-squared	0.183	0.262	0.243	0.203
Advising Standard mean	0.793	0.552	0.255	0.201

Panel A: Enrollment outcome from Survey data

	Any (1)	CP school (2)	Barron's 1 (3)	Barron's 2 (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	0.308	0.385	0.332	0.290
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.

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

	Enga	gement with Ad	visor		CP school	
	Number of Interactions (1)	Still engaged in May (2)	Reviewed Aid Letter (3)	Any Application (4)	Admitted (5)	Enrolled (6)
Low propensity	0.414	0.030	-0.012	-0.207	-0.235	-0.068
Advising Plus	(0.909)	(0.043)	(0.092)	(0.074)	(0.081)	(0.052)
	2.777	0.268	0.142	0.027	0.014	0.000
Low Propensity * Advising Plus	(0.353)	(0.020)	(0.027)	(0.017)	(0.020)	(0.017)
	-0.852	-0.077	-0.077	0.195	0.125	0.001
	(0.662)	(0.042)	(0.093)	(0.073)	(0.077)	(0.044)
N	4,815	4,815	2,459	2,459	2,459	4,815
R-squared Advising Standard mean (High propensity)	0.272	0.334	0.299	0.357	0.407	0.262
	6.482	0.158	0.614	0.915	0.859	0.598
		Barron's 1			Barron's 2	
	Any Application (7)	Admitted (8)	Enrolled (9)	Any Application (10)	Admitted (11)	Enrolled (12)
Low propensity	-0.122	-0.152	-0.023	-0.000	-0.003	0.013
	(0.076)	(0.074)	(0.045)	(0.095)	(0.091)	(0.037)
Advising Plus	0.034	-0.015	0.012	0.069	0.072	-0.003
	(0.025)	(0.027)	(0.015)	(0.027)	(0.030)	(0.016)
Low Propensity * Advising Plus	0.212	0.149	-0.014	0.024	-0.028	0.007
	(0.077)	(0.077)	(0.035)	(0.078)	(0.072)	(0.028)
N	2,459	2,459	4,815	2,459	2,459	4,815
R-squared Advising Standard mean (High propensity)	0.370	0.368	0.243	0.347	0.350	0.203
	0.738	0.454	0.269	0.703	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.

Table 6: Student views and college characteristics among students admitted to CP schools

	CP attended	CP admitted to, but not attended (2)	Non-CP school attended (3)
		(-)	(0)
Enough financial aid?	85.4%	39.1%	91.2%
Expected cost within \$2k	47.1%	35.4%	58.2%
Expected cost >\$2K	27.6%	50.6%	18.5%
Expected cost <\$2K	25.3%	10.1%	23.3%
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	\$15,138	\$16,390	\$16,735
Distance from high school (miles)	686	748	349
Distance from high school (median)	280	287	60
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 A: Appendix Tables

Appendix Table A1: Advising Plus impacts on views of advising, based on student survey responses

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 (0.079)	0.242 (0.078)	0.280 (0.074)	0.267 (0.074)	0.296 (0.078)	0.310 (0.090)	0.211 (0.090)	0.190 (0.096)	0.513 (0.081)
N	2,392	2,387	2,391	2,389	2,387	2,387	2,387	2,381	2,385
R-squared Advising Standard	0.313	0.280	0.276	0.291	0.293	0.270	0.289	0.272	0.321
mean	4.308	4.224	4.263	4.387	4.321	4.087	4.274	3.679	4.124

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

Appendix Table A2: Advising Plus impacts on advisor reported student advising sessions' topics and interaction methods

		Advising Topic				Interaction Method			
	Application list (1)	Financial Aid (2)	Enrollment decision (3)	Transition to college (4)	Video (5)	Phone (6)	Email (7)	Text (8)	
Advising Plus	0.053 (0.017)	0.098 (0.017)	0.162 (0.016)	0.232 (0.019)	1.156 (0.128)	0.919 (0.125)	0.564 (0.105)	1.134 (0.299)	
N R-squared	4,815 0.227	4,815 0.230	4,815 0.293	4,815 0.314	3,207 0.256	3,207 0.273	3,207 0.204	3,207 0.260	
Advising Standard mean	0.532	0.230	0.285	0.211	1.454	1.013	0.868	3.298	

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 advisors' records of their interactions with students. Interaction methods not shown include In person, Shared Documents, Social Media, and Survey Response. One of the advising orgs did not provide interaction method in the advisor records.

Appendix Table A3: Advising Plus impacts on college applications, alternative quality measures

	Any college application	Number of applications (any college)	Number of CP applications	Any Barron's 1 applications	Number of Barron's 1 applications	Any Barron's 2 applications	Number of Barron's 2 applications
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Advising Plus	0.002	0.712	0.502	0.059	0.262	0.072	0.205
	(0.005)	(0.252)	(0.174)	(0.024)	(0.130)	(0.025)	(0.088)
N	2,459	2,459	2,459	2,459	2,459	2,459	2,459
R-squared	0.169	0.333	0.389	0.366	0.360	0.346	0.358
Advising Standard mean	0.994	8.681	5.008	0.704	2.737	0.655	1.590

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.

Appendix Table A4: Advising Plus impacts on students' views of the CollegePoint advisor

	-	of CollegePoin		Importance of CollegePoint advisor in college decision			
	Raw scale	Very/Most Important (2)	Most Important (3)	Raw scale (4)	Very/Most Important (5)	Most Important (6)	
Advising Plus	0.466 (0.111)	0.140 (0.033)	0.093 (0.028)	0.246 (0.069)	0.046 (0.022)	0.012 (0.012)	
N R-squared Advising Standard mean	1,599 0.407 2.385	1,599 0.376 0.270	1,599 0.370 0.114	2,315 0.354 1.916	2,315 0.312 0.126	2,315 0.334 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 responses 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).

Appendix Table A5: Advising Plus impacts on admissions and college preferences, among students in the top decile 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	0.043	0.031	-0.014	0.056	-0.001	0.009	0.050	0.053	-0.015	
	(0.020)	(0.022)	(0.019)	(0.029)	(0.030)	(0.019)	(0.031)	(0.035)	(0.019)	
N	1,299	1,299	2,485	1,299	1,299	2,485	1,299	1,299	2,485	
R-squared Advising Standard	0.246	0.310	0.193	0.261	0.282	0.176	0.252	0.267	0.146	
mean	0.890	0.831	0.605	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, 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 decile of SAT, ACT, or PSAT scores.

Appendix Table A6: Differential Advising Plus impacts, based on whether there is a public CP school in state

	Engagement with Advisor Still			CP school		
	Number of Interactions	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
Tuone of m same	(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			Any		
	application	Admitted	Enrolled	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
R-squared	2,459 0.368	2,459 0.368	4,815 0.244	2,459 0.347	2,459 0.350	4,815 0.203

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.

Appendix Table A7: Differential Advising Plus impacts based on student demographic subgroups

Panel A: Income	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	2.665	0.261	0.133	0.030	0.026	-0.000
	(0.358)	(0.021)	(0.030)	(0.021)	(0.025)	(0.021)
Low income * Advising Plus	-0.006	-0.011	0.002	0.057	0.010	0.001
	(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	0.271	0.333	0.299	0.349	0.401	0.262
Advising Standard mean	5.996	0.145	0.603	0.879	0.813	0.533
Panel B: Race/ethnicity						
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	2.334	0.234	0.166	0.015	0.001	-0.031
	(0.792)	(0.038)	(0.057)	(0.044)	(0.050)	(0.038)
Black * Advising Plus	1.021	0.064	-0.121	-0.015	-0.035	0.042
	(1.487)	(0.076)	(0.105)	(0.062)	(0.086)	(0.077)
Hispanic * Advising Plus	0.699	0.002	-0.040	0.032	-0.025	0.014
	(1.061)	(0.059)	(0.086)	(0.061)	(0.076)	(0.065)
Asian * Advising Plus	0.552	0.053	-0.021	0.003	-0.015	0.054
	(0.885)	(0.048)	(0.071)	(0.053)	(0.060)	(0.047)
Other Race * Advising Plus	-1.019	-0.026	-0.145	0.049	0.082	-0.014
	(1.418)	(0.076)	(0.117)	(0.086)	(0.098)	(0.101)
N	3,295	3,295	1,720	1,720	1,720	3,295
R-squared	0.285	0.351	0.322	0.357	0.409	0.254
Advising Standard mean	5.541	0.141	0.572	0.845	0.764	0.539
Panel C: Gender						

	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	2.118	0.240	0.076	0.039	-0.026	-0.025
	(0.571)	(0.035)	(0.047)	(0.032)	(0.040)	(0.034)
Female* Advising Plus	0.924	0.022	0.090	-0.022	0.029	0.027
	(0.631)	(0.036)	(0.063)	(0.038)	(0.048)	(0.044)
N	3,341	3,341	1,742	1,742	1,742	3,341
R-squared	0.286	0.349	0.323	0.349	0.404	0.255
Advising Standard mean	5.850	0.143	0.600	0.870	0.803	0.595
Panel D: Parental education						
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	1.782	0.230	0.078	0.005	-0.017	-0.045
	(0.533)	(0.028)	(0.042)	(0.025)	(0.029)	(0.027)
First generation * Advising Plus	2.137	0.060	0.110	0.047	0.016	0.088
	(0.689)	(0.036)	(0.066)	(0.036)	(0.045)	(0.041)
N	3,276	3,276	1,708	1,708	1,708	3,276
R-squared	0.291	0.354	0.332	0.355	0.411	0.260
Advising Standard mean	6.500	0.164	0.639	0.903	0.857	0.613
Panel E: Eligibility category						
	Number of Interactions	Still engaged in May	Reviewed Aid Letter	Any application	Admitted	Enrolled
	(1)	(2)	(3)	(4)	(5)	(6)
Advising Plus	2.530	0.257	0.135	0.042	0.030	-0.014
	(0.444)	(0.026)	(0.029)	(0.018)	(0.020)	(0.018)
Eligible-On Track * Advising Plus	0.777	-0.004	-0.001	0.011	-0.018	0.042
1 lus	(0.597)	(0.032)	(0.063)	(0.038)	(0.043)	(0.042)
Eligible-80 * Advising Plus	-0.411	-0.016	-0.045	0.030	-0.025	0.042)
Engine-oo · Advising Flus	(0.694)	(0.039)	(0.056)	(0.044)	(0.053)	(0.045)
	(0.034)	(0.039)	(0.030)	(0.044)	(0.055)	(0.043)

Eligible-Test Opt * Advising Plus	0.139 (0.768)	0.018 (0.040)	-0.007 (0.057)	0.002 (0.034)	0.048 (0.047)	-0.015 (0.041)
N	4,815	4,815	2,459	2,459	2,459	4,815
R-squared	0.177	0.244	0.130	0.189	0.236	0.157
Advising Standard mean	6.353	0.158	0.592	0.890	0.831	0.605

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) are based on student responses in the College Choice Survey; the outcome in column (6) is based on NSC enrollment records.

Appendix Table A8: Advising Plus impacts on admissions outcomes, college preferences, and enrollment outcomes at MFN schools

	Any applications (1)	Number of applications (2)	Top application choice (3)	Admitted (4)	Top Admitted Choice (5)	Enrolled (NSC)	Enrolled (NORC survey)
Advising Plus	0.054 (0.026)	0.078 (0.096)	0.027 (0.027)	-0.027 (0.021)	-0.024 (0.020)	0.003 (0.011)	-0.033 (0.020)
N	2,459	2,459	2,459	2,459	2,459	4,815	2,459
R-squared	0.345	0.343	0.352	0.328	0.321	0.217	0.314
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.

Appendix Table A9: Comparing cost and quality across college types

	CP (1)	Barrons 1 (3)	Barrons 2 (2)	MFN (4)	Public CP (5)	Non-CP (6)
Total Cost of Attendance	\$50,055	\$67,437	\$47,288	\$72,370	\$28,277	\$26,511
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	97	35	69	435

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 A10: Advising Plus impacts on student decision making

	Cost to attend	Located near family (2)	Racial/ethnic diversity (3)	Opportunity to visit the campus (4)	Quality and academic reputation (5)	Academic programs or majors of interest (6)	Conversations with college ambassador (7)
	(1)	(-)	(0)	(.)	(0)	(0)	(')
Advising Plus	0.028 (0.030)	0.018 (0.018)	-0.018 (0.015)	0.008 (0.015)	0.008 (0.027)	0.008 (0.029)	0.006 (0.015)
N	2,335	2,330	2,332	2,335	2,328	2,331	2,332
R-squared	0.285	0.275	0.275	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

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 question: 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.

Appendix Table A11: Advising Plus impacts on views of affordability

Panel A: Top admitted choice

	Enough aid? (1)	Expected cost (scale) (2)	Expected cost w/in \$2k (3)	Expected cost > \$2k (4)	Expected cost < \$2k
Advising Plus	-0.013	0.009	0.009	-0.003	-0.006
	(0.027)	(0.344)	(0.027)	(0.027)	(0.022)
N	2,317	2,300	2,300	2,300	2,300
R-squared	0.301	0.284	0.287	0.289	0.283
Advising Standard mean	0.750	0.840	0.456 0.338		0.206
Panel A: Enrolled college					
	Enough aid?	Expected cost (scale)	Expected cost w/in \$2k	Expected cost > \$2k	Expected cost < \$2k
	(1)	(2)	(3)	(4)	(5)
Advising Plus	-0.013	0.009	0.009	-0.003	-0.006
	(0.027)	(0.344)	(0.027)	(0.027)	(0.022)
N	2,317	2,300	2,300	2,300	2,300
R-squared	0.301	0.284	0.287	0.289	0.283
Advising Standard mean	0.750	0.840	0.456	0.338	0.206

Notes: within panel, 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.

Appendix Table A12: Student views and college characteristics among students admitted to Barron's 1 or Barron's 2 schools

	Barron's 1 attended (1)	Barron's 1 admitted to, but not attended (2)	Non-Barron's 1 school attended (3)	Barron's 2 attended (4)	Barron's 2 admitted to, but not attended (5)	Non- Barron's 2 school attended (6)
Enough financial aid?	89.7%	41.9%	93.8%	76.5%	33.3%	89.5%
Expected cost within \$2k	48.6%	30.2%	56.3%	40.0%	32.8%	58.4%
Expected cost >\$2K	24.8%	58.1%	25.0%	34.0%	56.8%	18.6%
Expected cost <\$2K	26.6%	10.5%	18.8%	26.0%	8.0%	23.0%
Net price, income \$0-30k	\$8,281	\$9,566	\$10,054	\$11,243	\$12,858	\$11,204
Net price, income \$30-48k	\$9,083	\$10,785	\$11,536	\$12,848	\$14,419	\$12,441
Net price, income \$48-75k	\$13,498	\$14,411	\$15,580	\$16,975	\$18,572	\$16,087
Distance from high school (miles)	1067	967	349	377	599	264
Distance from high school (median)	489	555	133	217	235	45
N	326	86	86	202	125	125

Notes: Columns (1)-(3) represent the sample of Advising Plus students who were admitted to at least on Barron's 1 school; Columns (4)-(6) represent the sample of Advising Plus students who were not admitted to a Barron's 1 school but were admitted to at least one Barron's 2 school. Columns (1), (3), (4), and (6) report the average statistics of the schools the student attended, separately based on whether the student attended a Barron's 1 or Barron's 2 school or not. Columns (2) and (5) reports the average statistics of the Barron's 1 or Barron's 2 schools that students were admitted to but did not attend. If a student was admitted to Barron's 1 or Barron's 2 schools that they did not attend, we use their top choice CP school to construct these statistics. Data constructed from student responses to the College Choice Survey; all college-level characteristics are from the College Scorecard.

Appendix Table A13: 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 (0.075)	-0.138 (0.065)	-0.000 (0.038)	-0.026 (0.040)	0.188 (0.087)	0.030 (0.081)	-0.039 (0.045)
N	815	812	814	814	809	812	813
R-squared Enrolled at non-CP	0.502	0.472	0.532	0.457	0.491	0.495	0.485
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.

Appendix B: College Choice Survey Instrument

CollegePoint Summer 2022 Student Survey

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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

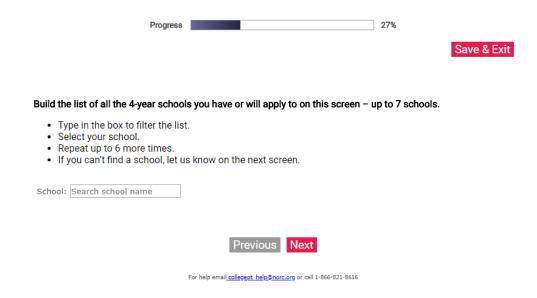
- A. Displays the list of built schools from the prior screen and asks the respondent to confirm by clicking "Next".
- B. Provides a checkbox that can be selected indicating that a school is missing from this list, likely due to not being included in our backend list.
- C. If the maximum number of schools 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



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

Please enter th	e full name(s) of the additional school(s) below (example, Columbia College).
Vanderbilt Univ University of Cl	nicago ichigan-Ann Arbor
School name:	American University of Hawaii
School name:	
	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	Туре	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	Туре	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

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

CollegePoint Summer 2022 Student Survey

PIN:			
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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.

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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. 1112. 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					

Α4

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

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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

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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.

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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?

		3. \$2-5k more	4. \$5-10k more	_	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?

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						

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		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

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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						

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	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

4		1
(J	ı

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			CURADDL3
Street address2			Apartment Number
<u>CURRCITY</u> 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.

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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		<u>CNTLNAME</u>	
First name		Last name	
Contact's phone CNTPHC	one		
CNTEMAIL			•
Email			
CNTADD1 Street address1			
CNTADD2			CNTADD3
Street address2			Apartment Number
CNTCITY	CNTST	CNTCNTRY	CNTZIP
City	State	Country	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

* to show the coeficient estimates

4 . logit any_aspen_applied_nr \$regcovars _Ielig* if advisingplus==0

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

_						
	 ny_aspen_applied_nr Interval]	Coef.	Std. Err.	Z	P> z	[95% Conf.
>						
	low_income	2520033	.1787084	-1.41	0.158	6022654
>	.0982588					
	black_reg	.9338874	.4472839	2.09	0.037	.057227
>	1.810548	1=006=6	22222			20776
	hisp_reg .7420952	.1722676	.2907337	0.59	0.553	39756
>	asian_reg	.8838061	.3086713	2.86	0.004	.2788214
>	1.488791	.0050001	.3000713	2.00	0.004	.2700214
	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
>	1,000,000					
	missing_gender	502116	.6900161	-0.73	0.467	-1.854523
>	.8502907	0821639	.2313948	-0.36	0.723	5356893
>	firstgen2_reg .3713616	0021039	. 2313340	-0.30	0.123	5550655
	missing_firstgen2	5202692	.5674911	-0.92	0.359	-1.632531
	<u> </u>		_	_		



```
.591993
           clean_gpa
                        .6632099
                                  .4912077
                                              1.35 0.177
                                                             -.2995394
 1.625959
                                  .0017089
                                                             -.0007756
       sat score reg
                        .0025738
                                              1.51
                                                    0.132
  .0059232
       act_score_reg
                                              2.08
                                                     0.038
                        .1269067
                                  .0610758
                                                             .0072004
   .246613
      psat_score_reg
                        .0015926
                                  .0019043
                                              0.84
                                                     0.403
                                                             -.0021398
   .005325
                       -.5525483
                                                             -1.233731
         missing_sat
                                  .3475486
                                             -1.59
                                                     0.112
 .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
                                                     0.000
                                  .2107993
                                              6.20
                                                              .8939129
> 1.720231
     num cp cbsa reg
                        .0081134
                                                              -.021862
                                  .0152938
                                             0.53
                                                    0.596
  .0380888
       _Ieligibili_2
                       -.0813694
                                  .3081794
                                             -0.26
                                                    0.792
                                                             -.6853899
  .5226511
       _Ieligibili_3
                       -.1875612
                                  .2750248
                                             -0.68
                                                    0.495
                                                                -.7266
  .3514775
                                                              -.054126
       _Ieligibili_4
                       .7898308
                                  .4305981
                                             1.83
                                                     0.067
 1.633788
               cons
                       -11.13881
                                  4.871063
                                             -2.29
                                                     0.022
                                                             -20.68592
> -1.591699
```

5.

* 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 ved	ID	Lambda/n	s	L1-Norm	EBIC	Pseudo-R2	Entered/remo
>								
	1	1	0.09900	1	1.93268	885.67686	0.0039	Added public
>	_cp_i	nstate	_reg _cons. 0.04892					
	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 a	ct_sco	re_reg missi	.ng_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	L_3.						
	7	14	0.01584	11	6.25182	794.34342	0.1334	Added low_in
>	come	num_cp	_cbsa_reg	_Ieligi	bili_4.			
	8	15	0.01376	13	6.86850	793.37862	0.1398	Added sat_sc
>	ore_i	ceg mis	sing_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.	_						
			0.00590	16	12.47453	779.56128	0.1633	Added _Ielig
>	ibili	L_2.						
	12	29	0.00191	18	15.45457	779.19107	0.1690	Added missin
>	g_rac	ce firs	tgen2_reg.					
			0.00166	19	15.82018	781.30485	0.1692	Added psat_s
>	core	_reg.						
			0.00144	21	16.26312	785.70538	0.1696	Added hisp_r
>	eg mi	lssing_	gender.					
	15	32	0.00125	22	16.80833	787.59137	0.1701	Added missin
>	g_fi	stgen2	•					

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 I							I
>								
	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_i	nstate	_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
>	— ,	_	sing_act.					1
	5	10	0.02784	5	5.60392	804.59091	0.1057	Added asian_
>	reg.							1
	6		0.02418	7	6.50609	803.42798	0.1123	Added missin
>		_	missing_sa	t.				1
		12	0.02100	9	7.35059	802.40663	0.1187	Added black_
>		emale_						
			0.01824	8	8.16975	794.86567	0.1246	Removed miss
>	,	irstge						1
	9		0.01376	10	9.48183	792.10224	0.1330	Added low_in
>		_	ibili_4.					1
			0.01195	12	10.10991	792.28626	0.1381	Added other_
>			bili_2.					1
	11	17	0.01038	13	10.68611	790.92237	0.1423	Added missin



>	g_fir	stgen2.	•					
	12	18	0.00901	14	11.26847	790.29387	0.1456	Added sat_sc
>	ore_r	eg.						
	13	19	0.00783	15	12.08205	790.00253	0.1486	Added num_cp
>	_cbsa	_reg.						
		21	0.00590	14	13.38938	784.06009	0.1527	Removed miss
>	ing_a	ct.						
		23	0.00445	16	14.39562	786.62990	0.1551	Added psat_s
>	core_	reg mis	ssing_psat.					
		26	0.00292	15	16.43142	782.11210	0.1575	Removed _Iel
>	igibi	li_2.						_
	17	27	0.00253	16	17.15347	783.57394	0.1585	Added missin
>	g_rac	e.						
	18	29	0.00191	18	18.60134	786.58359	0.1604	Added missin
>	g_gen	der fin	rstgen2_reg.					
		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							I
>								
	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_i	nstate	_reg.					•
	3	8	0.03690	4	1.66607	830.36294	0.0739	Added asian_
>	reg m	issing	_gender clea	an_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_r	eg mis	sing_sat.					
	6	11	0.02418	9	3.29313	819.26385	0.0997	Added black_
>	reg f	emale_	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_r	eg mis	sing_psat nu	ım_cp_c	cbsa_reg			
								Ieligibili
>	2.							



```
Added _Ielig
   10 19
             0.00783
                        16 9.56136
                                        796.46262
                                                    0.1440
> ibili 4.
                                                            Added missin
   11 20
             0.00680
                        17
                             10.24282
                                        796.72818
                                                    0.1463
> g_firstgen2.
                                                           Added psat_s
   12
        24
             0.00387
                        18
                             12.28323
                                        794.53158
                                                    0.1514
> core_reg.
   13 33
                                                    0.1543
                                                            Added hisp_r
             0.00109
                        20
                             15.86535
                                        796.72283
> eg firstgen2_reg.
                             16.06187
                                        798.99241
                                                    0.1544
                                                            Added low_in
   14
        34
             0.00094
                        21
> come.
                                                            Added missin
   15
        36
             0.00071
                        22
                             16.47499
                                         801.16827
                                                    0.1545
> 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 I							I
_ >								
	1	1	0.09900	1	1.96976	865.18999	0.0267	Added public
>	_cp_i	nstate	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_gen	der mi	ssing_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_fir	stgen2						
	7	11	0.02418	9	5.83832	772.36583	0.1526	Added female
>	_reg	act_sc	ore_reg.					
	8	14	0.01584	12	7.78308	765.25212	0.1686	Added black_
>	reg _	Ieligi	.bili_3 _Ieli	gibil	i_4.			•
	9	15	0.01376	14	8.34388	764.34143	0.1749	Added low_in
>	come	_Ielig	ibili_2.					•
	10	20	0.00680	13	10.13414	746.19005	0.1927	Removed miss
>	ing_a	ct.						
	11	21	0.00590	12	10.35760	742.48620	0.1943	Removed miss
>	ing_g	ender.						
	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_r	eg.						
	14	27	0.00253	16	11.89145	747.99862	0.1986	Added psat_s
>	core_	reg mi	ssing_psat.					. —
	15	30	0.00166	18	13.21740	751.92581	0.1995	Added other_
>	reg f	irstge	n2_reg.					-



Added missin 16 31 0.00144 19 13.67108 753.98070 0.1998 > g_race. 17 0.2002 Added missin 32 0.00125 20 14.17326 755.96216 > g_gender. 18 37 Added missin 0.00062 21 16.11093 757.29830 0.2014 > g_act. 19 44 0.2018 Added hisp_r 0.00023 22 17.77447 759.28318 > 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						ı	
	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_i			_	1 01=00	000 46654	a acaa	
	3	8	0.03690	3	1.81708	832.46674	0.0689	Added clean_
>	gpa m	7	-		1 45050	020 01644	0.0746	333.3
	4	9	0.03205	4	1.45958	829.81644	0.0746	Added asian_
_	reg.	10	0.02784	7	2.21678	829.19715	0.0832	Added female
>	- 1	_	core_reg miss	-		029.19/13	0.0032	Added Temale
	_109	11	0.02418	8 8	3.00634	824.29268	0.0914	Added Ielig
>	ibili		0.02410	Ū	3.00034	024.23200	0.0514	Added _lelly
	7	_	0.01195	9	5.40724	807.85038	0.1126	Added Ielig
>	ibili			_			, , ,	
	8	_ 17	0.01038	12	5.77418	812.14138	0.1157	Added low_in
>	come	missi	ng firstgen2	missi	ng 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_r	eg _Ie	eligibili_3.					
	12	23	0.00445	15	9.16444	809.38387	0.1267	Removed _Iel
>	igibi	_						
	13	24	0.00387	16	9.99207	810.84204	0.1277	Added hisp_r
>	eg.							
	14		0.00191	17	12.85154	810.99201	0.1302	Added firstg
>	en2_r	-					1	
	15		0.00144	18	13.75961	812.71446	0.1309	Added missin
>	g_rac		0.00107	1.0	14 00016	014 6006	0 1010	
	16	32	0.00125	19	14.28016	814.69204	0.1313	Added other_
>	reg.	22	0.00100	20	14 74300	016 75110	0 1217	7.13.4 m.m
_	17	33	0.00109	20	14.74300	816.75110	0.1317	Added num_cp
_	_cbsa		0 00063	21	16.10238	818.47599	0.1324	Added wisein
	18	31	0.00062	4 1	10.10238	010.4/399	0.1324	Added missin



> g_gender. 19 | 47 0.00015 22 17.69364 820.45902 0.1328 | Added _Ielig > ibili_3.

<pre>> ibili_3.</pre>				
	option for full			
Type e.g.	<u> lassologit, lic(</u>	<u>ebic)</u> ' to run th	ne model select	ed by EBIC.
	Lambda	Deviance	St. err.	
	142 04515	750050	00164533	
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
                                    .03537117
50
        .14394517
                      .67939553
```

* 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

