NBER WORKING PAPER SERIES

MALLEABLE MINDS:
THE EFFECTS OF STEM- VS. HUMANITIES-FOCUSED CURRICULA

Robert Ainsworth
Rajeev H. Dehejia
Andrei Munteanu
Cristian Pop-Eleches
Miguel Urquiola

Working Paper 34502
http://www.nber.org/papers/w34502

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
November 2025

For helpful comments and conversations we thank Joe Altonji, Zach Bleemer, Sarah Cohodes, David Gill, José Montalban Castilla, and seminar participants at IIES, NBER, the World Bank, the University of Florida, ERMAS 2024, SCSE 2024, AEDE 2025, Concordia University, Hitotsubashi University, the University of Tokyo, Keio University, the National Taiwan University, Academia Sinica, CUNY, Purdue University, and the Berlin Applied Micro Seminar. For outstanding research assistance, we thank Poorvi Goel. We thank Ioana Veghes for help in implementing the surveys. This research was supported by the Social Sciences and Humanities Research Council of Canada (SSHRC) [Grant number 430-2024-00780] and the Unicredit Foundation. No additional disclosures. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 34502
November 2025
JEL No. I2, J24

ABSTRACT

We examine the impacts of assignment to STEM vs. humanities-focused curricula in Romania's high school system. We apply a regression discontinuity design to administrative and survey data to estimate effects on educational pathways, desired careers, and non-cognitive outcomes. An overarching theme of our findings is the malleability of students to what they study. Assignment to STEM increases STEM college enrollment and technology or engineering career intentions by 25 pp. Exploring mechanisms, we find that STEM assignment changes students' self-perceived academic abilities and their preferences over academic subjects and job tasks. STEM assignment is risky for low-achieving students, reducing their chances of passing a high school exit exam and enrolling in college. A final finding is that STEM makes boys more conservative, while shifting some of girls' views to the left. Our results identify a strategy for promoting STEM higher education and careers, but also highlight potential tradeoffs.

Robert Ainsworth
University of Florida
Economics Department
robert.ainsworth@ufl.edu

Rajeev H. Dehejia
New York University
Robert F. Wagner Graduate School of Public Service
and NBER
rajeev@dehejia.net

Andrei Munteanu
Université du Québec à Montréal
Département des sciences économiques
munteanu.andrei@uqam.ca

Cristian Pop-Eleches
Columbia University
and NBER
cp2124@columbia.edu

Miguel Urquiola
Columbia University
Economics Department
and NBER
msu2101@columbia.edu

1 Introduction

Modern education systems feature curricular differentiation, even at the high school level. For example, in many countries high schools offer tracks with concentrations in STEM or humanities. Understanding the relative advantages of different types of curricula is central to debates in K-12 education. Prior research explores effects on educational pathways and labor market outcomes,[1] but much is still unknown. For instance, there is little analysis of impacts on beliefs, preferences, wellbeing, social and civic attitudes, and mismatch. This paper provides a wide-ranging examination of the tradeoffs involved in focusing on STEM vs. humanities in high school. We use a regression discontinuity (RD) design based on a large number of admissions cutoffs to high school tracks in Romania, together with rich administrative and survey data.

Our overarching finding is that high school students are malleable to what they study. We first show that high school curricular assignment has large effects on college and career choices in Romania, consistent with studies in other settings. We then establish four novel results. First, curricular assignment also affects what students enjoy and think they are good at, and these effects appear to drive the college and career impacts. Second, focusing on STEM rather than humanities causes students to report greater wellbeing in high school—despite spending more time on schoolwork—although this boost fades after graduation. Third, we find limited evidence of mismatch based on initial curricular preferences, relative academic strength in math vs. language, or gender, again pointing to malleability. In contrast, STEM-focused curricula seem to be harder than humanities-centered ones, which leads to worse outcomes for students with low baseline achievement. Fourth, curricular assignment influences social and political views. Focusing on STEM makes boys more traditionalist and right-leaning, which aligns with influential but non-causal claims about the civic role of humanities education (e.g., Nussbaum 2010). Conversely, girls' concern for climate change increases and they become less likely to perceive boys as innately more capable in mathematics.

Romania is a useful setting to study the effects of high school curricula for two reasons. First, high schools are divided into *tracks*—"schools within a school" with specific curricula. Second, the mechanism used to assign students to tracks creates sharp cutoffs amenable to an RD design. Students apply to high school by submitting a rank-ordered list of tracks they desire. They are allocated via a nationwide serial dictatorship that gives priority according to an index of academic achievement in middle school. This system sequentially places each student in his/her most preferred track that is not yet at capacity, starting with the highest achiever. Thus, admission to an oversubscribed track depends only on whether a student's achievement surpasses a cutoff—the score of the last student who fills the track.

We consider cutoffs that demarcate assignment to tracks focused on STEM or humani-

1. E.g., Joensen and Nielsen (2016), Goodman (2019), Darolia et al. (2020), De Philippis (2023), Cohodes, Ho, and Robles (2022), Dahl, Rooth, and Stenberg (2023), and Liu, Conrad, and Blazar (2024).

ties/social studies (HSS).[2] Such cutoffs come in two types. In one, students are assigned to a STEM track if they score above the cutoff and fall back to an HSS track if they score below; in the other, the opposite holds. We calculate the effect of STEM (vs. HSS) assignment for each cutoff type. Importantly, these effects combine the impact of a change in curricular assignment with the impact of scoring above vs. below a cutoff. To remove the latter channel, we calculate the average effect of STEM assignment over both cutoff types. This effect incorporates all the changes from being placed in a track with a different curriculum (such as shifts in exposure to STEM or HSS subjects, to the teachers who teach each subject type, and to the kinds of students who enroll in STEM or HSS); it does not reflect changes in vertical dimensions of track quality or class rank, or any psychological effects from just getting/missing a preferred option.[3]

We employ two kinds of data. First is administrative data on four cohorts of students in 16 of Romania's 41 counties. These include students' gender, rank-ordered lists, track assignments, and end-of-high-school outcomes, such as graduation and performance on a national high school exit exam (the baccalaureate exam). We use the administrative data to construct the RD samples and to measure the effects of STEM assignment on high school enrollment and success. Second, we ran multiple surveys of students from the last administrative data cohort, beginning with an in-person survey in students' classrooms just before the end of high school and continuing with phone surveys through the first year and a half after high school. The surveys provide data on a wide range of outcomes and allow us to fill several gaps in the literature.[4]

As stated, our broadest finding is that students are malleable to their high school curricular assignment. This complements research showing malleability earlier in childhood (e.g., Heckman 2006, Heckman et al. 2010, and Del Boca, Flinn, and Wiswall 2016). Further, it is consistent with work in neuroscience and developmental psychology that demonstrates continued brain plasticity in adolescence (e.g., Galván 2017) and with work in political science and economics suggesting that late adolescence is a critical period for the development of political views (e.g., Neundorf and Smets 2017 and Brown et al. 2023).

Within our broad finding of malleability, we provide several specific results. First, we mirror the existing literature in showing that high school curricular assignment affects college fields of study and desired careers. Being assigned to STEM instead of HSS makes students 25 percentage points (pp) more likely to enroll in a STEM college program and 26 pp less likely to enroll in humanities, law, or social science. It makes students 25 pp more likely to want a career in technology or engineering, and 15 pp less likely to want a career in art, education, law, or

2. As detailed later, most students rank both STEM and HSS tracks among their top choices.

3. In the appendix, we estimate the impact of scoring above vs. below a cutoff using cutoffs between tracks with the same curricula. This impact is small for almost all outcomes, suggesting that the effects of STEM assignment we report contain little distortion even when we do not average over the two cutoff types.

4. Bleemer and Mehta (2022) and Cohodes, Ho, and Robles (2022) also study curricular effects using a combination of administrative and survey data.

social services. The effects on field of study are similar regardless of whether a student initially prefers STEM or HSS, is relatively better at math or language, is male or female, or has low or high baseline achievement. In contrast, the effect on wanting a technology/engineering career is smaller (though still sizable) for students who prefer HSS, are female, or are low-achieving.

Next, we find that STEM is riskier than HSS. While STEM assignment does not affect the probability of graduating from high school, it reduces scores on the baccalaureate exam (which is curriculum-specific). This is problematic for low-achievers, who become 11 pp less likely to pass the exam within the year after high school. The baccalaureate exam is high stakes: a passing score is required for college admission and a high score facilitates access to scholarships and selective universities; for students heading directly to the labor market, passing serves as an additional credential beyond high school graduation. Accordingly, by a year after high school, STEM assignment makes low-achievers 9 pp less likely to be enrolled in college and 24 pp less likely to receive a scholarship. STEM assignment does not strongly affect these college outcomes for high-achievers, and we find little heterogeneity for the risk-related outcomes along the other examined dimensions. Consistent with its added riskiness, STEM seems to be harder than HSS. STEM assignment makes low-achievers report spending an additional 0.5 hours per weekday on homework. Further, it raises male students' values on a grit index, and it makes students—especially males and low-achievers—believe that the baccalaureate exam for their curriculum is particularly difficult. In sum, in Romania, STEM assignment is not painless, although mismatch appears to be mainly for students with low absolute ability—not by preferences, gender, or relative ability.[5]

Exploring mechanisms, we find that curricular assignment substantially affects what subjects students feel strong in and enjoy. At the end of high school (and before students learn their baccalaureate performance), assignment to STEM spurs students to rate their abilities in STEM subjects higher—by about two-thirds of a standard deviation (sd)—and rate their abilities in HSS subjects lower. By a year after high school, treatment effects shift in a negative direction, consistent with STEM-assigned students receiving a negative update upon seeing the baccalaureate results. That said, the effect on confidence in STEM remains positive and sizable. Also, by a year after high school, STEM assignment causes students to say that they like STEM subjects more—by almost 0.75 sd—and HSS subjects less.

The effects on preferences and confidence extend to the labor market. Asking students to complete an O*NET questionnaire, we find that STEM assignment causes them to report enjoying a larger (smaller) share of STEM- (HSS-) related job tasks and raises (lowers) the share of O*NET's job recommendations that are STEM- (HSS-) related. Eliciting students' beliefs

5. STEM being riskier and harder occurs in non-Romanian educational settings. For instance, in U.S. colleges, GPAs tend to be lower in STEM than humanities, and students often switch out of STEM majors due to low grades (e.g., Arcidiacono, Aucejo, and Spenner 2012 and Stinebrickner and Stinebrickner 2014).

about a representative set of jobs, we find that curricular assignment influences whether a student would like the work content in a job and feel prepared for it, but does not affect beliefs about earnings, coworkers, or work conditions. Finally, to gain a broader sense of students' decision-making, we asked them what attributes they consider when making college or career choices. Almost all report caring about whether an option matches their interests and abilities. Relatively few report being influenced by switching costs or by peers and teachers. In sum, we provide extensive evidence that curricular assignment affects students' interests and beliefs about their abilities—and that these are key factors in their college and career choices. Also, for the mechanisms results, we find little heterogeneity along any of the examined dimensions.

Next, we find that curricular assignment has a nuanced relationship with wellbeing and school satisfaction. By the end of high school, placement in STEM improves these outcomes, which could be due to social dynamics. In particular, STEM assignment makes students like their peers more and reduces time spent on social media; it does not affect how much students like their teachers or curriculum, nor whether they found the curriculum to be a good fit for their abilities. By 1-1.5 years after high school, STEM assignment has no impact on wellbeing and more variable effects on high school satisfaction. This less positive story aligns with students (especially low-achievers) receiving a negative update via the baccalaureate exam. Interestingly, STEM assignment also makes students enjoy college less, suggesting that the effects of curricular assignment on wellbeing and school satisfaction may continue to change as students age.

For social and civic outcomes, we find first that STEM assignment causes boys—but not girls—to hold more traditionalist expectations about their future family structure. Second, STEM assignment also shifts boys' political views to the right. For girls, it has no effect on political views when averaged over all the component questions, but it leads to increased agreement with the statement that climate change is a serious issue and disagreement with the claim that boys are naturally better at math. Probing mechanisms, we show that STEM assignment does not affect how rich students expect to be or how many friends they have. However, it reduces verbal development (including time spent reading), empathy, and the number of female friends.

Finally, we gauge to what extent the effects we report are due to experiencing a different curriculum vs. different peers. The evidence points to curriculum as the driving factor. When we implement strategies that control for track peer attributes, we generally find that effects remain similar. Also, as mentioned, a limited share of students cite peers as an influence on their decision-making. Still, we cannot rule out that peers play a role, especially for certain outcomes.

2 Related literature and contributions

Our paper contributes to multiple strands of literature.

First, we add to research on the causal effects of high school coursework on educational pathways and labor market outcomes. In Sweden, Dahl, Rooth, and Stenberg (2023) show that high school STEM tracks boost adult wages relative to HSS tracks, with effects that are broadly similar by initial curricular preferences, gender, and parental education. In England, De Philippis (2023) shows that taking two years of advanced secondary-school science courses increases university STEM enrollment and degree completion, but only for boys; she provides evidence that curriculum drives the effect. In Denmark, Joensen and Nielsen (2009, 2016) find that an advanced high school math curriculum raises post-secondary STEM degree completion and adult earnings for both boys and girls. In the U.S., Liu, Conrad, and Blazar (2024) show that taking a high school computer science class increases completion of college computer science degrees and early career earnings; they estimate positive—but imprecise—effects regardless of gender, socioeconomic status, or race. Cortes, Goodman, and Nomi (2015) and Goodman (2019) examine two policies that increase math coursework for low-achieving students; the first boosts high school graduation and college enrollment, while the second raises adult earnings. In Missouri high schools, Darolia et al. (2020) find that increased access to STEM coursework does not affect college STEM enrollment or STEM degree completion, although this could reflect a weak first stage on course-taking. Finally, Cohodes, Ho, and Robles (2022) study STEM summer programs for high-achieving high school students from underrepresented groups; these increase completion of college STEM degrees, among other effects.[6]

The above evidence paints a consistent picture, but is somewhat scattered in that it studies different types of students in different settings.[7] We contribute by conducting an in-depth heterogeneity analysis—including examination of mismatch—in a constant setting. In addition, we provide a richer understanding of the impacts on students' trajectories by presenting associated effects on wellbeing and school satisfaction.[8]

Second, our paper advances research on how students make decisions regarding college fields of study and careers. Summarized in Patnaik, Wiswall, and Zafar (2020), the research on field choice finds that students are sensitive to their beliefs about their abilities and their enjoyment of coursework. The research on career choice yields a similar result, but also finds that males and females differ in their tastes for job amenities—such as flexible work arrangements—which can create a gender gap in career choices even conditional on field of study (Wiswall and Zafar 2017).[9] We contribute by lending insight into how students' beliefs and preferences are formed—

6. Altonji (1995), Levine and Zimmerman (1995), and Rose and Betts (2004) are early contributions that may not be fully causal. Separately, there is research on the labor market effects of curriculum at the college level. It finds that STEM generally has larger pecuniary returns than other fields of study; see Altonji, Blom, and Meghir (2012), Altonji, Arcidiacono, and Maurel (2015), and Patnaik, Wiswall, and Zafar (2020) for reviews.

7. The main exception is Dahl, Rooth, and Stenberg (2023) who employ a nationwide RD design based on track admissions cutoffs. That said, their cutoffs cover a limited achievement range, and they lack data on math vs. language abilities; as a result, they do not explore heterogeneity by baseline achievement or relative academic strength. Humphries, Joensen, and Veramendi (2025) study the same setting using a dynamic Roy model.

8. Cohodes, Ho, and Robles (2022) also explore effects on non-cognitive outcomes. They find that STEM summer programs improve students' life and study skills but do not affect participation in college social clubs.

9. The same can occur if women face discrimination in certain jobs (Aguirre, Matta, and Montoya 2024).

specifically by showing that these are impacted by what students study in high school (see Bleemer and Mehta 2022 for related results on majoring in economics).

Third, we add to research on the causal effects of education on social and civic outcomes. Studies document impacts on these outcomes from peers, teachers, and the quantity and quality of schooling.[10] But there is less exploration of the effects of curriculum and none, to our knowledge, of the influence of a STEM vs. HSS curricular assignment in high school.[11]

We also contribute to work on the development of political views. Relevant to our setting, research finds that these are affected by childhood peer exposure (e.g., Brown et al. 2023), and commentators and researchers often link left-leaning views to verbal development and empathy, though with little investigation of causality.[12] Our findings that STEM assignment makes boys more right-leaning and causes students to have fewer friendships with girls appear to align with the peer story, given that girls tend to be more left-leaning than boys (Burn-Murdoch 2024). However, the effect on boys' political views remains when we control for peer exposure. Thus, our results provide some of the first rigorous evidence in support of the verbal/empathy channel. Related, we add to research on beliefs about climate change (Angrist et al. 2024; Bombardini et al. 2025; Dechezleprêtre et al. 2025) and gender stereotypes regarding math abilities (e.g., Alan, Ertac, and Mumcu 2018, Carlana 2019, and Breda et al. 2020). We show that increased exposure to STEM subjects affects these, but only for girls.

Finally, we contribute to research on the causal effects of education on wellbeing (e.g., Hofmann and Mühlenweg 2018, Yu and Mocan 2019, Jiang, Lu, and Xie 2020, Marcus et al. 2020, Böckerman et al. 2021, Carlana and La Ferrara 2024, and Bai et al. 2025) and time use (e.g., Ahn et al. 2024, Conley et al. 2024), as well as to research on mismatch, especially in high school (e.g., Angrist, Pathak, and Zarate 2023 and Ellison and Pathak 2025) and STEM education (e.g., Bleemer 2022 and Ng and Riehl 2024). We believe we are the first to examine the effects of high school curricular assignment in these areas.

10. See Lochner and Moretti (2004), Jackson (2018), Billings, Deming, and Ross (2019), Jackson et al. (2020), Rose, Schellenberg, and Shem-Tov (2022), and Card, Chyn, and Giuliano (2024) on self-control and crime; Wiswall and Zafar (2021) on family expectations; Carrell, Hoekstra, and West (2019), Rao (2019), Alan et al. (2021), and Corno, La Ferrara, and Burns (2022) on friendships; Dahl, Kotsadam, and Rooth (2021) and Garcia-Brazales (2025) on gender attitudes; Billings, Chyn, and Haggag (2021), Apfeld et al. (2022b, 2023), Firoozi (2025), and Kaplan, Spenkuch, and Tuttle (2025a) on political views; and Milligan, Moretti, and Oreopoulos (2004), Cohodes and Feigenbaum (2021), Apfeld et al. (2022a), and Kaplan et al. (2025b) on political participation.

11. Clots-Figueras and Masella (2013) find that Catalan language instruction reinforces Catalonian identity, and Cantoni et al. (2017) that a pro-government curriculum caused Chinese students to hold more pro-government views. Paredes, Paserman, and Pino (2025) provide suggestive evidence that studying economics increases gender biases, while Girardi et al. (2024) find that it does not affect self-interest, reciprocity, or policy preferences.

12. For examples, see Nussbaum (2010), Wagaman and Segal (2014), Hasson et al. (2018), Morris (2020), Zebarjadi et al. (2023), Edwards et al. (2025), and Martin, Scott, and Kappe (2025).

3 Setting

Romanian students first experience significant curricular differentiation during high school (grades 9 to 12). High school students are assigned to tracks, which are units within schools with set curricula. Tracks' curricula are standardized nationally; each covers a variety of subjects but emphasizes a particular area. Students in a track share the same coursework and do not take classes with students from other tracks. In contrast, teachers specialize in particular subjects and may teach in multiple tracks, depending on which tracks include their subject(s).

We call the subject area that a track emphasizes the track's "curricular focus", and we label tracks according to their curricular focus. In Romania, curricula are classified into categories. Two of these—STEM and HSS—are academically oriented and offer a path to university. The others concentrate on vocational/technical subjects, the arts, religion, or preparation for the military. In this paper, we analyze the two academic categories, both of which group a few specific curricula—for STEM: math/computer science, natural science, and business/economics;[13] and for HSS: humanities and social studies. The curricula within a category are similar in terms of their core coursework and differ mainly in the specialization classes that students take. Given the modest within-category differences, we distinguish curricula at the category level.

Table 1 lists the weekly hours of instruction in different types of subjects for STEM and HSS tracks. It shows that, compared to HSS, STEM tracks have about one more (less) school day per week devoted to STEM (HSS) subjects in grades 9 to 10 and two in grades 11 to 12. To elaborate, depending on the exact curriculum, in grades 9 and 10, STEM students spend 14-15 hours/week on STEM subjects, 11-12 on HSS subjects, and 3-4 on other subjects. HSS students spend 8 hours/week on STEM subjects, 17 on HSS subjects, and 4 on other subjects. The weekly schedule stays similar through grades 11 and 12 for STEM tracks. Meanwhile, HSS tracks become more HSS-focused, with 18-20 hours of instruction in HSS subjects, only 2-4 in STEM subjects, and 6-7 in other subjects.[14]

The high school application process begins at the end of 8^{th} grade, when students take a national admission exam called the transition exam. They then receive a "transition score", which is an average of their exam score and their grades 5-8 GPA. After learning their transition score, students submit a rank-ordered list (or "preference ranking") of the tracks they wish to attend. Students are assigned to tracks via a nationwide serial dictatorship that considers students' preference rankings in the order of students' transition scores. Specifically, the mechanism assigns the student with the highest transition score to his/her most-preferred track. It then proceeds down the transition score distribution, assigning each student to their most-preferred track that is not yet at capacity.

13. Excluding business and economics tracks from the STEM category yields similar results (not reported).

14. "Other subjects" include physical education and classes that are designed locally. These classes differ by track and often relate to a track's curricular focus. Thus, they tend to amplify the differences in instruction time.

Table 1: Weekly hours of instruction for STEM and HSS tracks

	Grades 9-10		**Grades 11-12**	
	STEM	HSS	STEM	HSS
STEM subjects	14-15	8	12-13	2-4
HSS subjects	11-12	17	11	18-20
Other subjects	3-4	4	4-6	6-7
Total	29-30	29	28-29	28-29

The table shows the mandated weekly hours of instruction in different types of subjects for STEM and HSS tracks, separately for grades 9-10 and 11-12. The values come from the Romanian Ministry of Education (2009).

Students can list an almost unlimited number of tracks (up to 280); thus, the assignment mechanism is incentive compatible, and the dominant strategy is to rank tracks according to one's preferences. In addition, the mechanism creates an admissions cutoff for each oversubscribed track. This is equal to the transition score of the last student who fills the track (i.e., the minimum score among the track's students). Our empirical strategy exploits the admissions cutoffs in an RD design.

Once assigned to a track, it is relatively difficult for students to transfer. In particular, students can switch only to tracks with unutilized capacity. In addition, after the first year, a student wishing to switch to a track with a different curriculum must pass exams specific to that curriculum.

At the end of 12^{th} grade, students may choose to take the national baccalaureate exam. The exam has three main parts. Two vary by curriculum, while the third is on Romanian language and literature and applies to all curricula. Students can retake the exam, which is offered twice per year. As mentioned, there are rewards both to passing the exam and to obtaining a high score. Passing yields a baccalaureate diploma, which is necessary for college admission and serves as a labor market signal for students who do not pursue higher education.[15] A high score helps students access scholarships and prestigious universities.[16]

At the college level, students are admitted to a specific field of study (or "program") within a school. Importantly, in determining admissions, programs usually do not consider the curriculum of a student's high school track. Thus, with a few exceptions, students from any track can be admitted to any program. That said, some programs administer their own field-specific admission exams, which may be more difficult for students who focused on unrelated areas in high school.

Finally, in Romania, STEM careers—and especially IT jobs—are widely encouraged. To

15. A baccalaureate diploma is a more advanced credential than high school graduation, which students attain simply by staying enrolled through the end of high school.

16. Romanian students pay for college in one of three ways: the highest-achievers receive a scholarship, which covers tuition and living expenses; students with middling achievement receive only a tuition waiver; the lowest-achievers pay out of pocket. There are also financial aid packages for low-income students.

spur the growth of the IT industry, the government exempts IT workers from income taxation. Also, like many former communist countries, Romania has a tradition of female participation in STEM.[17] As of 2016, about 41 percent of tertiary graduates in STEM fields are women (Robayo-Abril et al. 2023).

4 Data

The Ministry of Education provided administrative data on high school students in 16 of Romania's 41 counties.[18] The data is for the 2015-2017 and 2019 admissions cohorts and lists each student's gender, grades 5-8 GPA, scores on the components of the transition exam (math and language), overall transition score, track preference ranking, track assignment, track enrollment history, and performance on all attempts on the baccalaureate exam (including the overall score, the component scores, whether the student passed, and the curriculum associated with the exam that the student took). The 2018 cohort is excluded because of a reporting issue, while enrollment histories are incomplete for the 2019 cohort, which had not graduated from high school when we obtained the data. Appendix Table A1 provides summary statistics for the administrative data and shows that it includes more than 200,000 students over the four available cohorts.[19]

To complement the administrative data, we ran a series of surveys on students from the 2019 admissions cohort. Our first survey (the "end-of-high-school survey") took place in May 2023, one month before graduation and students' first baccalaureate attempt. We implemented the survey by visiting high schools and distributing a paper-and-pencil questionnaire in students' homeroom classes. To capture transfer students, we surveyed all students in a high school, not just those in STEM or HSS tracks. We included questions on the high school experience, wellbeing, friendships, time use, beliefs about academic abilities, college plans, expectations for life at age 30, political views, grit, trust, and empathy. In addition, we gathered students' contact information to enable follow-ups. We obtained responses from 10,267 students in 292 schools across 94 towns.[20]

In Spring 2024, we surveyed students from the end-of-high school survey by phone (the "first follow-up survey"). We repeated questions relating to the high school experience and beliefs about academic abilities. In addition, we asked about baccalaureate performance, college enrollment, the college experience, preferences for academic subjects, desired careers, and reasons for college choices. A total of 2,051 students responded, representing 257 schools in 87 towns.

In late spring/early summer of 2024, we phoned students from the first follow-up survey

17. However, Romania has recently been at the bottom of the EU on the European Institute for Gender Equality's Gender Equality Index (EIGE 2024).

18. Romania is organized into 8 regions; we were given 2 counties per region.

19. A group that is potentially of interest in Romania is the Roma. Unfortunately, the Roma are hard to study, as they rarely self-identify on government forms and many drop out before high school.

20. We selected towns by balancing geographic representativeness with convenience for the surveyors. Within a town, we visited all high schools that agreed to the survey.

to administer an additional questionnaire (the "peer survey"). It asked students about the baccalaureate performance and college enrollment of their closest high school peers. The goal was to obtain information on these outcomes for students who did not complete the first follow-up survey.[21] In the peer survey, 1,759 students answered questions about 6,359 of their peers. Together, the first follow-up and peer surveys reveal baccalaureate performance and college enrollment for 8,339 students from 289 high schools in 93 towns.

Finally, in Fall 2024, we again surveyed students from the end-of-high school survey by phone (the "second follow-up survey"). This survey repeated a number of earlier questions, including those concerning college enrollment, wellbeing, friendships, time use, expectations, grit, trust, and empathy. Further, the survey asked additional questions about political views and behaviors, included an abridged version of the O*NET Interest Profiler, elicited beliefs about a representative set of jobs, and asked what factors students expect to weigh in their future career choices.[22] We obtained responses from 3,006 students in 285 schools in 93 towns.

As we detail later, the surveys seem representative of students in the administrative data.

5 Empirical Strategy

Our empirical strategy is an RD design that leverages students' preference rankings over high school tracks. We exploit the fact that students who rank both STEM and HSS tracks may be assigned to either track type, depending on how their transition score compares to the cutoff scores for the tracks they ranked.[23]

Since we are interested in the comparison of STEM vs. HSS, we restrict attention to students who are near cutoffs that involve a switch between these curricula. Specifically, we consider two cutoff types: (i) cases where a STEM track is ranked above an HSS track, which we call STEM-above vs. HSS-below, or "STEM-above" for short, and (ii) cases where HSS is ranked above STEM, which we call HSS-above vs. STEM-below, or "HSS-above" for short. Given the connection between cutoff types and preference rankings, we often label cutoff types based on the preferences of the students who face them: "Prefer STEM" for STEM-above and "Prefer HSS" for HSS-above.

We use up to two cutoffs per student: the lowest (highest) where, if the student scored higher (lower) than their actual transition score, their assigned track would change between STEM and HSS. In addition, we require a student's transition score to be close to the cutoff score for a relevant cutoff. In this setup, a student may be in the RD sample for zero, one, or two cutoffs.

21. In Romania, a student's baccalaureate performance is generally known to their family and friends.

22. The O*NET Interest Profiler is an assessment tool that helps people identify careers that match their preferences over job tasks. It was developed by the U.S. Department of Labor based on Holland (1997).

23. Ranking both STEM and HSS tracks is common. In the full administrative data, three-quarters of students do so, with half ranking both among their top five choices (Appendix A1). This likely reflects that students care about track attributes beyond curriculum, including travel time, teaching quality, prestige, whether their siblings and friends attend, etc. (Abdulkadiroğlu et al. 2020; Ainsworth et al. 2023).

Importantly, when students are in-sample for two cutoffs, the cutoffs are of different types.[24] Given the possibility of multiple cutoffs per student, our analysis is at the student-cutoff level. We let the letter i denote a student-cutoff combination, although for brevity we sometimes refer to i simply as a student. In the full administrative data, among students who are in the RD sample for at least one cutoff, 18% are in-sample for two cutoffs.

We estimate separate treatment effects for STEM-above and HSS-above cutoffs. Formally, let i's transition score be written t_i, let i be near a specific cutoff j, let f_j denote j's cutoff type (with f_j equaling SH for STEM-above and HS for HSS-above), and let c_j be j's cutoff score. For STEM-above cutoffs, STEM assignment occurs when $t_i > c_j$; for HSS-above cutoffs, it is when $t_i < c_j$.[25] To be consistent, we orient the RD running variable, r_i, such that it is always positive on the STEM side of a cutoff:

$$r_i = \begin{cases} t_i - c_j & \text{if STEM-above,} \\ c_j - t_i & \text{if HSS-above.} \end{cases}$$

We then estimate the following model via OLS:

$$\mathrm{Y}_i = \alpha_j + \beta_{f_j} \cdot \mathbb{1}\{r_i > 0\} + \gamma_{f_j} \cdot r_i \cdot \mathbb{1}\{r_i < 0\} + \delta_{f_j} \cdot r_i \cdot \mathbb{1}\{r_i > 0\} + \epsilon_i, \tag{1}$$

for $|r_i| < b$ and $r_i \neq 0$. In (1), α_j is a cutoff fixed effect, γ_{SH}, γ_{HS}, δ_{SH}, and δ_{HS} are coefficients on a linear spline in the running variable that varies by cutoff type, and b is a chosen bandwidth. β_{SH} and β_{HS} are the parameters of interest: they are cutoff-type-specific coefficients on an indicator for being on the STEM side of a cutoff, $r_i > 0$. Thus, they measure the effects of STEM (vs. HSS) assignment for STEM-above and HSS-above cutoffs, respectively.

To estimate (1), we define a cutoff as a combination of a cutoff type, cutoff score, and admission year; unless otherwise noted, we use a bandwidth of 1.25 transition score points.[26] We cluster standard errors in two ways, by student and cutoff.

In addition to estimating effects by cutoff type, we also estimate an average effect over both cutoff types: $\beta = (\beta_{SH} + \beta_{HS})/2$. We call β the average treatment effect (ATE) of STEM assignment. We estimate it by plugging in estimates of β_{SH} and β_{HS}, and we calculate standard

24. To see this, suppose a student is assigned to STEM: if the student is close to getting into a more selective HSS track, the student will be in the sample for an HSS-above cutoff; if the student is close to falling back to a less selective HSS track, the student will be in-sample for a STEM-above cutoff. The opposite holds for students assigned to HSS. Also, a student may not be in the sample for any cutoff if they are not at risk of switching between STEM and HSS. This occurs if the student does not rank both STEM and HSS tracks, if they do but in an irrelevant manner (such as ranking a less selective track of one type before a more selective track of the other type), or if their transition score is far from all applicable cutoff scores.

25. When $t_i = c_j$, additional tie-breaking rules apply. As such, we drop students who fall exactly on a cutoff.

26. Throughout, we show robustness to alternative bandwidths and to controlling for student characteristics.

errors using the Delta Method.[27]

5.1 RD samples and validity tests

Since we employ outcomes from different datasets, we use multiple RD samples to obtain results. We summarize the samples and conduct validity tests on them in Appendix A2. First, we rule out bunching of the running variable on the STEM or HSS sides of the RD threshold. Second, we show that the samples have good covariate balance across the threshold.[28] Third, we show that STEM vs. HSS assignment is not associated with differential selection into survey response. Fourth, we show that the RD samples for the survey data are representative of those for the administrative data. Namely, covariate means and standard deviations are similar, as are treatment effects on outcomes that can be observed for all samples.[29] Finally, to test survey quality, we show that reported baccalaureate performance from the survey data closely matches actual performance from the administrative data.

5.2 Characterizing the treatment

For a given cutoff type, assignment to STEM vs. HSS involves three categories of changes in the high school experience, which we call "sub-treatments". First is a curriculum that is more focused on STEM subjects and less on HSS subjects, together with more (less) time with the teachers who teach STEM (HSS) subjects. Second is a change in horizontal dimensions of track peer composition, such as share female or relative academic strength in math vs. language. Third is whether a student scored above or below a cutoff.

All three sub-treatments are potentially of interest. The first is relevant to policymakers contemplating a curriculum reform, such as having students spend more time on STEM or HSS subjects. The second, in combination with the first, is relevant both to students choosing among schooling options in a tracked setting and to policymakers who are considering changing the number of seats in different track types. The third is interesting for various reasons but has already been explored in prior literature, both in Romania (Pop-Eleches and Urquiola 2013, Goff et al. 2023, and Malamud et al. 2025) and other settings (e.g., Abdulkadiroğlu, Angrist, and Pathak 2014). Thus, our interest here is on the first two.

Our approach for eliminating the third sub-treatment is to estimate the average effect of

27. Since (1) is fully interacted with cutoff type, it could be broken into separate regressions by cutoff type. The reason for a single regression is to permit using the Delta Method. Also, the approach of defining β as the average of β_{SH} and β_{HS} is desirable in that it makes β not depend on the shares of students at STEM-above and HSS-above cutoffs. In our setting, these shares are almost even (51 vs. 49 percent, Appendix Table A2). Thus, we would get similar results if we simply fit a single coefficient on $\mathbb{1}\{r_i > 0\}$ in (1). Finally, given that our setting has multiple cutoffs, β_{SH} and β_{HS} can be interpreted as weighted averages of cutoff-specific effects, with weights reflecting the relative density of observations near each cutoff (Cattaneo et al. 2016; Bertanha 2020).

28. The lack of evidence for running variable manipulation is expected—transition exams are graded non-locally, and cutoffs are endogenously determined by the assignment system after students submit their preference rankings.

29. Cutoff scores for STEM vs. HSS cutoffs vary substantially but tend to be selective. Accordingly, we find that students in the RD samples resemble the highest-achieving 70% of high school applicants (Appendix A1).

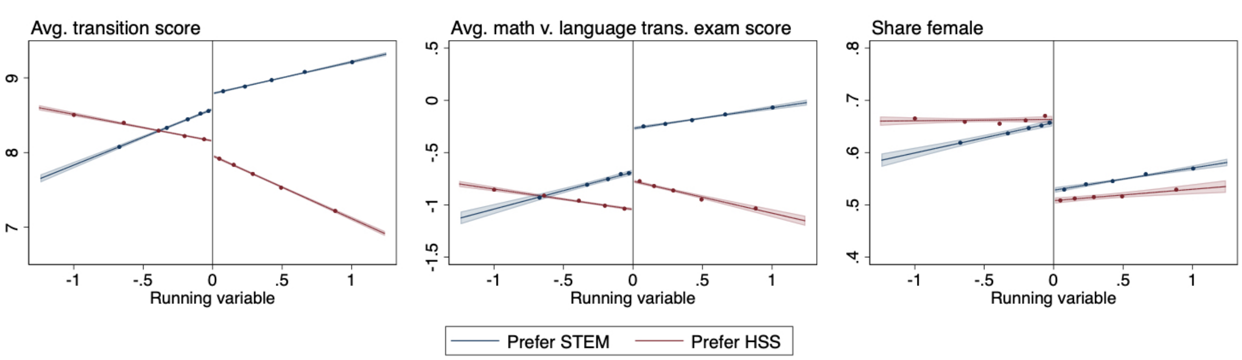
STEM assignment over both STEM- and HSS-above cutoffs (i.e., we estimate β, not just β_{SH} and β_{HS}). For STEM-above cutoffs, STEM assignment coincides with scoring above a cutoff, while for HSS-above it occurs when scoring below. Thus, on average over the two cutoff types, STEM assignment is unrelated to scoring above or below, and β captures only the effects of the first two sub-treatments. Appendix A11 probes possible limitations of our approach using a potential outcomes framework. In addition, it provides evidence that the third sub-treatment may not matter even for β_{SH} and β_{HS}: using cutoffs between tracks with the same curricula, we find that scoring above (vs. below) a cutoff hardly affects the outcomes we consider.[30]

As a last analysis, we explore the relative importance of the first two sub-treatments. The results suggest that the curriculum change is the leading factor.

5.3 Effects on peer composition in students' assigned tracks

Figure 1 presents evidence on the sub-treatments associated with STEM vs. HSS assignment. In doing so, it also provides a graphical illustration of our empirical strategy.

Figure 1: RD plots of effects on peer composition in students' assigned tracks



The figure displays RD plots for effects on three variables related to the peer composition in students' assigned tracks. See the text of Section 5.3 for definitions of these variables. "Prefer STEM" ("Prefer HSS") is students near STEM-above (HSS-above) cutoffs. For Prefer STEM, the running variable is a student's transition score minus their cutoff's cutoff score; for Prefer HSS, it is the cutoff score minus the transition score. Thus, in both cases, students with positive (negative) running variable values are assigned to STEM (HSS). We residualize the outcomes on cutoff fixed effects and add back the means of the fixed effects. The effect of being assigned to STEM for Prefer STEM (Prefer HSS) is depicted by the vertical difference between the right and left blue (red) lines at the cutoff. The ATE of STEM assignment is depicted by the simple average of the two vertical differences. The shaded areas are 95% confidence intervals for the linear splines and are calculated using standard errors clustered by student and cutoff. The plots use the administrative data for the 2015-2017 and 2019 cohorts and a bandwidth of 1.25 transition score points.

The figure displays RD plots of the effects of STEM assignment on three attributes of the peer composition in students' assigned tracks: absolute ability (as measured by the average transition score), relative academic strength (as measured by the average difference in math vs. language transition exam scores), and share female. The outcome variables are residualized on cutoff fixed effects, and the colors differentiate cutoff types, with blue for STEM-above ("Prefer STEM") and red for HSS-above ("Prefer HSS"). For each cutoff type, the lines are an estimated spline in

30. The prior studies in Romania do find impacts from scoring above a cutoff. However, they calculate effects using all cutoff types, not just same-curriculum cutoffs.

the running variable, and the vertical gap between the right and left lines at the cutoff estimates the effect of STEM assignment. In particular, the gap in the blue lines estimates β_{SH} and that in the red lines estimates β_{HS}. β can be estimated as the average of the two vertical gaps.

Table 2: Regression results for effects on peer composition in students' assigned tracks

	Average		**Share female**
	Transition score	Math v. language transition exam score	
Panel A: Average treatment effects			
STEM	-0.007	0.357***	-0.150***
	(0.007)	(0.010)	(0.004)
Intercept	8.33	-0.89	0.66
Std. dev.	0.92	0.75	0.15
Student-cutoffs	73,470	73,470	73,470
Panel B: Effects for Prefer STEM			
STEM	0.207***	0.429***	-0.135***
	(0.010)	(0.015)	(0.006)
Intercept	8.54	-0.73	0.66
Std. dev.	0.75	0.66	0.15
Student-cutoffs	37,376	37,376	37,376
Panel C: Effects for Prefer HSS			
STEM	-0.221***	0.284***	-0.166***
	(0.010)	(0.012)	(0.005)
Intercept	8.13	-1.05	0.66
Std. dev.	0.91	0.73	0.15
Student-cutoffs	36,094	36,094	36,094

The table presents results from estimating Equation (1) for three variables describing the peer composition in students' assigned tracks; see Section 5.3 for variable definitions. Panel A is for the ATE, β. Panel B (C) is for the effect for students at STEM-above (HSS-above) cutoffs, β_{SH} (β_{HS}). The estimates in Panels B and C come from separate regressions that restrict the sample to a single cutoff type. "STEM" is the coefficient estimate for the effect of STEM assignment (i.e., β, β_{SH}, or β_{HS}). "Intercept" is the predicted value of the outcome for students at the RD threshold who are assigned to HSS. In Panels B and C, it is the mean of the cutoff fixed effects for the cutoff type used in the regression; in Panel A, it is the simple average of the means for the two cutoff types. "Std. dev." is the standard deviation of the outcome among students in a given RD sample. "Student-cutoffs" is the number of observations. The table uses the administrative data for the 2015-2017 and 2019 cohorts and a bandwidth of 1.25 transition score points. Standard errors, in parentheses, are clustered by student and cutoff. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

In reality, the gaps in the figure are slightly different from the estimates obtained from fitting (1), due to a difference in the manner of handling cutoff fixed effects.[31] The actual estimates from (1) are in Table 2, with Panel A corresponding to β and Panels B and C relating to β_{SH} and β_{HS}, respectively. In all panels, "STEM" is the coefficient estimate for the effect of STEM assignment (i.e., β, β_{SH}, or β_{HS}); "Intercept" is the predicted value of the outcome for students at the RD threshold who are assigned to HSS.

Figure 1 and Table 2 yield two takeaways. First, our empirical strategy ensures that there is no ATE of STEM assignment on peer absolute ability. While STEM assignment does affect assigned-track average transition score conditional on cutoff type, it does not when averaged over

31. Equation (1) includes cutoff fixed effects, such that all variables are residualized on them. In the figure, only the outcomes are residualized, as visualizing a discontinuity requires using the running variable in its raw form.

the two cutoff types. In other words, the estimates of β_{SH} and β_{HS} are both non-zero but have opposing signs and very similar magnitudes; thus, the estimate of β is zero.[32] Second, there is an ATE of STEM assignment on horizontal dimensions of peer composition. For both cutoff types, being assigned to STEM means being placed in a track where students have transition scores that are more slanted toward math vs. language and are less likely to be female.

In short, the results show that the effects we recover reflect the combination of a curriculum change and a change in horizontal dimensions of peer composition. As noted, we do some work to disentangle the influence of these two sub-treatments later on.

6 Results

We now turn to the impacts on the paper's outcomes of interest. For conciseness, the main text presents results only for β. We continue to obtain estimates for β_{SH} and β_{HS}, but we leave these to the appendix, alongside robustness and additional heterogeneity.

6.1 High school enrollment and graduation

We begin by using the administrative data to show how assignment to a STEM rather than HSS track affects high school enrollment and graduation. Table 3 presents results for β for all students. Heterogeneity by initial curricular preferences (i.e., β_{SH} and β_{HS}), relative academic strength, gender, and baseline achievement is in Appendix A3.

Table 3: Effects on high school enrollment and graduation

	Years of enrollment				**Graduate**			
	All	STEM	HSS	Other	All	STEM	HSS	Other
STEM	0.002	3.08***	-3.09***	0.015**	-0.003	0.694***	-0.703***	0.007***
	(0.007)	(0.023)	(0.023)	(0.006)	(0.003)	(0.007)	(0.008)	(0.002)
Intercept	3.91	0.50	3.36	0.05	0.96	0.16	0.80	0.01
Std. dev.	0.41	1.89	1.88	0.36	0.18	0.50	0.49	0.12
Student-cutoffs	55,221	55,221	55,221	55,221	55,221	55,221	55,221	55,221

The table presents results for the ATE of STEM assignment, β, for outcomes related to high school enrollment and graduation. The table uses the administrative data for the 2015-2017 cohorts, as enrollment histories for the 2019 cohort are incomplete. "Years of enrollment" is the number of years that a student is enrolled in a track of a given type. "Graduate" is whether the student graduates from a track of the given type. Outcomes are measured within four years of track assignment; see Appendix Table A11 for results that do not restrict outcome timing. Other details are the same as in Panel A of Table 2.

Table 3 shows that a STEM vs. HSS curricular assignment on average does not affect how many years a student is enrolled in high school or whether the student graduates ("All" columns). In contrast, it has large effects on what students study in high school (the remaining columns). Being placed in STEM induces students to have an average of 3.1 years of additional STEM enrollment and correspondingly fewer years of HSS enrollment, out of the 4 years of high school. It also makes students about 70 pp more (less) likely to graduate in STEM (HSS). Finally, it has

32. By construction, the ATE of STEM assignment is also zero for whether a student gets assigned to their more or less desired option.

little impact on enrollment in or graduation from tracks with non-STEM and non-HSS curricula ("Other" columns).[33]

Appendix A3 shows that the effects on high school enrollment and graduation are similar across student types and are highly robust.

In sum, in Romanian high schools, curricular assignment has a strong but imperfect first stage on curricular exposure. This is consistent with the fact that transferring to a track with a different curriculum is possible but difficult. An implication is that the effects we report constitute the impact of about 3 years of STEM vs. HSS enrollment, not 4. To gauge the impact of spending all of high school in STEM, one can multiply the estimated effects by 4/3.[34]

6.2 College enrollment and desired careers

We next assess how high school curricular assignment affects college and career outcomes.

Table 4 presents effects on college enrollment for all students. Panel A relates to students' college intentions at the end of high school—which is before students learn where they are admitted—while Panel B concerns their actual enrollment a year after high school. The outcomes in Panel A are from the end-of-high-school survey, while those in Panel B use data from both the first follow-up and peer surveys. In all of the surveys, we gave students a list of options and asked them to select the option that best represents their intentions or enrollment status.

Table 4: Effects on college plans and enrollment

	Any	**STEM**				**Hum., law, or social science**				**Other/ unsure**
		Any	Math or CS	Natural science	Business or econ.	Any	Humanities	Law	Social science	
Panel A: College plans at the end of high school										
STEM	0.010	0.233***	0.147***	0.041*	0.046*	-0.224***	-0.075***	-0.057***	-0.092***	0.001
	(0.018)	(0.035)	(0.024)	(0.024)	(0.027)	(0.032)	(0.020)	(0.021)	(0.020)	(0.023)
Intercept	0.87	0.31	0.08	0.10	0.14	0.39	0.13	0.12	0.14	0.16
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987	3,987	3,987	3,987	3,987
Panel B: College enrollment one year after high school										
STEM	-0.037	0.246***	0.192***	0.015	0.039	-0.261***	-0.123***	-0.092***	-0.046***	-0.022
	(0.025)	(0.036)	(0.031)	(0.022)	(0.026)	(0.031)	(0.021)	(0.021)	(0.017)	(0.027)
Intercept	0.82	0.28	0.11	0.08	0.10	0.38	0.17	0.13	0.08	0.16
Student-cutoffs	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327

The table presents results for the ATE of STEM assignment, β, for outcomes related to college plans and enrollment. Outcomes are indicator variables. Those in Panel A are from the end-of-high-school survey; those in Panel B are from either the first follow-up survey (for students who responded to this survey) or the peer survey (for students who did not respond to the first follow-up). "Any" equals 1 if a student plans to attend college (Panel A) or is enrolled in college (Panel B). The remaining outcomes equal 1 if a student plans to attend or is enrolled in a college program of the listed type. Other details match those in Panel A of Table 2.

33. Making use of the intercept values, one can see that 96% of students at STEM vs. HSS cutoffs graduate. For HSS-assigned students at these cutoffs, 16% graduate in STEM, 80% graduate in HSS, and 1% graduate in other track types. For STEM-assigned students, the analogous values are 85%, 10%, and 2%.

34. In theory, one could instrument for track enrollment using assignment. We do not do so because we cannot fully observe enrollment (or graduation) for the 2019 cohort, which is the basis for the surveys.

Table 4 offers two main findings. First, averaged over all students, curricular assignment has little influence on either planning to attend college or actually being enrolled in college ("Any" column). By contrast, it has large impacts on students' field choices (remaining columns). Specifically, placement in STEM rather than HSS makes students 23 pp more likely to want a STEM college program when asked at the end of high school and 25 pp more likely to be enrolled in a STEM program a year after high school. It reduces plans for (enrollment in) humanities, law, or social science programs by 22 (26) pp. The shift toward STEM is driven by a shift into math or computer science programs, although effect estimates are also positive for the natural sciences and for business or economics. The shift away from humanities, law, or social science is somewhat evenly distributed across program types. Finally, STEM vs. HSS assignment has no effect for an "Other/unsure" option that we included in our survey questions.

The results in Table 4 are robust to different RD bandwidths and to adding student covariates; in addition, they hold when using the same sample for the two panels (Appendix A4).[35]

Appendix Table A13 shows how the college effects vary by student type. It reveals that there is relatively little heterogeneity by initial curricular preferences, relative academic strength, or gender, indicating that college field of study is malleable to high school curricular assignment for many types of students. (We defer discussion of heterogeneity by absolute ability until the next section.) We explore the reasons behind this malleability in Section 6.4.

Table 5 presents effects on the careers that students want. Outcomes are based on free-response questions in the first follow-up survey; they thus reflect desires a year after high school. We manually coded students' responses into the five career categories presented in the table.[36]

Table 5: Effects on desired careers one year after high school

	Technology or engineering	**Medicine**	**Business or economics**	**Art, education, law, or social services**	**Other/ unsure**
STEM	0.254***	-0.041	-0.040	-0.145***	-0.028
	(0.051)	(0.044)	(0.063)	(0.046)	(0.040)
Intercept	0.10	0.17	0.33	0.23	0.17
Student-cutoffs	1,159	1,159	1,159	1,159	1,159

The table presents results for the ATE of STEM assignment, β, for students' desired careers. Outcomes are from the first follow-up survey and are indicators equal to 1 if a student's desired career falls into the listed category. Other details match those in Panel A of Table 2.

As before, Table 5 shows that high school curricular assignment is impactful. Being placed in STEM rather than HSS on average makes students 25 pp more likely to want a career in technology or engineering and 15 pp less likely to want one in art, education, law, or social services. Interestingly, STEM assignment has small but negative effects on wanting a career in

35. We repeated our questions about college enrollment in the second follow-up survey, which occurred 1.5 years after high school. Effects remain similar (Appendix Table A16).

36. The questions asked students what industry and specific job they want to work in.

medicine or in business or economics. Finally, it has little effect on the probability of giving responses that we categorized as “Other/unsure”. These results are again robust (Appendix A4).

Appendix Table A19 explores heterogeneity for the career effects. The reduction in wanting an art, education, law, or social services career is similar in size across student groups. The effect on wanting a technology or engineering career is similar by relative academic strength but smaller—though still statistically significant and sizable—for students who initially prefer HSS (18 pp) vs. those who prefer STEM (33 pp) and for females (18 pp) vs. males (36 pp). We again defer discussion of heterogeneity by baseline achievement until the next section.

Overall, our results match the existing literature (Section 2) in showing that high school tracks and coursework affect educational pathways and labor market outcomes.[37] Further, the finding of heterogeneity for effects on career choices—but not college choices—is consistent with evidence that career choices are subject to additional considerations, such as tastes for work hours and conditions, which may vary across student types (Patnaik, Wiswall, and Zafar 2020).

6.3 Risk and difficulty

We next examine effects on outcomes related to risk and difficulty. We are interested in whether assignment to STEM rather than HSS imposes costs on some students, either by making them less likely to achieve key milestones or by requiring them to work harder in order to do so.

We start by using the administrative data to estimate effects on performance on the baccalaureate exam. As mentioned, this exam is the capstone to high school: Passing it and thus obtaining a baccalaureate diploma is a salient accomplishment; simply graduating from high school carries lower labor market and social value.

Table 6: Effects on baccalaureate performance

	Take the exam	**Pass the exam**	**Exam score**	**Pass in**		
				STEM	HSS	Other
STEM	-0.011***	-0.036***	-0.351***	0.621***	-0.698***	0.040***
	(0.003)	(0.004)	(0.015)	(0.007)	(0.007)	(0.004)
Intercept	0.95	0.92	8.08	0.13	0.78	0.01
Std. dev.	0.21	0.29	1.21	0.50	0.49	0.16
Student-cutoffs	73,470	73,470	69,938	73,470	73,470	73,470

The table presents results for the ATE of STEM assignment, β, for performance on the baccalaureate exam. The table uses the administrative data for the 2015-2017 and 2019 cohorts. “Exam score” is on a scale of 1-10 and is available only for students who took the exam. All other outcomes are indicators. The outcomes for the “Pass in” columns equal 1 if a student passed the version of the exam for the listed track type. Outcomes reflect a student’s highest-scoring exam attempt within four years of track assignment; see Appendix Table A26 for results that do not restrict outcome timing. Other details follow Panel A of Table 2.

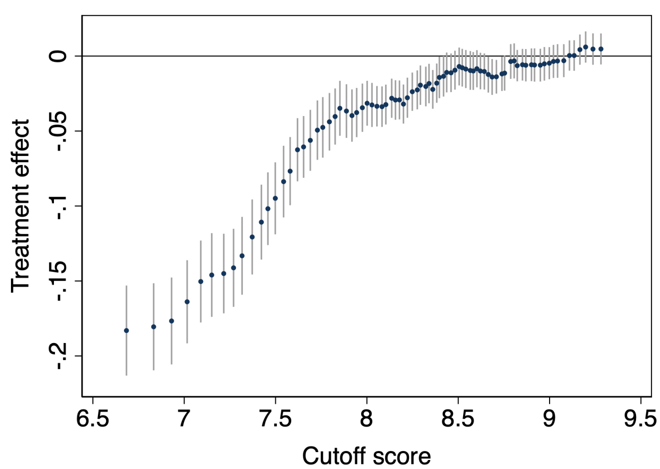
Table 6 presents effects on baccalaureate performance for all students. The table shows that STEM assignment, on average, leads to worse performance. First, it makes students slightly less

37. We cannot do an exact benchmarking because most papers consider treatments that are less intensive, while Dahl, Rooth, and Stenberg (2023) do not provide estimates for college or career effects.

likely to take and pass the exam—by 1 and 4 pp, respectively. Second, it also causes students to receive worse scores conditional on taking the exam—a 0.35 point reduction on a scale of 1-10, equal to 29% of the sd for students in the RD sample. On the other hand, STEM assignment substantially increases the chance of passing the version of the exam for STEM tracks, which is not surprising given that it has a large effect on the probability of being in a STEM track at the end of high school.

Appendix Table A25 displays heterogeneity for the effects on baccalaureate performance. It shows that effects are reasonably similar by initial curricular preferences, relative academic strength, and gender, which is consistent with the finding that there is little heterogeneity for college outcomes along these dimensions. By contrast, effects differ by baseline achievement. For low-achievers—defined as students who are in-sample for cutoffs with cutoff scores of 8 or less—effects are severe. STEM assignment makes these students 4 pp less likely to take the baccalaureate exam and 11 pp less likely to pass it; further, it reduces their scores conditional on taking the exam by 0.50 points and boosts their chance of passing in STEM by only 56 pp (while lowering their chance of passing in HSS by 71 pp). For high-achievers, STEM assignment hardly affects the probability of taking or passing the exam, although it continues to reduce exam scores (by 0.30 points).

Figure 2: Heterogeneity in effects on passing the baccalaureate exam by cutoff score



The figure displays heterogeneity by cutoff score in the effect of STEM assignment on the probability of passing the baccalaureate exam. The figure uses the administrative data for the 2015-2017 and 2019 cohorts. Each dot and line is the point estimate and 95% confidence interval for β for 20% of the full RD sample. The left-most value is for the fifth of observations with the least selective cutoff scores. The remaining values are for fifths that are successively shifted up the cutoff score distribution by one percentile. Values are plotted at the mean cutoff score in each sub-sample. Other details are the same as in Table 6.

Figure 2 elaborates on the heterogeneity by baseline achievement. It shows how effects on passing the exam vary across rolling windows of the distribution of cutoff scores. Beginning with the bottom fifth of observations by cutoff-score selectivity, the figure moves up the cutoff score distribution one percentile at a time, plotting point estimates and 95% confidence intervals at the mean cutoff score within each window. The figure shows that effects on passing the exam vary widely by achievement. Effects are zero at the most selective cutoffs but become increasingly negative at less selective cutoffs. For the lowest-achieving students, STEM assignment reduces the probability of passing by almost 20 pp.

The drop in baccalaureate performance for students with low baseline achievement would be expected to affect their college outcomes, given the important role of the baccalaureate exam in college admission. Accordingly, our survey data shows that STEM assignment decreases low-achievers' chance of being enrolled in college a year after high school by 9 pp (Appendix Table A13). The reduction is entirely driven by reduced enrollment in public colleges, which in Romania are more prestigious than privates (Appendix Table A18). In addition, STEM assignment makes low-achievers 24 pp less likely to receive a college scholarship. For high-achievers, STEM assignment does not affect overall college enrollment or enrollment in specific college types; however, it modestly influences the method of paying for college, reducing the chance of getting a (full) scholarship while increasing the chance of getting a tuition waver.

The heterogeneity in effects on baccalaureate and college outcomes for low- and high-achievers also appears in effects on desired careers (Appendix Table A19). For both groups, STEM assignment shifts students away from wanting a humanities-related career. However, for high-achievers the shift is entirely toward a technology or engineering career, while for low-achievers it is split between technology/engineering and business/economics.[38]

The above results show that STEM assignment is risky in that it lowers the chance of obtaining a baccalaureate diploma or attending college, at least for low-achievers. Consistent with the added risk, our survey data indicates that STEM is more strenuous than HSS. First, STEM assignment causes students to report spending more time on homework on a typical weekday (Appendix Table A21). The estimated effect is 0.25 hours for all students, but 0.5 hours for low-achievers (a 23% increase over the counterfactual mean) and zero for high-achievers. Second, STEM assignment leads students to score higher on a grit index (Appendix Table A28), suggesting again that they are forced to work harder. The all-student effect is equal to 15% of the sd of the grit index in the RD sample, but is entirely driven by the effect for boys (almost 30% of the sd); interestingly, effects are similar by baseline achievement. Third, when asked a year after high school, STEM assignment makes students more convinced that the baccalaureate exam for their curriculum is difficult in comparison to the exams for other curricula. The effect is positive for all student types, but is especially large for boys and low-achievers. In contrast, STEM assignment does not affect whether students believe that their track provides good preparation for the baccalaureate exam.

To summarize, the results suggest that STEM placement results in mismatch for students with

38. STEM assignment actually makes high-achievers less likely to want a career in business or economics, although the effect is statistically insignificant.

low baseline achievement, who presumably struggle with the material and thus suffer reduced baccalaureate performance and lower college enrollment. In contrast, we find no evidence of mismatch by initial curricular preferences, relative academic strength, or gender.[39]

6.4 Mechanisms

We next examine the mechanisms that could mediate the effects of high school curricular assignment on college and career outcomes.

We start by assessing whether curricular assignment affects the academic subjects that students feel strong in and enjoy. We make use of survey questions where students were asked to rate their abilities in and preferences for subjects on a scale of 1 to 5. These questions dealt with subjects at both the high school and college levels.

Table 7: Effects on beliefs about own abilities and preferences: high school subjects

	STEM subjects	**Humanities subjects**	**Social studies subjects**
Panel A: Beliefs at the end of high school			
STEM	0.873***	-0.235***	-0.565***
	(0.077)	(0.064)	(0.074)
Intercept	2.60	4.07	3.98
Std. dev.	1.29	0.90	1.15
Student-cutoffs	3,987	3,987	3,987
Panel B: Beliefs one year after high school			
STEM	0.744***	-0.267***	-0.745***
	(0.124)	(0.087)	(0.139)
Intercept	2.96	4.20	4.06
Std. dev.	1.10	0.84	1.13
Student-cutoffs	1,159	1,159	1,159
Panel C: Preferences one year after high school			
STEM	1.01***	-0.405***	-0.697***
	(0.151)	(0.102)	(0.135)
Intercept	2.72	4.13	4.08
Std. dev.	1.37	1.04	1.21
Student-cutoffs	1,159	1,159	1,159

The table presents results for the ATE of STEM assignment, β. Outcomes are on a scale of 1-5. Those in Panels A and B are students' ratings of their abilities in the listed high school subjects. Those in Panel C are students' ratings of how much they like the subjects. The Panel A outcomes are from the end-of-high-school survey. The remaining outcomes are from the first follow-up survey and thus are measured a year after high school. Other details are the same as in Panel A of Table 2.

Table 7 presents full-sample effects on students' ratings of high school subjects. Panels A and B concern students' beliefs about their abilities in the listed subjects, with Panel A reflecting beliefs at the end of high school and Panel B capturing beliefs one year after high school. Both panels show that curricular assignment strongly affects students' beliefs about their abilities. At the end of high school, STEM assignment induces students to give substantially higher ratings

39. Robustness checks for this section are in Appendices A5 and A6.

to their abilities in STEM subjects (by 0.87 points on average, or about two-thirds of the sd in the RD sample) and lower ratings to their abilities in humanities subjects (0.26 sd) and social studies subjects (0.49 sd). In the year after high school, treatment effects shift in a negative direction, which is to be expected given that (a) students learn their baccalaureate performance in this period and (b) STEM assignment reduces baccalaureate performance. Nonetheless, STEM assignment continues to generate a positive and sizable boost in students' self-confidence in STEM (0.74 points, on average).[40]

Panel C of Table 7 concerns students' preferences for high school subjects. These are available only one year after high school, as we did not ask about preferences in the end-of-high-school survey. The panel shows that curricular assignment affects not only how confident students feel in different subjects but also how much students like them. In particular, being assigned to STEM rather than HSS spurs students to rate their enjoyment of STEM subjects higher (by an average of 1 point, or 0.74 sd) and their enjoyment of humanities and social studies subjects lower (by 0.39 and 0.58 sd, respectively).

Table 8 is analogous to Table 7, but for college subjects. The outcomes are from the first follow-up survey (one year after high school) and are missing for students who had not attended college by the time of this survey—as we did not want to ask students about college if they had never been to college. We deal with the missing responses by imputing values of 1; we find that results are similar if we instead exclude them (Appendix Table A35).

Table 8 shows that the effects on beliefs and preferences extend to the college level. STEM assignment makes students feel stronger in college STEM subjects and like them more (in both cases, by an average of about 0.5 sd). Conversely, it makes students feel weaker in college subjects that involve reading, writing, and memorization, and like these subjects less.

Appendix A7 shows that the preference and belief effects differ little across student types and are highly robust. In total, the results indicate that what a student studies in high school can shape core features of the student—in particular, what the student likes and how strong the student thinks they are in different areas.

A key question is whether the effects on beliefs reflect actual skill acquisition or just changes in students' perceptions of their skills. To explore this, we exploit the fact that the Romanian language and literature component of the baccalaureate exam is common to all track types. Appendix Table A37 shows that STEM assignment reduces Romanian baccalaureate scores by 0.25 sd, on average. This is almost the exact magnitude of the effect on students' beliefs about their humanities abilities in Panel A of Table 7, which suggests that impacts on beliefs may mostly reflect skill acquisition. In a similar vein, we find that STEM assignment lowers the amount of time that students spend reading on a typical weekday, both during high school and

40. A complication with comparing Panels A and B of Table 7 is that they use different samples. Appendix Table A32 replicates the analysis using a consistent sample and confirms the negative shift in treatment effects.

Table 8: Effects on beliefs about own abilities and preferences: college subjects

	STEM subjects	**Subjects that involve reading and writing**	**Subjects that involve memorization**
Panel A: Beliefs one year after high school			
STEM	0.659***	-0.396**	-0.278*
	(0.151)	(0.154)	(0.153)
Intercept	2.57	3.23	3.17
Std. dev.	1.39	1.32	1.32
Panel B: Preferences one year after high school			
STEM	0.776***	-0.525***	-0.372**
	(0.149)	(0.164)	(0.157)
Intercept	2.48	3.24	3.06
Std. dev.	1.45	1.31	1.31
Student-cutoffs	1,159	1,159	1,159

The table is analogous to Table 7 but for college subjects, not high school subjects. Outcomes are from the first follow-up survey. The relevant questions were not asked to students who had never attended college by the time of this survey. We impute values of 1 for these students; see Appendix Table A35 for results without imputations. The number of observations is the same across panels, so it is displayed in a single row at the bottom of the table. Other details match those in Table 7.

1.5 years later (Appendix Tables A21 and A23). In contrast, it does not seem to affect the types of books or movies that students enjoy (Appendix Table A37). The reduction in Romanian baccalaureate scores is similar for all student types, while the effect on time spent reading differs by gender, being considerably larger for males than females.[41]

As an additional test of whether high school curricular assignment influences preferences, we included an abbreviated version of the O*NET Interest Profiler in the second follow-up survey (1.5 years after high school). The full version of the O*NET module provides a list of 60 job tasks—which fall into six groups—and asks a respondent to select the tasks that they would enjoy doing, regardless of remuneration. O*NET then recommends jobs that are a good fit for the respondent's interests. In our shortened version, we kept three tasks per group and also added a task related to computer programming. We classify the tasks into three categories (STEM-related, HSS-related, or Other) and calculate the share of tasks in each category that a student reports they would enjoy. We also follow O*NET's job recommendation algorithm to obtain a list of five jobs that O*NET recommends to a student, and we calculate the shares of the recommended jobs that are in each category.[42]

Table 9 presents all-student effects on the O*NET outcomes. It shows that curricular as-

41. Appendix Table A37 also displays effects on performance on the non-Romanian parts of the baccalaureate exam. These effects are not informative about skill acquisition, as the exam content varies across the RD threshold. However, they help explain why STEM assignment reduces overall scores. Namely, the table shows that STEM assignment lowers both Romanian and non-Romanian scores, implying that the reduction in overall scores is partly due to harsher grading in STEM—and is not merely because STEM-assigned students are forced to take the Romanian component, for which they receive less preparation than HSS-assigned students.

42. The tasks that we asked about are displayed by category in Appendix Table A39. Appendix A7.1 provides details on how we obtained and classified the recommended jobs.

signment has a large impact on students' preferences over job tasks. On average, assignment to STEM rather than HSS increases the share of STEM-related job tasks that a student enjoys by 10 pp and the share of O*NET-recommended jobs that are STEM-related by 11 pp. In contrast, STEM assignment reduces the share of HSS-related job tasks that a student enjoys by 9 pp and the share of O*NET-recommended jobs that are HSS-related by 10 pp. STEM assignment does not affect outcomes for the Other category.

Table 9: Effects on O*NET outcomes

	Share of X job tasks that enjoy			**Share of O*NET-recommended jobs that are:**		
	STEM-related	HSS-related	Other	STEM-related	HSS-related	Other
STEM	0.096***	-0.091**	0.010	0.105***	-0.097**	-0.007
	(0.024)	(0.041)	(0.028)	(0.032)	(0.048)	(0.044)
Intercept	0.48	0.67	0.55	0.14	0.43	0.43
Std. dev.	0.24	0.28	0.24	0.32	0.35	0.37
Student-cutoffs	1,199	1,199	1,199	1,199	1,199	1,199

The table presents results for the ATE of STEM assignment, β for outcomes derived from the O*NET Interest Profiler included in the second follow-up survey. Outcomes in the first three columns are equal to the share of job tasks in the listed categories that a student reports they would enjoy; Appendix Table A39 presents effects on specific tasks within the categories. Outcomes in the fourth through sixth columns are equal to the share of the five jobs that O*NET recommends to a student that are in the given categories; see Appendix A7.1 for details on the construction of these outcomes. Other details are as in Panel A of Table 2.

To assess some additional mechanisms, in the second follow-up survey we also asked students about three representative jobs: a technology or engineering worker, a humanities teacher, and a person who runs a small business. We had students rate the jobs on a scale of 1 to 5 on various quality dimensions and tell us which job they would choose if they were required to do one at age 30. Effects on outcomes related to the representative jobs are in Table 10. As before, placement in a STEM track increases the probability of wanting to be a technology or engineering worker; in addition, it makes students like the work content in this job more and be more confident that they are prepared for the job. The opposite holds for the other jobs, though effects are not always statistically significant. Interestingly, curricular assignment does not influence students' beliefs about (i) how much the different jobs pay or (ii) how much they would like the jobs' coworkers and work conditions; thus, changes in job perceptions along these dimensions are unlikely to explain the effects of curricular assignment on college and career outcomes. Finally, assignment to STEM increases the extent to which students believe their friends and family would approve of them being a technology or engineering worker. This could be because Romanians value STEM jobs and thus want students who have studied STEM to attain a STEM career.[43]

Finally, to gain a broader understanding of students' decision-making, we asked students what attributes they consider when making college or job choices. Specifically, in the first follow-up

43. As with the effects on beliefs and preferences regarding academic subjects, Appendix A7 shows that effects on the O*NET and representative jobs outcomes differ little by student type and are robust.

Table 10: Effects on choices and beliefs regarding representative jobs

	Would choose	**Good pay**	**Enjoyable work content**	**Good coworkers & work conditions**	**Am well prepared**	**Friends & family would approve**
Panel A: A technology or engineering worker						
STEM	0.146***	0.037	0.614***	0.185	0.543***	0.336**
	(0.047)	(0.077)	(0.185)	(0.157)	(0.199)	(0.135)
Intercept	0.20	4.50	2.58	3.20	2.60	4.05
Std. dev.	0.46	0.63	1.51	1.26	1.49	1.06
Panel B: A humanities teacher						
STEM	-0.054	0.019	-0.153	0.022	-0.371**	0.149
	(0.049)	(0.082)	(0.151)	(0.139)	(0.148)	(0.166)
Intercept	0.18	2.82	2.26	2.86	2.70	3.52
Std. dev.	0.37	0.77	1.26	1.21	1.36	1.33
Panel C: A person who runs a small business						
STEM	-0.092	0.066	-0.090	-0.152	-0.336***	-0.086
	(0.061)	(0.113)	(0.142)	(0.124)	(0.115)	(0.108)
Intercept	0.62	4.19	4.20	4.18	3.96	4.49
Std. dev.	0.50	0.81	1.22	1.10	1.16	0.92
Student-cutoffs	1,199	1,199	1,199	1,199	1,199	1,199

The table presents results for the ATE of STEM assignment, β for outcomes related to students' choices and beliefs regarding representative jobs. The outcomes are from the second follow-up survey, and the jobs are displayed in the panels of the table. "Would choose" is a set of mutually exclusive indicator variables equal to one when a student would choose a given job if forced to do one of the three at age 30. The outcomes in the other columns are students' ratings of the jobs on the listed dimensions on a scale of 1-5. The number of observations is the same across panels, so it is displayed in a single row at the bottom of the table. Other details match those in Table 7.

survey, we provided a list of factors that might explain a student's choice of college field of study, and we asked students to select those that mattered in their choice. In the second follow-up survey, we did the same but for the factors that students expect to influence their job choice at age 30. In Appendix A8, we estimate the share of students at the RD threshold who select each factor, as well as the difference in shares across the threshold.[44]

We find that over 95% of students care about whether a college or job option matches their interests and abilities. Much lower shares cite as an explanation that (i) an option aligns with what they studied in high school and they believe that changing would be difficult (38% for college choice and 43% for job choice), (ii) they were encouraged to choose the option by their high school teachers (46% and 42%), or (iii) the option mirrors what their high school friends chose (22% for college choice and unavailable for job choice). Intermediate shares of students are influenced by factors such as family approval, location, and prestige. Shares are generally similar on the STEM and HSS sides of the RD threshold, although STEM assignment somewhat increases the shares who think that family approval and teacher encouragement will affect their

44. As before, we did not ask the college questions to students who had never attended college by the time we surveyed them. We drop these students when calculating the college results; results are qualitatively unchanged if we instead impute values of 0.

job choice.[45]

In short, the results reveal that a range of mechanisms may contribute to the impacts on college and career outcomes, including switching costs, peer and teacher influences, and changes in family approval. Nonetheless, channels related to interests and beliefs about abilities seem to play a central role. Namely, curricular assignment strongly affects these factors, and almost all students consider them in their decision-making.

6.5 Wellbeing and school satisfaction

We now use our survey data to explore how high school curricular assignment affects outcomes related to wellbeing and school satisfaction. These outcomes are important in their own right, but also because they may be indicative of future academic persistence. We measure outcomes both at the end of high school and 1-1.5 years later, after students have learned their baccalaureate performance and transitioned to college or the labor market. In addition, we measure school satisfaction with respect to both high school and college.

Table 11: Effects on wellbeing and high school satisfaction

	Wellbeing	**Liked the high school:**				**H.s. curriculum was a good fit for my abilities**
		Experience	Curriculum	Peers	Teachers	
Panel A: End of high school						
STEM	0.133***	0.113*	0.002	0.233***	-0.022	0.001
	(0.051)	(0.068)	(0.066)	(0.072)	(0.068)	(0.053)
Intercept	-0.14	3.69	3.32	3.53	3.60	3.39
Std. dev.	0.74	0.99	1.04	1.12	1.02	0.86
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987
Panel B: 1-1.5 years after high school						
STEM	-0.033	0.217*	-0.004	0.287**	0.128	-0.123
	(0.068)	(0.110)	(0.137)	(0.138)	(0.130)	(0.118)
Intercept	0.66	3.90	3.13	3.82	3.75	3.49
Std. dev.	0.56	0.89	1.06	1.08	0.93	1.02
Student-cutoffs	1,199	1,159	1,159	1,159	1,159	1,159

The table presents results for the ATE of STEM assignment, β, for outcomes related to wellbeing and high school satisfaction. In Panel A, outcomes are from the end-of-high-school survey. In Panel B, "Wellbeing" is from the second follow-up survey, while the other outcomes are from the first. "Wellbeing" is an index; details on its construction are in Appendix Table A46. The remaining outcomes are students' ratings on a scale of 1-5. Other details are the same as in Panel A of Table 2.

The results for all students are in Tables 11-13. Table 11 presents effects on a wellbeing index and on measures of high school satisfaction. The wellbeing index is based on questions related to happiness, belonging, and depression; its construction is detailed in Appendix Table A46. The other outcomes in the table are students' ratings (on a scale of 1 to 5) of (a) how much they liked different aspects of high school and (b) how well the high school curriculum fit their abilities.

45. STEM assignment also slightly increases the share of students who care about earnings. Thus, it does not influence students' choices by changing their beliefs about earnings (Table 10), but it may influence their choices by affecting the amount of utility weight that they place on this attribute, albeit slightly.

Panel A is for outcomes derived from the end-of-high-school survey, while the outcomes in Panel B are from the follow-up surveys. Next, Table 12 provides effects on students' regret over their high school application choices. These effects are measured one year after high school, which is the only time we asked the associated questions. The first outcome in the table is a student's 1 to 5 rating of how happy the student is with their high school application choices. The other outcomes indicate the ways that students would change their choices if they could go back in time. Finally, Table 13 presents effects on college satisfaction; these are measured one year after high school, which is again the only time we asked the questions on which they are based.[46]

The results in Tables 11-13 offer a few findings. First, at the end of high school, assignment to STEM rather than HSS boosts wellbeing (Table 11). However, second, the boost fades after high school. Specifically, at the end of high school, STEM assignment causes an average increase in the wellbeing index of almost a fifth of a standard deviation in the RD sample. By 1.5 years after high school, the effect is small, negative, and statistically insignificant.[47] Third, the boost in wellbeing at the end of high school coincides with an increase in satisfaction with social dimensions of high school. In particular, STEM assignment makes students give higher ratings to the high school experience and to their peers. In contrast, it does not change students' ratings of the high school curriculum or teachers, nor does it affect their evaluation of how well the high school curriculum fit their abilities. Fourth, the increase in liking the social aspects of high school persists through the year after high school. However, fifth, by this time, STEM assignment has a negative (though statistically insignificant) effect on how well students think the high school curriculum fit their abilities; this is consistent with negative updating after seeing the baccalaureate results.[48]

Next, by a year after high school, curricular assignment hardly affects students' retrospective satisfaction with how they applied to high school (Table 12). In particular, at the RD threshold, STEM- and HSS-assigned students have similar contentment with their high school application choices and are similar in their likelihood of wishing they could change them.

Finally, assignment to STEM reduces how much students enjoy college, both socially and academically (Table 13). However, it does not affect perceptions of curricular fit in college, nor does it influence students' happiness with their college application choices. The reduction in liking college is not surprising, as the conventional wisdom in Romania is that STEM college programs are competitive and challenging.

Overall, the evidence reveals that there is a positive effect of STEM assignment on wellbeing during high school and a null effect after high school. There are a few channels that could explain this. First, as mentioned, STEM assignment increases the extent to which students like the social dimensions of high school, worsens baccalaureate performance, and reduces the extent to which

46. As always, we did not ask the college questions to students who had not attended college by the time we surveyed them. For these students, we impute values of 1. We find that results without imputations are similar.
47. Appendix Table A51 replicates Table 11 using a constant sample and confirms the difference in effects.
48. The effect on the change in ratings of curricular fit is statistically significant (Appendix Table A51).

Table 12: Effects on regret over high school application choices one year after high school

	Am happy w/ the appl. choices I made	**If could do over, would:**			
		Make no change	Rank STEM tracks higher	Rank HSS tracks higher	Rank Other tracks higher
STEM	0.049	0.045	-0.032	-0.018	0.005
	(0.129)	(0.042)	(0.035)	(0.032)	(0.013)
Intercept	4.20	0.80	0.10	0.08	0.02
Std. dev.	0.94	0.38	0.28	0.27	0.14
Student-cutoffs	1,159	1,159	1,159	1,159	1,159

The table presents results for the ATE of STEM assignment, β, for outcomes related to regret over high school application choices. Outcomes are from the first follow-up survey. "Am happy with the application choices I made" is on a scale of 1-5. The remaining outcomes are indicator variables equal to one if a student agrees with the listed statement. Other details follow Panel A of Table 2.

students like college. Second, in Appendix A5, we find that STEM assignment lowers time spent on social media; research indicates that social media usage harms wellbeing (e.g., Allcott et al. 2025).[49] Third, as discussed previously, STEM is widely valued in Romania. Thus, one could tell a story where improved high school social dynamics, lower social media use, and elevated parental and societal approval lead to a boost in wellbeing in high school; meanwhile, the latter two channels counteract worsened baccalaureate performance and reduced college enjoyment to yield no impact on wellbeing after high school. Of course, additional factors could be at play.

Table 13: Effects on college satisfaction one year after high school

	Like the college:				**College curric. is a good fit for my abilities**	**Am happy w/ the appl. choices I made**
	Experience	Curriculum	Peers	Instructors		
STEM	-0.443***	-0.227*	-0.398**	-0.352***	0.082	0.122
	(0.138)	(0.129)	(0.166)	(0.134)	(0.156)	(0.179)
Intercept	2.20	2.25	2.18	2.31	3.48	3.72
Std. dev.	1.11	1.09	1.20	1.14	1.33	1.48
Student-cutoffs	1,159	1,159	1,159	1,159	1,159	1,159

The table is analogous to Table 11 and the first column of Table 12, but for college outcomes, rather than high school outcomes. Outcomes are from the first follow-up survey. The relevant questions were not asked to students who had never attended college by the time of this survey. We impute values of 1 for these students; see Appendix Table A55 for results without imputations. Other details are the same as in Panel A of Table 2.

Appendix A9 provides robustness and heterogeneity results for the effects on wellbeing and school satisfaction. It shows that the results are robust and that there is little systematic heterogeneity across student groups. One exception is that by a year after high school, STEM assignment makes low-achievers less happy with their high school application choices (by 0.45 points out of 5, Appendix Table A52), again pointing to mismatch for these students.[50] That said, a main takeaway is that students tend to be satisfied with their choices by a year after high school. At the RD threshold, the average happiness rating for the high school application

49. On average, the reduction is 26 minutes on a typical weekday in high school and 21 minutes on a typical weekday 1.5 years after high school.

50. Yet, even for low-achievers, STEM assignment does not affect the likelihood of wanting to change choices.

choices is 4.20 (4.25) out of 5 for students assigned to HSS (STEM) (Table 12). Similarly, 80% (85%) of HSS- (STEM-) assigned students would not change their choices if they could go back in time.[51]

This broad satisfaction suggests either (i) that most students at STEM vs. HSS cutoffs had accurate expectations about STEM and HSS tracks when making high school choices or (ii) that these students are malleable enough to adapt to their assigned track type (with low-achievers being a key exception). The second possibility is consistent with our earlier finding that curricular assignment influences students' beliefs about their abilities and preferences over academic subjects and job tasks.[52]

To summarize, curricular assignment has a nuanced relationship with wellbeing and school satisfaction. This relationship changes in just the first year after high school and may continue to evolve as students age. Nonetheless, by a year after high school, most students are happy with their decision-making regarding high school.

6.6 Social and civic outcomes

We next turn to the effects of curricular assignment on social and civic outcomes. Historically, improving these outcomes was seen as one of the core purposes of education, alongside pecuniary returns. Even today, large majorities of parents believe that schools should focus on influencing them.[53] How these outcomes are affected by curricular assignment—as opposed to education in general—is of special interest, as there is a long tradition that claims they are best cultivated by a broad liberal arts education (rather than a technical/vocational one) and by the study of humanities and social studies in particular.[54]

To conduct our analysis, we make use of our surveys, which asked questions about expectations, political views and behaviors, trust, friendships, and empathy. We combine all questions on a given topic into indices; however, we also estimate effects on the indices' components.[55] We find considerable heterogeneity in effects by gender; thus, in the main text we provide results separately for boys and girls. Remaining heterogeneity (of which we find little) and robustness

51. Across student-group $\times$ curricular-assignment cells, the minimums of these values are 3.99 and 77%; also, the maximum share that wishes they had ranked STEM (HSS) tracks higher is 12% (11%) (Appendix Table A52).

52. A caveat is that we can estimate effects only for students who rank both STEM and HSS tracks. There may be students with strong curricular preferences (i.e., who rank only one track type) who would not adapt if assigned to their less-preferred curriculum. If such students exist, they are somewhat rare (Appendix A1).

53. A recent survey of parents of U.S. K-12 students finds that most want schools to help their children navigate social situations (86%), respond ethically (85%), prepare to be an active, informed citizen (83%), and empathize with the feelings of others (81%) (Tyner 2021).

54. See Nussbaum (2010) and Roth (2014) for contemporary reviews.

55. When applicable, the indices combine data across surveys. Such indices can be interpreted as averages of an outcome during the end of high school through 1 or 1.5 years after. Results are similar if we instead restrict to responses from the end-of-high-school survey (Appendix Table A63). We also find limited impacts on changes in outcomes over the analysis period, although estimates are noisy (Appendix Table A66). Details on indices are provided in the notes to the tables and figures.

are in Appendix A10. We start by presenting effects on key outcomes, and then we assess possible mechanisms.

Table 14 displays effects on students' expectations about their future family structure. In the table, the columns under the "Components" heading correspond to different dimensions of expectations, while the first column is the index. The index is constructed such that higher values indicate greater traditionalism.

Table 14: Effects on traditionalist expectations

	Index	**Components**				
		Work amount	Bread-winner	Wealth decile	Number of children	Smaller locale
Panel A: All students						
STEM	0.096***	-0.006	0.097***	0.133	0.067	0.049
	(0.034)	(0.028)	(0.033)	(0.086)	(0.057)	(0.055)
Intercept	-0.10	2.85	2.13	7.40	1.42	2.21
Std. dev.	0.49	0.44	0.48	1.33	0.87	0.86
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987
Panel B: Male students						
STEM	0.116**	0.045	0.133**	0.030	0.164*	0.076
	(0.048)	(0.060)	(0.059)	(0.147)	(0.094)	(0.110)
Intercept	0.22	2.77	2.33	7.51	1.40	2.21
Std. dev.	0.41	0.53	0.51	1.34	0.84	0.89
Student-cutoffs	1,396	1,396	1,396	1,396	1,396	1,396
Panel C: Female students						
STEM	0.034	-0.030	0.030	0.172	0.035	0.039
	(0.033)	(0.031)	(0.032)	(0.114)	(0.069)	(0.064)
Intercept	-0.29	2.90	2.01	7.33	1.41	2.17
Std. dev.	0.41	0.37	0.38	1.32	0.88	0.85
Student-cutoffs	2,510	2,510	2,510	2,510	2,510	2,510

The table presents results for the ATE of STEM assignment, β, for students' expectations regarding their family at age 30. "Index" combines the expectations in a traditionalist direction. The components relate to specific types of expectations. The questions from which the components are derived were asked in both the end-of-high-school and second follow-up surveys. The components use data from both surveys. They are equal to the student fixed effects from a panel regression of a question's responses on student and survey fixed effects, centered at the mean response for students with non-missing responses for the question in both surveys. The index is the average of standardized versions of all of a student's responses. The average ignores any responses that are missing for the student, and the standardization uses survey-specific means and standard deviations that are calculated over the students with no missing responses. The procedure for obtaining the components and index is described in more detail in the notes to Table A29. "Work amount" is how much a student expects to work on a scale of 1-3, with 1 being "not at all", 2 "part time", and 3 "full time". "Breadwinner" is also on a scale of 1-3, with 1 being if the students' spouse will contribute most of the household's money, 2 if the partners will contribute equally, and 3 if the student will contribute the most. "Wealth decile" is for a student's household and is on a scale of 1-10. "Number of children" is capped at 3. "Smaller locale" concerns the type of community in which the student expects to live, with 1 being outside Romania, 2 a big city, 3 a medium town, and 4 a rural area or small town. When we construct the traditionalist expectations index, we reverse the order of the responses for "Work amount" and "Breadwinner" for female students, as the traditionalist expectation for women is to work less and not be the breadwinner. Other details follow Panel A of Table 2.

Table 14 shows that assignment to STEM rather than HSS causes male students to hold expectations that are more traditionalist. The estimated effect on the index is equal to 0.28 of the sd for male students in the RD sample. The effect is driven by increases in expectations about being the family "breadwinner" and in the expected number of children. For the other dimensions, effects are statistically insignificant, but point estimates continue to be in a more traditionalist direction. In contrast, curricular assignment does not measurably affect family expectations for female students.

Table 15 is analogous to Table 14, but for effects on political views. Here, the index is constructed such that higher values indicate views that are more right-wing. The component questions concern a variety of economic and social issues and mostly come from the European Values Study, the General Social Survey, and the World Values Survey.

Table 15: Effects on right-wing political views

	Index	**Components**							
		The poor are lazy	Redistri-bution is bad	Ability-tracking is desirable	Tradition is good	Wife earning more is a problem	Divorce is immoral	Climate change is not so serious	Boys are better in math
Panel A: All students									
STEM	0.042	0.073	-0.022	0.030	0.065	0.029	0.149**	-0.147	-0.212
	(0.031)	(0.087)	(0.089)	(0.024)	(0.068)	(0.080)	(0.073)	(0.154)	(0.161)
Intercept	-0.06	2.42	3.13	0.54	3.75	1.84	1.72	2.77	2.81
Std. dev.	0.44	1.19	1.26	0.33	1.12	1.21	1.16	1.20	1.22
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987	3,987	1,199	1,199
Panel B: Male students									
STEM	0.145***	0.298**	0.077	0.118***	0.062	0.114	0.062	0.011	0.034
	(0.052)	(0.138)	(0.161)	(0.038)	(0.130)	(0.140)	(0.119)	(0.294)	(0.287)
Intercept	-0.05	2.55	3.05	0.48	3.75	1.86	1.97	2.61	2.76
Std. dev.	0.45	1.20	1.27	0.33	1.16	1.24	1.21	1.27	1.18
Student-cutoffs	1,396	1,396	1,396	1,396	1,396	1,396	1,396	373	373
Panel C: Female students									
STEM	-0.012	-0.096	-0.062	-0.012	0.060	0.014	0.196**	-0.371**	-0.415**
	(0.036)	(0.108)	(0.108)	(0.029)	(0.089)	(0.097)	(0.098)	(0.176)	(0.205)
Intercept	-0.08	2.34	3.15	0.57	3.75	1.80	1.53	2.86	2.83
Std. dev.	0.42	1.16	1.25	0.34	1.10	1.18	1.09	1.16	1.23
Student-cutoffs	2,510	2,510	2,510	2,510	2,510	2,510	2,510	728	728

The table presents results for the ATE of STEM assignment, β, for students' political views. "Index" combines the views, with higher values indicating views that are more right-wing. The components capture students' views on particular issues. All components except "Ability-tracking is desirable" are the responses to questions where students were asked how much they agree with a statement on a scale of 1-5. The respective statements are: (a) "When a person is poor, it's usually because the person made bad choices and didn't work hard", (b) "The government should do more to make sure that everyone is cared for, even if it means that some people can get by without working", (c) "Things are good if they follow traditions and customs", (d) "If a woman earns more money than her husband, it's almost certain to cause problems", (e) "Divorce is always immoral", (f) "Climate change is one of the most serious issues that we face today", and (g) "Boys' natural ability in mathematics is greater than that of girls". To ensure that outcomes are always in a right-wing direction, we reverse the order of the responses for (b) and (f). "Ability-tracking is desirable" is the fraction of "yes" answers for three yes or no questions about splitting students between classes based on academic ability. The questions are whether a student agrees that this method is fair, that it does not stigmatize students, and that it improves learning. The first six components are from the end-of-high-school survey; the last two are from the second follow-up survey. The index is constructed using the same strategy as in Table 14. Other details follow Panel A of Table 2.

Similar to before, Table 15 shows that STEM assignment pushes males' political views to the right. The estimated effect on the index is equal to 0.32 of the sd for males in the RD sample. Effects on views over specific issues are often statistically insignificant, but point estimates are always in a right-wing direction. Interestingly, for girls, effects on political views are mixed. The effect on the index is small and statistically insignificant, while effects on views over specific issues have contrasting signs. Notably, STEM assignment makes female students more strongly agree with the statement that divorce is immoral (by 0.18 of the sd for females in the RD sample), but it also makes them more concerned about climate change (by 0.32 sd), and it increases disagreement with the claim that boys are naturally better than girls in math (by 0.34 sd).

Finally, the first five columns of Table 16 show that curricular assignment does not affect students' values of a trust index, whether students turned out to vote in Romania's Fall 2024 elections, or how many friends students have. On the other hand, curricular assignment does affect the gender composition of students' friendships. Specifically, assignment to STEM causes boys (girls) to report having about 0.7 (0.5) fewer good female versus male friends. In this way, curricular assignment seems to influence the nature of students' family expectations, political views, and friendships, but not students' degree of political engagement and social connection.[56] We discuss effects on the last two columns of Table 16 later on.

Table 16: Effects on additional social and civic outcomes

	Trust	**Turn out in Fall 2024 elections**	**Friends**			**Verbal development**	**Empathy**
			Good	Very close	Good female vs. male		
Panel A: All students							
STEM	0.016	0.027	-0.005	-0.041	-0.764***	-0.279***	-0.116**
	(0.050)	(0.036)	(0.185)	(0.096)	(0.191)	(0.033)	(0.054)
Intercept	-0.03	0.87	6.07	3.22	0.62	0.18	0.06
Std. dev.	0.78	0.26	2.76	1.50	2.76	0.49	0.89
Student-cutoffs	3,987	1,199	3,987	3,987	3,987	3,987	3,987
Panel B: Male students							
STEM	-0.012	-0.005	-0.066	0.004	-0.706**	-0.260***	-0.145
	(0.085)	(0.077)	(0.321)	(0.171)	(0.281)	(0.052)	(0.093)
Intercept	0.05	0.89	6.61	3.42	-1.03	-0.01	-0.04
Std. dev.	0.77	0.28	2.69	1.51	2.48	0.48	0.92
Student-cutoffs	1,396	373	1,396	1,396	1,396	1,396	1,396
Panel C: Female students							
STEM	0.028	0.049	-0.041	-0.063	-0.491***	-0.273***	-0.082
	(0.068)	(0.043)	(0.236)	(0.114)	(0.188)	(0.043)	(0.069)
Intercept	-0.10	0.87	5.78	3.07	1.50	0.29	0.10
Std. dev.	0.78	0.24	2.78	1.48	2.30	0.47	0.86
Student-cutoffs	2,510	728	2,510	2,510	2,510	2,510	2,510

The table presents results for the ATE of STEM assignment, β, for additional social and civic outcomes. All outcomes except "Turn out in Fall 2024 elections" use data from both the end-of-high-school and second follow-up surveys. "Trust", "Verbal development", and "Empathy" are indices; see Appendix Tables A60, A61, and A62 for details on their construction. The "Friends" outcomes are based on questions where students were asked how many good male, good female, and very close friends they have; "Good female vs. male" is the difference in the number of good female and male friends. As in Table 14, the "Friends" outcomes equal the student fixed effects from a panel regression of a given variable on student and survey fixed effects, centered at the mean for students with non-missing values in both surveys. "Turn out in Fall 2024 elections" is from the second follow-up survey. It is the share of times that a student turned out to vote in Romania's two Fall 2024 elections (presidential and parliamentary). Other details match those in Panel A of Table 2.

We next explore the mechanisms that could underlie the shifts in social and civic outcomes.

56. We also asked students about who they supported in the Fall 2024 elections. Unfortunately, most refused to answer, likely because the elections were subject to foreign interference and were highly controversial.

A first candidate is that STEM assignment may make students expect to be richer. Among other consequences, this could make them expect to have a higher relative position in society, be less dependent on government assistance, and have less need for a co-equal partner, all of which could influence their family expectations and political views. Given our results, a requirement for this channel to be operative is that STEM assignment would specifically need to raise wealth expectations for boys. Interestingly, Appendix Table A58 shows that curricular assignment hardly affects wealth expectations, with the estimate for boys being a relatively precise zero. Thus, we find little support for this channel.

A second potential mechanism concerns years of schooling. Research finds that gaining more education tends to cause people's political views to become more left-wing (e.g., Apfeld et al. 2023). This channel is unlikely to be relevant in our setting, given that STEM- and HSS-assigned students had similar amounts of education when we surveyed them. Nonetheless, curricular assignment could conceivably have impacts by influencing how much education students expect to obtain. Appendix Table A59 shows that assignment to STEM slightly reduces boys' expectations about their final amount of education, but in a way that seems unlikely to matter. Namely, it shifts boys away from expecting a doctoral degree and toward expecting a master's or professional degree. For girls, curricular assignment does not affect expected years of schooling.

A third potential mechanism is peer effects. For instance, assignment to STEM rather than HSS causes students' classmates and friends to be less female and more male. Further, girls are more left-leaning than boys on average, both in our data and across countries (e.g., Burn-Murdoch 2024). Thus, the social and civic effects of curricular assignment may stem from differences in the composition of one's peers. We find that the effects on boys' family expectations and political views persist when we implement strategies that control for track peer attributes (Appendix A12).[57] In contrast, the effects on the gender split of students' friends grow smaller. Thus, peer exposure may partly explain why STEM assignment causes students to have more male and fewer female friends, but it does not explain why boys become more traditionalist and right-leaning.

A final set of stories centers on the difference in curriculum involved in assignment to STEM or HSS. Spending more time on STEM or HSS subjects could matter for social and civic outcomes in a few ways. First, the subjects impart different types of knowledge, which may lead students to have different views. For instance, learning about science could cause STEM students to become more worried about climate change; meanwhile, learning about social issues could make HSS students more supportive of redistributive social programs. Second, HSS subjects often contain an explicit focus on moral reasoning. In addition, the process of analyzing a text and crafting and communicating an argument may spur forms of verbal development, critical thinking, and

57. We summarize these strategies in the next section. Importantly, we control for multiple attributes, including share female, absolute ability, and relative academic strength. Thus, we can rule out multiple types of peer effects.

perspective-taking that are distinct from those developed in STEM subjects (Nussbaum 2010). Third, the fact that reading literature often involves inhabiting external minds means that HSS subjects may make students more attuned to others' emotions and mental states (Mar and Oatley 2008; Nussbaum 2010; Koopman and Hakemulder 2015; Mumper and Gerrig 2017; Dodell-Feder and Tamir 2018; Lecce, Bianco, and Hughes 2021). Importantly, studies show that both verbal ability (Edwards et al. 2025) and empathy correlate with having views that are more left-wing (Wagaman and Segal 2014; Hasson et al. 2018; Morris 2020; Zebarjadi et al. 2023).[58]

While we cannot prove any of the above connections, our results are generally consistent with them. First, as discussed, assignment to STEM rather than HSS shifts boys' political views to the right and makes their family expectations more traditionalist. Second, the final two columns of Table 16 show that STEM assignment also reduces students' scores on an index of verbal development and an index of empathy; interestingly, effect estimates are similar in size across genders.[59] Thus, we find that curricular assignment has the effects predicted by the existing (non-causal) literature for both the final outcomes and the intermediate pathways, though only for boys.[60] This begs the question of why family expectations and political views do not change, on net, for girls. A noteworthy fact is that, at our cutoffs, girls display higher levels of verbal development and empathy than boys. In fact, values of these indices are higher for girls assigned to STEM than for boys assigned to HSS (Table 16). Thus, one possibility is that girls face diminishing returns, where additional gains do not translate into further changes in outcomes.[61]

58. Another story is that the teachers who teach HSS subjects may be more left-leaning than those who teach STEM subjects, and they may choose left-wing texts and topics. We believe this story does not apply in the Romanian setting, as the HSS curriculum is both nationally standardized and relatively classical in nature.

59. The verbal development index combines all available variables related to verbal skills and interests; its construction is detailed in Appendix Table A61. The empathy index combines a question about whether students can notice others' emotions with one about whether they enjoy helping people with their personal and emotional problems; it is detailed in Appendix Table A62. Empathy has cognitive ("theory of mind") and affective aspects (Dodell-Feder and Tamir 2018; Morris 2020; Fé, Gill, and Prowse 2022; Zebarjadi et al. 2023); our measure is meant to capture both.

60. The shift in girls' views about climate change and gender math stereotypes may also match the predictions.

61. Another question is why curricular assignment does not influence views about climate change and gender math stereotypes for boys. A potential explanation is that the information treatment provided in these domains from studying STEM subjects is counterbalanced by the general rightward shift that boys receive from STEM assignment. A final question is whether girls in STEM tracks are positively selected relative to boys on their math abilities. If so, the effect of STEM assignment on views about math stereotypes may be due to exposure to female classmates who are unusually good in math. Appendix Table A67 rules out this type of selection by showing that the gender gap in math transition scores in students' tracks is the same on the STEM and HSS sides of the RD threshold. Interestingly, Appendix Table A68 shows that the sign of the math gender gap reverses during high school, with girls performing worse than boys on the transition exam but better on the baccalaureate exam. The math component of the baccalaureate exam is not taken by HSS students. Thus, students in STEM can observe this reversal while students in HSS likely cannot, which may be part of why curricular assignment affects views about math stereotypes.

6.7 Disentangling the effects of curriculum vs. peers

In Section 5.2, we noted that assignment to a STEM rather than HSS track involves three sub-treatments: a change in curriculum (together with more or less exposure to the types of teachers who teach STEM or HSS subjects), a change in horizontal dimensions of track peer composition, and whether a student scored above or below a cutoff. Our strategy of averaging over STEM- and HSS-above cutoffs is meant to eliminate the third sub-treatment. In addition, in Appendix A11, we show that this treatment may not matter even if we do not average: when we study same-curriculum cutoffs, we find that the effects of scoring above a cutoff are generally zero.

As a last exercise, we attempt to disentangle the relative importance of the first two sub-treatments. We use two strategies, which we summarize here. Full details and results are in Appendix A12. First, we directly control for the track-level peer attributes that we highlighted in Section 5.3: the average transition score, the average difference in math vs. language transition exam scores, and the share of students who are female. To the extent that peer composition matters, the measured effects of STEM assignment should diminish once we adjust for the fact that STEM and HSS tracks differ in peer composition.

Second, we conduct a cutoff-level analysis. In a first step, we run cutoff-specific RD regressions both for the paper's outcomes of interest and for each of the three peer attributes mentioned before. Then, for each outcome of interest, we regress the cutoff-specific effects for the outcome on the cutoff-specific effects for the three track attributes, weighting by the number of students in a cutoff's RD sample. The intercept in this regression is the predicted effect of STEM assignment for cutoffs with no change in peer composition across the RD threshold. Thus, for this approach, we can gauge the importance of the curriculum sub-treatment by comparing the intercept estimates with the estimates of β from Equation (1).

Overall, we find that controlling for peer composition has little influence on our estimates, which suggests that the curriculum channel is the main driver for effects on the outcomes we study. One exception, as mentioned in Section 6.6, is that controlling for peer attributes reduces the size of the effects on the gender split of students' friends.

7 Conclusion

The last decades have seen an increasing emphasis on STEM education, motivated by evidence that STEM produces not only private labor market returns (e.g., Arcidiacono, Hotz, and Kang 2012) but also innovation and macroeconomic growth (Aghion et al. 2009; Peri, Shih, and Sparber 2015). In this paper, we examined a strategy for boosting the STEM pipeline, explored mechanisms, and considered possible tradeoffs, recognizing that humanities and social studies have often been lauded as critical for a free and engaged society (e.g., Arendt 1961).

Our key finding is that students retain significant malleability even as teenagers, suggesting that high school may be a promising venue for STEM-focused interventions—a point also made in Cohodes, Ho, and Robles (2022) and consistent with the mindset strand of the psychology literature (e.g., Blackwell, Trzesniewski, and Dweck 2007 and Yeager et al. 2019). Specifically, we find that intensive exposure to a given high school curriculum increases the pursuit of education and careers related to that curriculum, changes students' preferences and self-perceived strengths, and has only modest effects on wellbeing and school satisfaction. In short, while research rightly emphasizes early childhood interventions (Heckman 2006; Heckman et al. 2010; Del Boca, Flinn, and Wiswall 2016; Akabayashi and Tanaka 2024), adolescence also offers a window in which to shift trajectories.

The malleability we document has implications for increasing the representation of women in STEM. Notably, the effects on preferences, beliefs about abilities, and college enrollment are similarly large for both female and male students, indicating that high school STEM exposure can do much to push women toward STEM. That said, the effect on wanting a technology or engineering career is about half the size for females as for males, which is consistent with studies finding gender gaps in career choices even conditional on college field of study (Wiswall and Zafar 2017). Understanding the source of this post-college divergence—and the extent to which it is due to barriers—is an important task that we leave to future research.

Turning to tradeoffs, our results show that studying STEM is risky for students with low baseline achievement, who become more likely to fail a high school exit exam and less likely to attend college. In our setting, much of this risk appears to be driven by the components of the high school exit exam that are specific to STEM tracks. Importantly, harsher grading in STEM is not limited to Romania: There is evidence that STEM coursework and assessments are also more demanding in U.S. universities, where low grades are a common reason why students switch out of STEM fields (Arcidiacono, Aucejo, and Spenner 2012; Stinebrickner and Stinebrickner 2014).

We also show that what students study in high school affects their social and civic outcomes. This result bolsters a long tradition of claims summarized in Nussbaum (2010) and Roth (2014) and accords with research finding social and civic effects from other dimensions of education. It highlights that evaluations of education policy should assess impacts on these types of outcomes, in addition to test scores and labor market returns.

Interestingly, recent research suggests that the competencies fostered by humanities and social studies may have benefits for the contemporary labor market that are not observed in studies using historical data. Deming (2017) and Deming and Noray (2020) show that the fastest-growing jobs are those that combine technical expertise with social and communication skills. Thus, looking forward, the best approach may not be to choose STEM or humanities/social studies. Instead, it may be to integrate the strengths of each—to develop both technical competence and verbal, empathetic, and collaborative capacities. Of course, this broad "liberal arts" style education may be expensive if it means that students stay in school for longer before gaining specialized training.

Overall, our results identify a strategy for boosting STEM education and careers, but also reveal possible costs from doing so. The patterns we uncover—increased interest and confidence in STEM, together with higher risk of failure for low achievers, erosion of verbal and empathetic skills, and shifts in social/political views—strike both an optimistic and a cautionary note.

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A1 STEM vs. HSS cutoffs

This appendix compares students near STEM vs. HSS cutoffs with all high school students, and examines students' choice behavior with respect to STEM and HSS tracks. Table A1 provides summary statistics for the administrative data and the administrative-data RD sample. In the table, "Administrative data-All students" is the full administrative data (all students from the 2015-2017 and 2019 cohorts in 16 Romanian counties), while "Administrative data-Top 70%" restricts to students with transition scores in the top 70% of the yearly national distribution. "RD sample-All students" is the administrative-data RD sample; "Prefer STEM" and "Prefer HSS" are the portions of "RD sample-All students" for STEM- and HSS-above cutoffs.

Table A1 shows that the administrative data contains over 200,000 students, while the RD sample for the administrative data has 62,301 students, 1,904 cutoffs, and 73,470 student-cutoff combinations. The RD sample is high-achieving on average: Its mean transition score of 8.4 is considerably above the administrative-data mean of 7.6. However, the RD sample also covers a wide achievement range: Its transition score standard deviation is 63% of that for the raw administrative data. In fact, covariate means and standard deviations for the RD sample resemble those for students in the top 70% of the national achievement distribution.

Figure A1 describes the achievement range covered by the administrative-data RD sample. The figure presents histograms of cutoff scores and transition scores, separately for the full RD sample and by cutoff type. The histograms reveal substantial variation in achievement. For the full sample, the 10th and 90th percentiles of the cutoff (transition) score distribution are 6.92 (7.02) and 9.23 (9.52), respectively. When conditioning on cutoff type, one can see that the sample for STEM-above cutoffs has higher average achievement than that for HSS-above cutoffs, yet again both have wide dispersion.

Table A1 shows that the administrative-data RD sample is almost evenly split between observations for STEM- and HSS-above cutoffs. In particular, "Prefer STEM" has 37,376 students and 973 cutoffs, while "Prefer HSS" has 36,094 students and 931 cutoffs.[62] Thus, 51% of all RD sample observations are for STEM-above cutoffs versus 49% for HSS-above cutoffs.

We examine the frequency of cutoff types in more detail in Table A2. For various student groups, the table lists the share of RD sample observations that are for a STEM- rather than HSS-above cutoff. The table shows that the two cutoff types remain balanced in frequency for male and female students. In contrast, STEM-above cutoffs are more common for students who are stronger in math, while HSS-above cutoffs are more common for students who are stronger in language. Also, the split in cutoff types tilts toward HSS-above for students with low baseline achievement and toward STEM-above for high-achievers. Regardless, all student groups have a substantial fraction of observations for each cutoff type. Further, by calculating simple averages of effects over the two cutoff types, we ensure that we treat the types equally.

To better characterize the RD sample, we investigate how students rank STEM and HSS tracks. Table A3 displays the percent of students in the administrative data who rank both a STEM track and an HSS track, while Table A4 summarizes ranking behavior for each track type separately. Results are provided for all students, for students in the top 70% of the national achievement distribution, and for subsets of the top 70% sample by student attributes.

Tables A3 and A4 show that ranking STEM and HSS tracks is common. Among all students, 95% rank a STEM track and 77% rank an HSS track. Also, 75% rank both track types, 64% rank both in their top 10 choices, and 50% rank both in their top 5 choices. For the top 70%

62. In our data construction, students can only be in-sample for one cutoff of a given type. Thus, conditional on cutoff type, the number of student-cutoffs and students is the same.

sample, the shares are even higher, with 98% ranking a STEM track, 83% ranking an HSS track, 80% ranking both, 69% ranking both in their top 10 choices, and 54% ranking both in their top 5 choices. As expected, there is some variation in ranking behavior by student characteristics. However, the variation is relatively limited. For instance, 77% of Top-70% male students rank both a STEM and HSS track versus 84% of Top-70% female students.

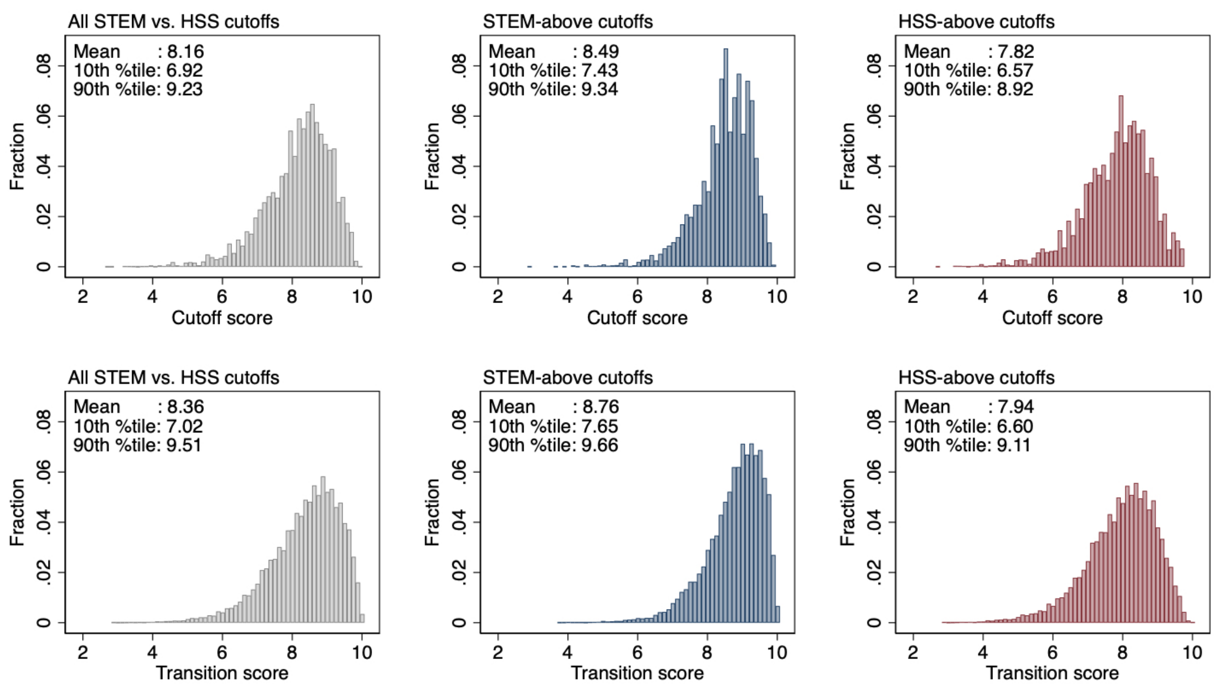
In sum, our setting offers a large number of STEM vs. HSS cutoffs, and the students who are in-sample for them seem representative of all high school students, save for the lowest-achievers. The representativeness arises because students commonly rank both STEM and HSS tracks, which is unsurprising given research that students care about a variety of track attributes beyond curriculum (e.g., Ainsworth et al. 2023).

Table A1: Comparing the administrative data with the administrative-data RD sample

	Transition score								Female		N
	Overall score		Math exam score		Lang. exam score		Grades 5-8 GPA				
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	
Administrative data											
All students	7.57	1.61	6.79	2.19	7.57	1.80	8.90	0.86	0.50	0.50	207,632
Top 70%	8.36	0.96	7.78	1.52	8.40	1.04	9.27	0.58	0.53	0.50	152,636
RD sample											
All students	8.36	1.01	7.76	1.57	8.42	1.10	9.27	0.57	0.56	0.50	73,470
Prefer STEM	8.76	0.82	8.39	1.29	8.74	0.93	9.44	0.49	0.55	0.50	37,376
Prefer HSS	7.94	1.01	7.11	1.56	8.10	1.16	9.09	0.60	0.58	0.49	36,094

The table presents summary statistics for different samples. "Administrative data-All students" is the full administrative data. "Administrative data-Top 70%" is students in the administrative data with transition scores in the top 70% of the yearly national distribution. "RD sample-All students" is the RD sample for the full administrative data. "Prefer STEM" and "Prefer HSS" are, respectively, the portions of "RD sample-All students" for STEM- and HSS-above cutoffs. In the "Administrative data" rows, N is the number of students; in the other rows, it is the number of student-cutoff combinations. "RD sample-All students" has 62,301 students and 1,904 cutoffs; "Prefer STEM" ("Prefer HSS") has 37,376 (36,094) students and 973 (931) cutoffs.

Figure A1: Histograms of cutoff scores and transition scores for observations in the administrative-data RD sample



The figure displays histograms of cutoff scores and transition scores for student-cutoff observations in the administrative-data RD sample. "All STEM vs. HSS cutoffs", "STEM-above cutoffs", and "HSS-above cutoffs" correspond to "RD sample-All students", "Prefer STEM", and "Prefer HSS" in Table A1, respectively. "Mean", "10th %tile", and "90th %tile" are the mean, 10th, and 90th percentiles of the listed variables in the given samples. See Table A1 for information on sample sizes.

Table A2: The share of student-cutoff observations in the administrative-data RD sample who are in-sample for STEM-above cutoffs

	% STEM-above	**Student-cutoffs**
All students	51	73,470
Stronger in math	61	45,077
Stronger in language	35	28,060
Male	53	31,900
Female	49	41,295
Low-achiever	30	27,204
High-achiever	63	46,266

The table lists the share of observations in the administrative-data RD sample who are in-sample for a STEM-above (rather than HSS-above) cutoff. "Stronger in math" ("language") is whether a student's math transition exam score is $\geq$ (<) their language score after demeaning scores by cohort. "Low-achiever" ("High-achiever") is whether the cutoff score for an observation's cutoff is $\leq$ (>) 8. "Student-cutoffs" is the total number of observations, over both STEM- and HSS-above cutoffs.

Table A3: The percent of students in the administrative data who rank both STEM and HSS

	At all	**In top 10**	**In top 5**	**Students**
All students	75	64	50	207,632
Top 70%	80	69	54	152,636
Stronger in math	77	64	49	95,755
Stronger in language	87	78	63	56,881
Male	77	64	50	72,181
Female	84	73	58	80,455
Low-achiever	84	75	61	56,618
High-achiever	79	65	50	96,018

The table displays the percent of students in the administrative data who rank both a STEM and an HSS track. "At all" is whether both track types are ranked among any of a student's choices. "In top 10" and "In top 5" are whether both are ranked in a student's 10 or 5 most-preferred choices. "Top 70%" is students with transition scores in the top 70% of the yearly national distribution. "Stronger in math", "Stronger in language", "Male", "Female", "Low-achiever", and "High-achiever" are subsets of "Top 70%". "Stronger in math" ("language") is whether a student's math transition exam score is $\geq$ (<) their language score after demeaning scores by cohort. "Low-achiever" ("High-achiever") is whether a student's transition score is $\leq$ (>) 8.

Table A4: Summary statistics on ranking STEM and HSS for students in the administrative data

	STEM				**HSS**				**Students**
	% rank at all	% rank in top 10	% rank in top 5	Minimum rank	% rank at all	% rank in top 10	% rank in top 5	Minimum rank	
All students	95	92	86	3.1	77	68	58	6.8	207,632
Top 70%	98	95	90	2.6	83	73	63	6.2	152,636
Stronger in math	98	97	94	2.1	78	67	54	7.4	95,755
Stronger in language	96	92	85	3.5	90	85	77	4.3	56,881
Male	98	96	93	2.2	78	67	55	7.3	72,181
Female	97	93	88	3.0	87	80	69	5.3	80,455
Low-achiever	97	94	88	3.1	86	80	71	5.0	56,618
High-achiever	98	95	92	2.3	81	70	58	7.0	96,018

The table provides summary statistics on students' ranking behavior with respect to STEM and HSS tracks. "Minimum rank" is the across-student mean of the lowest (most favorable) rank that a student gives to a track of a given type; if a student does not rank any track of the type, we impute a value of 14, which is the median total number of tracks ranked. Other details match those in Table A3.

A2 RD samples and validity tests

This appendix summarizes the various RD samples that we use in obtaining results and conducts a series of validity tests on them.

Depending on the outcome under consideration, we use six different RD samples. These are named according to the data source of the outcome.[63] The "2015-2017 and 2019 cohorts" sample is for outcomes that come from the administrative data and can be observed for all cohorts. "2015-2017 cohorts" is also from the administrative data but for outcomes based on high school enrollment histories, which are not available for the 2019 cohort. "End-of-high-school survey", "First follow-up survey", and "Second follow-up survey" are for outcomes obtained from the listed surveys. Finally, "First follow-up or peer surveys" is for outcomes based on questions asked in both of these surveys. Here, we first use the first follow-up survey and then impute missing values using the peer survey.[64]

In this appendix, we also study a seventh RD sample (the "2019 cohort"), which employs the administrative data for the 2019 cohort. In the main paper, we never use this sample to calculate results. However, the surveys apply to the 2019 cohort; thus, we include the sample as benchmark.

Figure A2 provides histograms of the running variable for each RD sample. The histograms show no evidence of bunching on either side of the RD thresholds. To rule out bunching more formally, we run the Cattaneo, Jansson, and Ma (2020) discontinuity-in-density test. For all samples, we fail to reject that the running variable density is continuous across the threshold. Moreover, none of the p-values are close to standard levels of significance.

Table A5 presents summary statistics and balance tests for the RD samples. The columns are for different covariates, and "Mean" and "Std. dev." are the mean and standard deviation of the listed variable in the given RD sample. "STEM" and "Intercept" are the same as in Panel A of Table 1—namely, the estimate of the ATE of STEM assignment, β, and the predicted value on the HSS side of the RD threshold. Finally, "Student-cutoffs" is the number of observations; the numbers of students and cutoffs are provided in the table notes.

Table A5 shows that covariates are well-balanced across the RD threshold for all samples. This is confirmed by tests of joint significance, which reveal that in no sample can we reject that all across-threshold covariate differences are zero.[65] When providing results in the rest of the paper, we always run a robustness specification that controls for the covariates in Table A5. As expected given the observed balance, we find that adding the covariates has little impact.

Table A6 explores whether STEM assignment affects the probability that a student appears in our surveys. In each panel, the sample is the "2019 cohort" RD sample, and the outcome is an indicator for being in the listed survey(s). "Mean" is the mean of the outcome among the sample; as always, "STEM" and "Intercept" are, respectively, the effect of STEM assignment and the predicted value for students at the RD threshold who are assigned to HSS. Results are provided for all students and by initial curricular preferences, relative academic strength, gender, and baseline achievement.

Table A6 has a few takeaways. First, 22% of the observations in the "2019 cohort" RD sample appear in the end-of-high-school survey. The corresponding shares in the first follow-up survey, the combination of the first follow-up and peer surveys, and the second follow-up survey are 7%,

63. The running variable is always from the administrative data.

64. Recall that first follow-up and peer surveys occurred at a similar time.

65. A complication is that β is mechanically zero for some covariates (scoring above a cutoff, being in-sample for a STEM- rather than HSS-above cutoff, and the overall transition score). We re-run the joint tests excluding these variables. P-values remain insignificant for all samples except "First follow-up or peer surveys", where we reject the null at a $p = 0.045$ confidence level.

18%, and 7%, respectively. Second, in no survey does STEM assignment significantly affect the overall response rate; however, effects on response rates can sometimes be statistically significant for particular student types. Third, the significance seems to be due to multiple hypothesis testing: When we run joint tests, we always fail to reject that effects are zero for all student types.

An important question is whether the survey-based RD samples are representative of those for the administrative data. Some insight can be gained from Table A5 by comparing covariate means and standard deviations for the different samples. These are usually quite similar, regardless of whether we compare the survey samples with the "2019 cohort" sample or with the entire "2015-2017 and 2019 cohorts" sample. An exception is that females represent a larger share of observations in the survey samples (64-67% versus 57% for "2019 cohort" and 56% for "2015-2017 and 2019"), which suggests that females were more willing than males to respond to our surveys.[66]

We gain additional evidence on representativeness by comparing treatment effects for different samples. Specifically, on each sample, we estimate the ATE of STEM assignment, β, for the outcomes that can be observed in all samples: attributes of students' assigned tracks (Table A7) and students' baccalaureate performance (Table A8). In the tables, the first panel is for the full data (the "2015-2017 and 2019 cohorts" sample) and matches the values presented elsewhere in the paper. The other panels restrict to observations from the given sample. In terms of results, the tables show that effect estimates for the survey samples are close to those for the administrative-data samples; this is especially the case when comparing to the "2019 cohort" sample.

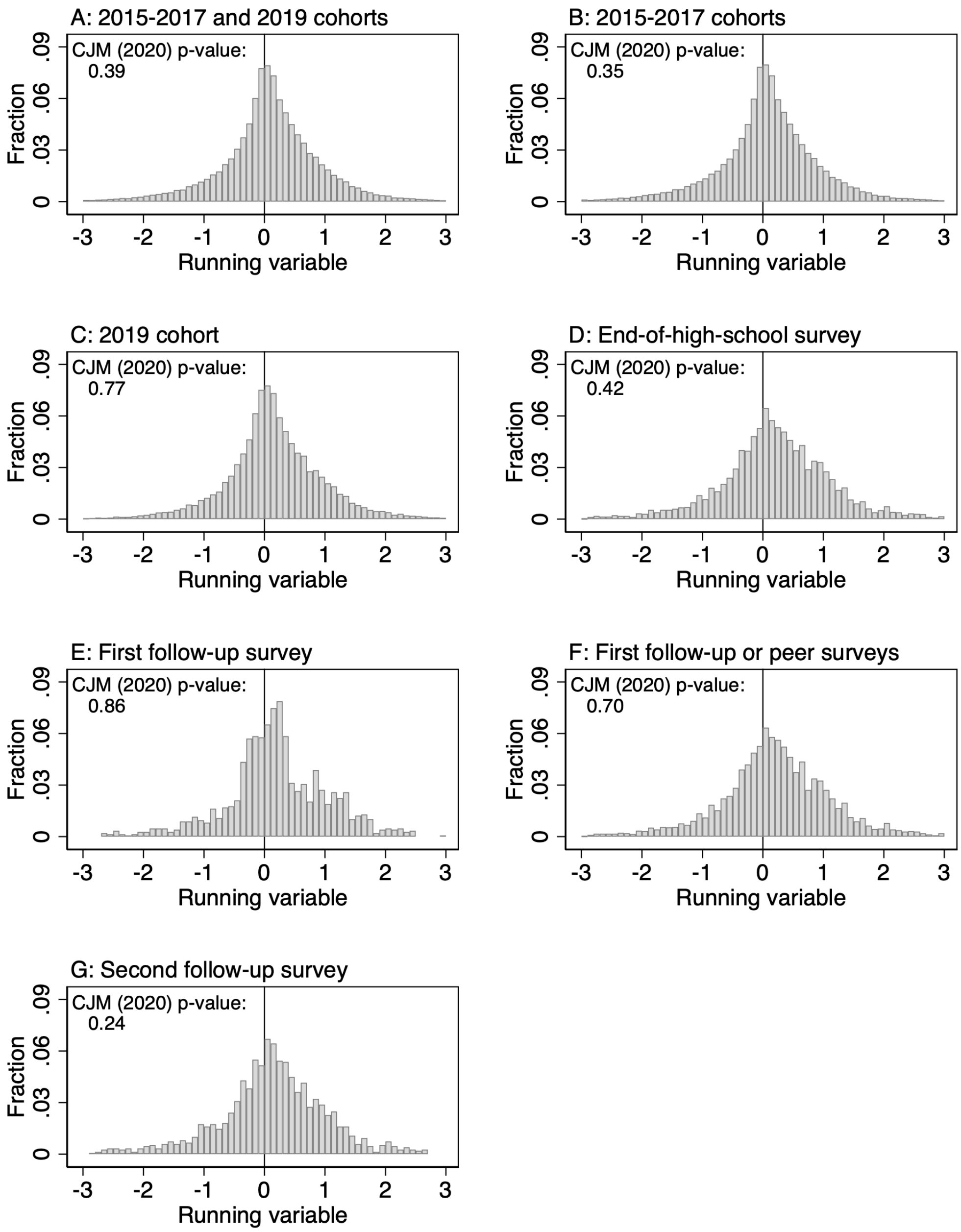
As a last exercise, we test survey quality. We exploit the fact that we have measures of baccalaureate performance in both the administrative data and in some of the surveys. In particular, in the administrative data, we observe actual performance for all students. Meanwhile, in the first follow-up survey we asked students to report their performance, and in the peer survey we asked students to report the performance of their peers.

Table A9 provides two sets of results related to the accuracy of reported baccalaureate performance. First, it displays the mean absolute difference (MAD) between reported and actual performance. Second, it presents estimates of the effect of STEM assignment on reported performance, which can be compared with the estimates for effects on actual performance in Table A8. Results are presented separately for the "First follow-up" and the "First follow-up or peer" RD samples, so as to illuminate whether response quality differs for self- and peer-reports. The results suggest that the survey responses are high quality. Mean absolute differences between reported and actual performance are small, and the effect estimates in Table A9 are similar to those in Table A8.

Overall, the results lend confidence to our empirical strategy and surveys. There is little evidence of manipulation of the running variable or selection into survey response. The RD samples for the surveys appear representative of those for the administrative data. Further, the quality of the survey responses seems high.

66. Another possibility is that more females were in class when we conducted the end-of-high-school survey. This is somewhat contradicted by the fact that high school graduation rates are similar by gender (Table A10).

Figure A2: Histograms of the running variable for the RD samples



The figure displays histograms of the running variable for the paper's various RD samples. See the text of Appendix A2 for definitions of the samples. The "CJM (2020) p-value" is the p-value from the Cattaneo, Jansson, and Ma (2020) discontinuity-in-density test. A small p-value would indicate rejection of the null that there is no bunching of the running variable at the RD threshold.

Table A5: Summary statistics and balance tests for the RD samples

	Above the cutoff	**Prefer STEM**	**Transition score** Overall score	Math exam score	Language exam score	Grades 5-8 GPA	**Female**	**Years of schooling** Father	Mother
Panel A: 2015-2017 and 2019 cohorts									
STEM	0.000	0.000	0.000	-0.005	0.000	0.005	-0.010	-	-
	(0.000)	(0.000)	(0.000)	(0.008)	(0.008)	(0.005)	(0.007)	-	-
Intercept	0.50	0.50	8.16	7.49	8.23	9.16	0.52	-	-
Mean	0.66	0.51	8.36	7.76	8.42	9.27	0.56	-	-
Std. dev.	0.47	0.50	1.01	1.57	1.10	0.57	0.50	-	-
Student-cutoffs	73,470	73,470	73,470	73,470	73,470	73,470	73,470	-	-
Panel B: 2015-2017 cohorts									
STEM	0.000	0.000	0.000	-0.000	-0.002	0.003	-0.007	-	-
	(0.000)	(0.000)	(0.000)	(0.009)	(0.009)	(0.006)	(0.009)	-	-
Intercept	0.50	0.50	8.21	7.67	8.19	9.13	0.52	-	-
Mean	0.66	0.52	8.42	7.94	8.40	9.24	0.56	-	-
Std. dev.	0.47	0.50	1.01	1.54	1.09	0.59	0.50	-	-
Student-cutoffs	55,221	55,221	55,221	55,221	55,221	55,221	55,221	-	-
Panel C: 2019 cohort									
STEM	0.000	0.000	0.000	-0.011	0.002	0.006	-0.021	-	-
	(0.000)	(0.000)	(0.000)	(0.016)	(0.016)	(0.010)	(0.015)	-	-
Intercept	0.50	0.50	7.98	6.95	8.37	9.26	0.55	-	-
Mean	0.64	0.48	8.16	7.22	8.49	9.33	0.57	-	-
Std. dev.	0.48	0.50	0.99	1.50	1.11	0.52	0.49	-	-
Student-cutoffs	18,249	18,249	18,249	18,249	18,249	18,249	18,249	-	-
Panel D: End-of-high-school survey									
STEM	0.000	0.000	0.000	-0.016	0.007	-0.007	-0.067*	-0.089	-0.088
	(0.000)	(0.000)	(0.000)	(0.039)	(0.038)	(0.021)	(0.034)	(0.116)	(0.117)
Intercept	0.50	0.50	7.88	6.76	8.31	9.27	0.64	13.0	13.5
Mean	0.65	0.48	8.08	7.09	8.45	9.34	0.64	13.2	13.5
Std. dev.	0.48	0.50	1.00	1.52	1.11	0.49	0.48	1.94	1.73
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987	3,987	3,987	3,987
Panel E: First follow-up survey									
STEM	0.000	0.000	0.000	0.021	0.001	-0.043	-0.026	-0.198	-0.116
	(0.000)	(0.000)	(0.000)	(0.067)	(0.061)	(0.039)	(0.061)	(0.270)	(0.213)
Intercept	0.50	0.50	7.98	6.88	8.41	9.32	0.66	13.2	13.5
Mean	0.66	0.51	8.19	7.25	8.54	9.38	0.67	13.1	13.5
Std. dev.	0.47	0.50	0.93	1.47	1.00	0.46	0.47	1.95	1.75
Student-cutoffs	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159
Panel F: First follow-up or peer surveys									
STEM	0.000	0.000	0.000	-0.021	0.009	-0.014	-0.063*	-0.082	-0.095
	(0.000)	(0.000)	(0.000)	(0.039)	(0.036)	(0.023)	(0.037)	(0.135)	(0.130)
Intercept	0.50	0.50	7.90	6.78	8.34	9.28	0.64	13.1	13.5
Mean	0.65	0.48	8.10	7.10	8.47	9.34	0.64	13.2	13.5
Std. dev.	0.48	0.50	1.00	1.52	1.09	0.50	0.48	1.92	1.73
Student-cutoffs	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327
Panel G: Second follow-up survey									
STEM	0.000	0.000	0.000	0.030	-0.012	0.001	-0.061	0.206	-0.071
	(0.000)	(0.000)	(0.000)	(0.067)	(0.056)	(0.042)	(0.063)	(0.258)	(0.216)
Intercept	0.50	0.50	7.93	6.81	8.35	9.30	0.63	12.7	13.2
Mean	0.66	0.48	8.14	7.17	8.51	9.36	0.64	13.1	13.4
Std. dev.	0.47	0.50	0.95	1.49	1.02	0.48	0.48	1.96	1.75
Student-cutoffs	1,199	1,199	1,199	1,199	1,199	1,199	1,199	1,199	1,199

The table presents summary statistics and balance tests for the RD samples. The columns list the covariates that are used as outcomes in the balance tests. The panels are for the different samples; see the text of Appendix A2 for definitions of the samples. "Mean" and "Std. dev." are the mean and standard deviation of a listed covariate in a given sample. "STEM" and "Intercept" have the same interpretation as in Panel A of Table 2. "Above the cutoff" and "Prefer STEM" are indicators for scoring above a cutoff and being in-sample for a STEM- rather than HSS-above cutoff. "Years of schooling" is from the end-of-high-school survey. Sample-specific p-values for tests that effects on the listed covariates are all zero are 0.353, 0.737, 0.585, 0.379, 0.959, 0.156, and 0.968, respectively. The effect of STEM assignment is mechanically zero for "Above the cutoff", "Prefer STEM", and the overall transition score. Excluding these variables, p-values become 0.362, 0.846, 0.333, 0.146, 0.888, 0.045, and 0.900. The numbers of students (cutoffs) in the samples are 62,301 (1,904), 46,789 (1,411), 15,512 (493), 3,562 (293), 1,046 (190), 2,978 (280), and 1,089 (198), respectively. Other details match those in Panel A of Table 2.

Table A6: Selection into the surveys

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: End-of-high-school survey									
STEM	0.010	0.005	0.015	0.007	0.009	0.039**	-0.007	0.020	0.006
	(0.015)	(0.015)	(0.024)	(0.016)	(0.021)	(0.018)	(0.019)	(0.025)	(0.016)
Intercept	0.19	0.18	0.21	0.18	0.20	0.15	0.22	0.20	0.17
Mean	0.22	0.22	0.22	0.21	0.23	0.19	0.25	0.24	0.20
Panel B: First follow-up survey									
STEM	0.002	0.006	-0.003	0.007	-0.003	0.010	-0.006	0.010	-0.003
	(0.008)	(0.009)	(0.011)	(0.010)	(0.012)	(0.010)	(0.012)	(0.012)	(0.010)
Intercept	0.07	0.07	0.08	0.06	0.08	0.05	0.09	0.07	0.07
Mean	0.07	0.07	0.06	0.07	0.07	0.05	0.08	0.07	0.07
Panel C: First follow-up or peer surveys									
STEM	0.008	0.005	0.010	0.002	0.009	0.030*	-0.005	0.022	0.001
	(0.012)	(0.013)	(0.019)	(0.015)	(0.018)	(0.016)	(0.017)	(0.020)	(0.014)
Intercept	0.16	0.15	0.18	0.15	0.17	0.13	0.19	0.17	0.15
Mean	0.18	0.18	0.19	0.18	0.19	0.15	0.21	0.20	0.17
Panel D: Second follow-up survey									
STEM	0.008	0.007	0.008	0.006	0.010	0.014	0.006	0.021*	-0.004
	(0.007)	(0.008)	(0.010)	(0.010)	(0.011)	(0.010)	(0.011)	(0.011)	(0.008)
Intercept	0.06	0.05	0.06	0.06	0.06	0.05	0.07	0.06	0.06
Mean	0.07	0.07	0.07	0.07	0.07	0.06	0.08	0.08	0.06
Student-cutoffs	18,249	8,850	9,399	9,320	8,837	7,773	10,399	8,703	9,546

The table presents results on selection into the surveys for observations from the "2019 cohort" RD sample. In each panel, the outcome is an indicator equal to 1 if an observation appears in the listed survey(s). The columns are for sub-samples representing different student types. "Prefer STEM" ("Prefer HSS") is students near STEM-above (HSS-above) cutoffs, "Stronger in Math" ("Language") is whether a student's math transition exam score is $\geq$ ($<$) their language score after demeaning scores by cohort, "Gender" is a student's gender, and "Achievement-Low" ("High") is whether a cutoff score is $\leq$ ($>$) 8. "Mean" is the mean of the outcome among a given sample. "STEM" and "Intercept" have the same interpretation as in Table 2. For "Prefer STEM" ("Prefer HSS"), the effect of STEM assignment is β_{SH} (β_{HS}). For the other columns, it is β. Panel-specific p-values for tests that the effects by student type are all zero are 0.397, 0.924, 0.449, and 0.337, respectively. The number of observations is the same for all outcomes, so it is displayed in a single row at the bottom of the table.

Table A7: Effects on attributes of students' assigned tracks by RD sample

	Average		**Share female**
	Transition score	Math vs. language transition exam score	
Panel A: 2015-2017 and 2019 cohorts			
STEM	-0.007	0.357***	-0.150***
	(0.007)	(0.010)	(0.004)
Intercept	8.33	-0.89	0.66
Student-cutoffs	73,470	73,470	73,470
Panel B: 2015-2017 cohorts			
STEM	-0.011	0.351***	-0.151***
	(0.008)	(0.011)	(0.005)
Intercept	8.40	-0.67	0.66
Student-cutoffs	55,221	55,221	55,221
Panel C: 2019 cohort			
STEM	0.009	0.387***	-0.149***
	(0.015)	(0.019)	(0.008)
Intercept	8.14	-1.56	0.66
Student-cutoffs	18,249	18,249	18,249
Panel D: End-of-high-school survey			
STEM	0.012	0.405***	-0.132***
	(0.027)	(0.030)	(0.013)
Intercept	8.08	-1.65	0.65
Student-cutoffs	3,987	3,987	3,987
Panel E: First follow-up survey			
STEM	0.013	0.437***	-0.121***
	(0.038)	(0.038)	(0.018)
Intercept	8.16	-1.65	0.65
Student-cutoffs	1,159	1,159	1,159
Panel F: First follow-up or peer surveys			
STEM	0.014	0.410***	-0.129***
	(0.028)	(0.031)	(0.014)
Intercept	8.10	-1.65	0.65
Student-cutoffs	3,327	3,327	3,327
Panel G: Second follow-up survey			
STEM	-0.017	0.415***	-0.134***
	(0.034)	(0.045)	(0.021)
Intercept	8.14	-1.67	0.65
Student-cutoffs	1,199	1,199	1,199

The table is the same as Panel A of Table 2 but for the listed RD samples.

Table A8: Effects on baccalaureate performance by RD sample

	All students			Low-achievers			High-achievers		
	Take the exam	Pass the exam	Exam score	Take the exam	Pass the exam	Exam score	Take the exam	Pass the exam	Exam score
Panel A: 2015-2017 and 2019 cohorts									
STEM	-0.011***	-0.036***	-0.351***	-0.035***	-0.111***	-0.502***	-0.001	-0.008**	-0.302***
	(0.003)	(0.004)	(0.015)	(0.007)	(0.010)	(0.032)	(0.003)	(0.003)	(0.016)
Intercept	0.95	0.92	8.08	0.92	0.86	7.45	0.98	0.97	8.44
Student-cutoffs	73,470	73,470	69,938	27,204	27,204	24,751	46,266	46,266	45,187
Panel B: 2015-2017 cohorts									
STEM	-0.012***	-0.039***	-0.341***	-0.047***	-0.135***	-0.507***	-0.001	-0.008**	-0.298***
	(0.003)	(0.005)	(0.017)	(0.010)	(0.013)	(0.040)	(0.003)	(0.004)	(0.018)
Intercept	0.95	0.91	8.06	0.91	0.84	7.34	0.97	0.97	8.41
Student-cutoffs	55,221	55,221	52,369	18,501	18,501	16,561	36,720	36,720	35,808
Panel C: 2019 cohort									
STEM	-0.007	-0.030***	-0.390***	-0.013	-0.068***	-0.503***	-0.002	-0.005	-0.318***
	(0.005)	(0.007)	(0.028)	(0.010)	(0.015)	(0.051)	(0.005)	(0.005)	(0.036)
Intercept	0.97	0.94	8.14	0.95	0.92	7.69	0.99	0.98	8.54
Student-cutoffs	18,249	18,249	17,569	8,703	8,703	8,190	9,546	9,546	9,379
Panel D: End-of-high-school survey									
STEM	0.001	-0.023**	-0.455***	-0.003	-0.050**	-0.479***	0.006	0.006	-0.376***
	(0.006)	(0.010)	(0.057)	(0.015)	(0.020)	(0.107)	(0.005)	(0.009)	(0.083)
Intercept	0.99	0.96	8.27	0.98	0.95	7.81	0.99	0.99	8.71
Student-cutoffs	3,987	3,987	3,929	2,093	2,093	2,038	1,894	1,894	1,891
Panel E: First follow-up survey									
STEM	-0.004	-0.015	-0.551***	-0.007	-0.061*	-0.678***	0.000	0.023	-0.499***
	(0.009)	(0.019)	(0.096)	(0.015)	(0.033)	(0.172)	(0.000)	(0.019)	(0.148)
Intercept	0.99	0.99	8.45	0.99	0.99	8.04	1.00	0.99	8.86
Student-cutoffs	1,159	1,159	1,149	547	547	537	612	612	612
Panel F: First follow-up or peer surveys									
STEM	-0.009	-0.027**	-0.438***	-0.023	-0.065***	-0.435***	0.002	0.008	-0.353***
	(0.006)	(0.012)	(0.061)	(0.014)	(0.023)	(0.113)	(0.002)	(0.008)	(0.086)
Intercept	0.99	0.97	8.28	1.00	0.97	7.80	1.00	0.99	8.71
Student-cutoffs	3,327	3,327	3,282	1,703	1,703	1,659	1,624	1,624	1,623
Panel G: Second follow-up survey									
STEM	0.010	-0.014	-0.358***	0.005	-0.075*	-0.134	0.013	0.022	-0.391***
	(0.008)	(0.021)	(0.107)	(0.007)	(0.039)	(0.165)	(0.012)	(0.014)	(0.143)
Intercept	0.99	0.97	8.25	0.99	0.98	7.66	0.98	0.98	8.75
Student-cutoffs	1,199	1,199	1,185	618	618	606	581	581	579

The table presents results for the ATE of STEM assignment, β, on baccalaureate performance for the listed RD samples. The values in Panel A under the "All students" heading match those in the first three columns of Table 6. The Panel A values under "Low-achievers" ("High-achievers") match the values for "Achievement-Low" ("High") in the first three panels of Table A25. "Exam score" is not available for students who did not take the exam. Other details are as in Panel A of Table 2.

Table A9: Effects on reported baccalaureate performance in the survey RD samples

	First follow-up			**First follow-up or peer**	
	Take the exam	Pass the exam	Exam score	Take the exam	Pass the exam
Panel A: All students					
STEM	-0.004	-0.011	-0.469***	-0.004	-0.030***
	(0.009)	(0.018)	(0.126)	(0.003)	(0.011)
Intercept	1.00	0.99	8.55	1.00	0.98
Std. dev.	0.08	0.14	1.09	0.08	0.20
MAD: survey vs. admin.	0.01	0.01	0.24	0.01	0.02
Student-cutoffs	1,159	1,159	1,130	3,327	3,327
Panel B: Low-achievers					
STEM	-0.018	-0.045	-0.783***	-0.008	-0.055***
	(0.015)	(0.033)	(0.187)	(0.006)	(0.021)
Intercept	1.00	0.98	8.37	0.99	0.96
Std. dev.	0.10	0.19	1.12	0.10	0.26
MAD: survey vs. admin.	0.01	0.02	0.31	0.02	0.04
Student-cutoffs	547	547	527	1,703	1,703
Panel C: High-achievers					
STEM	0.000	0.008	-0.313	0.000	-0.006
	(0.000)	(0.012)	(0.194)	(0.000)	(0.006)
Intercept	1.00	1.01	8.83	1.00	1.00
Std. dev.	0.04	0.07	0.94	0.02	0.07
MAD: survey vs. admin.	0.00	0.00	0.19	0.00	0.00
Student-cutoffs	612	612	603	1,624	1,624

The table presents results for the ATE of STEM assignment, β, on reported baccalaureate performance from the surveys. "First follow-up" uses self-reports from the first follow-up survey. "First follow-up or peer" fills in peer-reports for students who did not respond to the first follow-up survey. "MAD: survey vs. admin." is the mean absolute difference between the given survey-based outcome and the corresponding outcome from the administrative data. "Low-achievers" and "High-achievers" use the same sample split as in the "Achievement-Low" and "High" columns in Table A6. Other details match those in Panel A of Table 2.

A3 Additional results for high school enrollment and graduation

Table A10: Heterogeneity for effects on high school enrollment and graduation

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Years of enrollment									
STEM	0.002	0.000	0.003	0.010	-0.017	0.008	0.000	0.007	-0.000
	(0.007)	(0.008)	(0.008)	(0.009)	(0.011)	(0.010)	(0.009)	(0.016)	(0.008)
Intercept	3.91	3.92	3.90	3.91	3.91	3.90	3.91	3.87	3.93
Panel B: Years of STEM enrollment									
STEM	3.08***	3.01***	3.14***	3.00***	3.22***	2.87***	3.26***	3.25***	3.02***
	(0.023)	(0.030)	(0.027)	(0.028)	(0.031)	(0.033)	(0.025)	(0.038)	(0.028)
Intercept	0.50	0.68	0.32	0.66	0.22	0.68	0.34	0.13	0.66
Panel C: Years of HSS enrollment									
STEM	-3.09***	-3.02***	-3.16***	-3.00***	-3.27***	-2.86***	-3.28***	-3.27***	-3.03***
	(0.023)	(0.031)	(0.027)	(0.028)	(0.031)	(0.034)	(0.025)	(0.040)	(0.028)
Intercept	3.36	3.21	3.52	3.21	3.63	3.17	3.53	3.65	3.24
Panel D: Years of Other enrollment									
STEM	0.015**	0.006	0.024***	0.008	0.030**	0.004	0.022***	0.035*	0.004
	(0.006)	(0.007)	(0.009)	(0.007)	(0.011)	(0.009)	(0.008)	(0.019)	(0.006)
Intercept	0.05	0.03	0.06	0.04	0.05	0.06	0.04	0.08	0.03
Panel E: Graduate									
STEM	-0.003	-0.006*	0.001	-0.001	-0.007	-0.002	-0.001	-0.011	-0.001
	(0.003)	(0.003)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)	(0.008)	(0.003)
Intercept	0.96	0.97	0.95	0.97	0.96	0.96	0.96	0.94	0.98
Panel F: Graduate in STEM									
STEM	0.694***	0.673***	0.714***	0.674***	0.732***	0.630***	0.751***	0.732***	0.683***
	(0.007)	(0.010)	(0.009)	(0.009)	(0.011)	(0.011)	(0.009)	(0.013)	(0.009)
Intercept	0.16	0.22	0.10	0.21	0.07	0.21	0.11	0.04	0.21
Panel G: Graduate in HSS									
STEM	-0.703***	-0.682***	-0.724***	-0.679***	-0.751***	-0.637***	-0.760***	-0.755***	-0.687***
	(0.008)	(0.010)	(0.009)	(0.009)	(0.010)	(0.011)	(0.008)	(0.013)	(0.009)
Intercept	0.80	0.75	0.84	0.75	0.88	0.74	0.85	0.88	0.76
Panel H: Graduate in Other									
STEM	0.007***	0.003	0.011***	0.005**	0.011***	0.006*	0.008***	0.012**	0.004**
	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)	(0.003)	(0.003)	(0.006)	(0.002)
Intercept	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01
Student-cutoffs	55,221	28,526	26,695	35,757	19,223	24,127	30,896	18,501	36,720

The table shows heterogeneity for the effects in Table 3. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A11: Effects on high school enrollment and graduation with no restriction on outcome timing

	Years of enrollment				Graduate			
	All	STEM	HSS	Other	All	STEM	HSS	Other
STEM	0.004	3.08***	-3.09***	0.014**	-0.001	0.697***	-0.704***	0.006***
	(0.007)	(0.023)	(0.023)	(0.006)	(0.003)	(0.007)	(0.008)	(0.002)
Intercept	3.91	0.50	3.37	0.05	0.97	0.16	0.80	0.01
Student-cutoffs	55,221	55,221	55,221	55,221	55,221	55,221	55,221	55,221

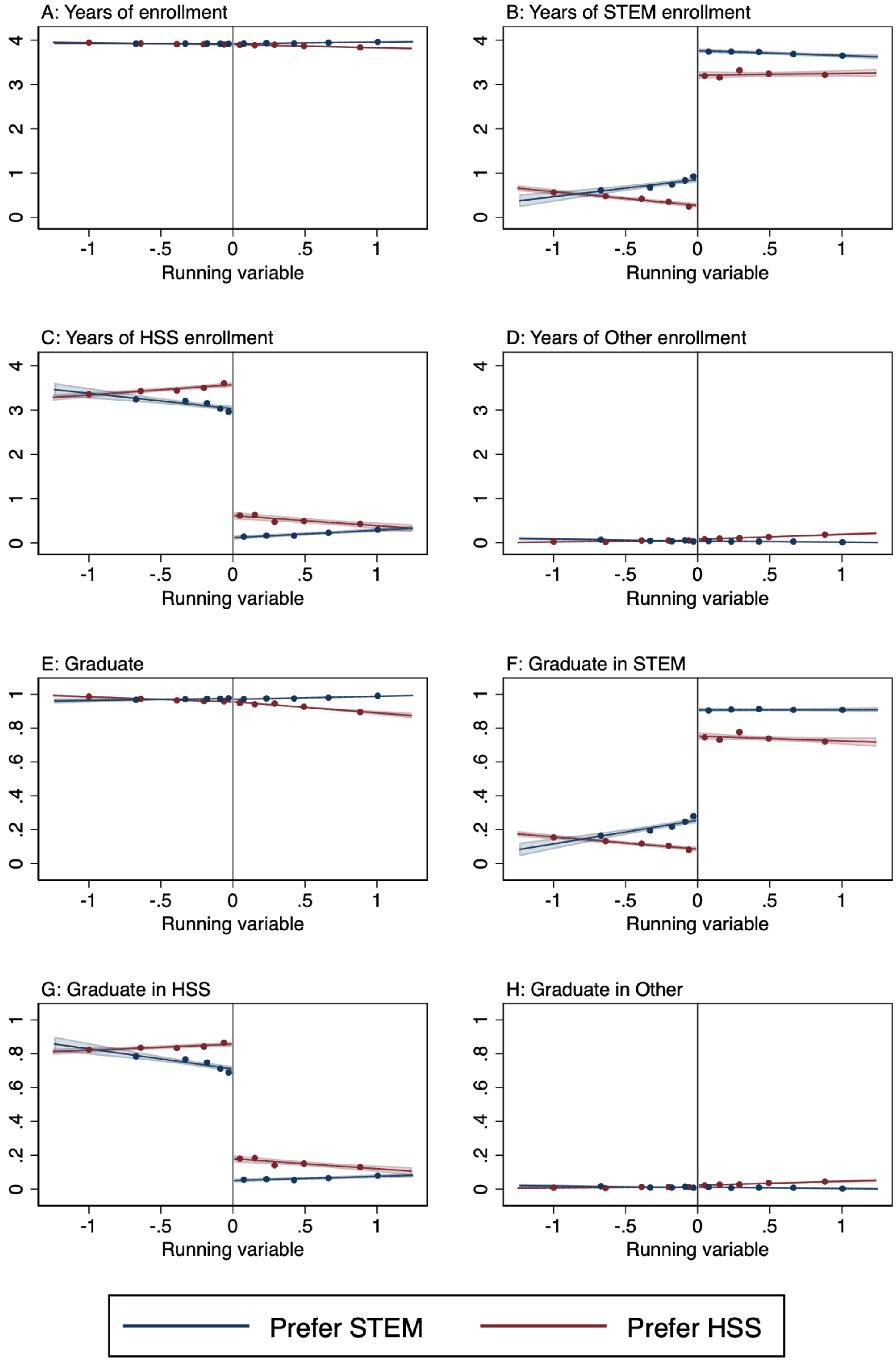
The table is analogous to Table 3; however, outcomes are measured over all years after track assignment, not just the first four.

Table A12: Robustness for effects on high school enrollment and graduation

	Main	Alternative bandwidths				Adding covariates
		0.75	1.00	1.50	1.75	
Panel A: Years of enrollment						
STEM	0.002	0.001	0.001	0.001	-0.000	0.002
	(0.007)	(0.008)	(0.007)	(0.006)	(0.006)	(0.007)
Panel B: Years of STEM enrollment						
STEM	3.08***	3.04***	3.06***	3.09***	3.10***	3.08***
	(0.023)	(0.025)	(0.024)	(0.022)	(0.021)	(0.023)
Panel C: Years of HSS enrollment						
STEM	-3.09***	-3.05***	-3.07***	-3.11***	-3.12***	-3.09***
	(0.023)	(0.026)	(0.024)	(0.022)	(0.022)	(0.023)
Panel D: Years of Other enrollment						
STEM	0.015**	0.010	0.009	0.018***	0.018***	0.015**
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Panel E: Graduate						
STEM	-0.003	-0.005	-0.004	-0.004	-0.004	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Panel F: Graduate in STEM						
STEM	0.694***	0.683***	0.688***	0.697***	0.701***	0.693***
	(0.007)	(0.008)	(0.008)	(0.007)	(0.007)	(0.007)
Panel G: Graduate in HSS						
STEM	-0.703***	-0.693***	-0.697***	-0.709***	-0.713***	-0.703***
	(0.008)	(0.009)	(0.008)	(0.007)	(0.007)	(0.008)
Panel H: Graduate in Other						
STEM	0.007***	0.005***	0.005***	0.008***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Student-cutoffs	55,221	44,749	51,050	58,122	60,052	55,221

The table shows robustness for the effects in Table 3. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score and an indicator for female. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A3: RD plots of effects on high school enrollment and graduation



The figure displays RD plots for effects on the outcomes in Table 3. See the notes to Figure 1 for details on RD plots.

A4 Additional results for college enrollment and desired careers

Table A13: Heterogeneity for effects on college enrollment

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: College plans at the end of high school: any college									
STEM	0.010	0.009	0.010	-0.003	-0.007	0.110***	-0.030	-0.043	0.044*
	(0.018)	(0.023)	(0.026)	(0.029)	(0.025)	(0.042)	(0.020)	(0.030)	(0.026)
Intercept	0.87	0.92	0.83	0.88	0.88	0.76	0.93	0.86	0.92
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel B: College plans at the end of high school: STEM									
STEM	0.233***	0.270***	0.196***	0.267***	0.199***	0.293***	0.207***	0.208***	0.226***
	(0.035)	(0.048)	(0.045)	(0.050)	(0.052)	(0.058)	(0.041)	(0.062)	(0.046)
Intercept	0.31	0.36	0.27	0.36	0.29	0.31	0.31	0.25	0.41
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel C: College plans at the end of high school: humanities, law, or social science									
STEM	-0.224***	-0.247***	-0.202***	-0.230***	-0.238***	-0.176***	-0.251***	-0.184***	-0.232***
	(0.032)	(0.048)	(0.036)	(0.045)	(0.048)	(0.049)	(0.040)	(0.049)	(0.045)
Intercept	0.39	0.42	0.37	0.35	0.43	0.26	0.48	0.35	0.41
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel D: College enrollment one year after high school: any college									
STEM	-0.037	-0.065**	-0.009	-0.055	-0.058	0.019	-0.054*	-0.089*	-0.002
	(0.025)	(0.032)	(0.035)	(0.041)	(0.038)	(0.050)	(0.032)	(0.046)	(0.029)
Intercept	0.82	0.90	0.74	0.85	0.79	0.76	0.84	0.77	0.91
Student-cutoffs	3,327	1,600	1,727	1,591	1,658	1,146	2,098	1,703	1,624
Panel E: College enrollment one year after high school: STEM									
STEM	0.246***	0.259***	0.233***	0.221***	0.287***	0.276***	0.210***	0.219***	0.297***
	(0.036)	(0.052)	(0.040)	(0.065)	(0.046)	(0.060)	(0.044)	(0.052)	(0.050)
Intercept	0.28	0.32	0.25	0.39	0.21	0.30	0.28	0.22	0.34
Student-cutoffs	3,327	1,600	1,727	1,591	1,658	1,146	2,098	1,703	1,624
Panel F: College enrollment one year after high school: humanities, law, or social science									
STEM	-0.261***	-0.308***	-0.215***	-0.285***	-0.271***	-0.207***	-0.280***	-0.219***	-0.313***
	(0.031)	(0.037)	(0.043)	(0.044)	(0.046)	(0.051)	(0.045)	(0.042)	(0.054)
Intercept	0.38	0.42	0.34	0.34	0.41	0.26	0.46	0.34	0.44
Student-cutoffs	3,327	1,600	1,727	1,591	1,658	1,146	2,098	1,703	1,624

The table shows heterogeneity for some of the results in Table 4. See the notes to Table A6 for definitions of the column headings.

Table A14: Effects on college enrollment: students from the first follow-up or peer surveys

	Any	STEM				Hum., law, or social science				Other/ unsure
		Any	Math or CS	Natural science	Business or econ.	Any	Humanities	Law	Social science	
Panel A: College plans at the end of high school										
STEM	0.018	0.250***	0.159***	0.035	0.056**	-0.232***	-0.073***	-0.056**	-0.103***	0.000
	(0.020)	(0.036)	(0.026)	(0.025)	(0.026)	(0.034)	(0.021)	(0.023)	(0.022)	(0.024)
Intercept	0.88	0.31	0.08	0.10	0.13	0.41	0.13	0.12	0.15	0.16
Panel B: College enrollment one year after high school										
STEM	-0.037	0.246***	0.192***	0.015	0.039	-0.261***	-0.123***	-0.092***	-0.046***	-0.022
	(0.025)	(0.036)	(0.031)	(0.022)	(0.026)	(0.031)	(0.021)	(0.021)	(0.017)	(0.027)
Intercept	0.82	0.28	0.11	0.08	0.10	0.38	0.17	0.13	0.08	0.16
Student-cutoffs	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327	3,327

The table is analogous to Table 4, but restricted to students from the first follow-up or peer surveys. The sample is the same across panels, so it is presented in a single row at the bottom of the table.

Table A15: Effects on college enrollment: students from the first follow-up survey

	Any	STEM				Hum., law, or social science				Other/ unsure
		Any	Math or CS	Natural science	Business or econ.	Any	Humanities	Law	Social science	
Panel A: College plans at the end of high school										
STEM	0.018	0.178***	0.184***	0.000	-0.006	-0.224***	-0.061	-0.053	-0.110***	0.065
	(0.029)	(0.061)	(0.048)	(0.037)	(0.041)	(0.056)	(0.038)	(0.035)	(0.037)	(0.045)
Intercept	0.88	0.39	0.10	0.13	0.16	0.40	0.13	0.12	0.16	0.10
Panel B: College enrollment one year after high school										
STEM	-0.021	0.223***	0.213***	-0.005	0.015	-0.225***	-0.081**	-0.103***	-0.041	-0.019
	(0.045)	(0.057)	(0.059)	(0.039)	(0.048)	(0.052)	(0.040)	(0.033)	(0.033)	(0.038)
Intercept	0.82	0.36	0.11	0.09	0.16	0.35	0.12	0.13	0.09	0.12
Student-cutoffs	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159

The table is analogous to Table 4, but restricted to students from the first follow-up survey. The sample is the same across panels, so it is presented in a single row at the bottom of the table.

Table A16: Effects on college enrollment: students from the second follow-up survey

	Any	STEM				Hum., law, or social science				Other/ unsure
		Any	Math or CS	Natural science	Business or econ.	Any	Humanities	Law	Social science	
Panel A: College plans at the end of high school										
STEM	0.040	0.207***	0.196***	0.034	-0.023	-0.173***	-0.016	-0.050	-0.107***	0.006
	(0.031)	(0.058)	(0.043)	(0.039)	(0.045)	(0.059)	(0.037)	(0.040)	(0.039)	(0.038)
Intercept	0.85	0.35	0.09	0.11	0.16	0.37	0.09	0.12	0.16	0.13
Panel B: College enrollment a year and a half after high school										
STEM	0.001	0.242***	0.204***	0.001	0.038	-0.170***	0.040	-0.123***	-0.087***	-0.071*
	(0.031)	(0.053)	(0.054)	(0.037)	(0.043)	(0.051)	(0.036)	(0.039)	(0.029)	(0.039)
Intercept	0.87	0.35	0.13	0.10	0.12	0.32	0.04	0.16	0.12	0.19
Student-cutoffs	1,199	1,199	1,199	1,199	1,199	1,199	1,199	1,199	1,199	1,199

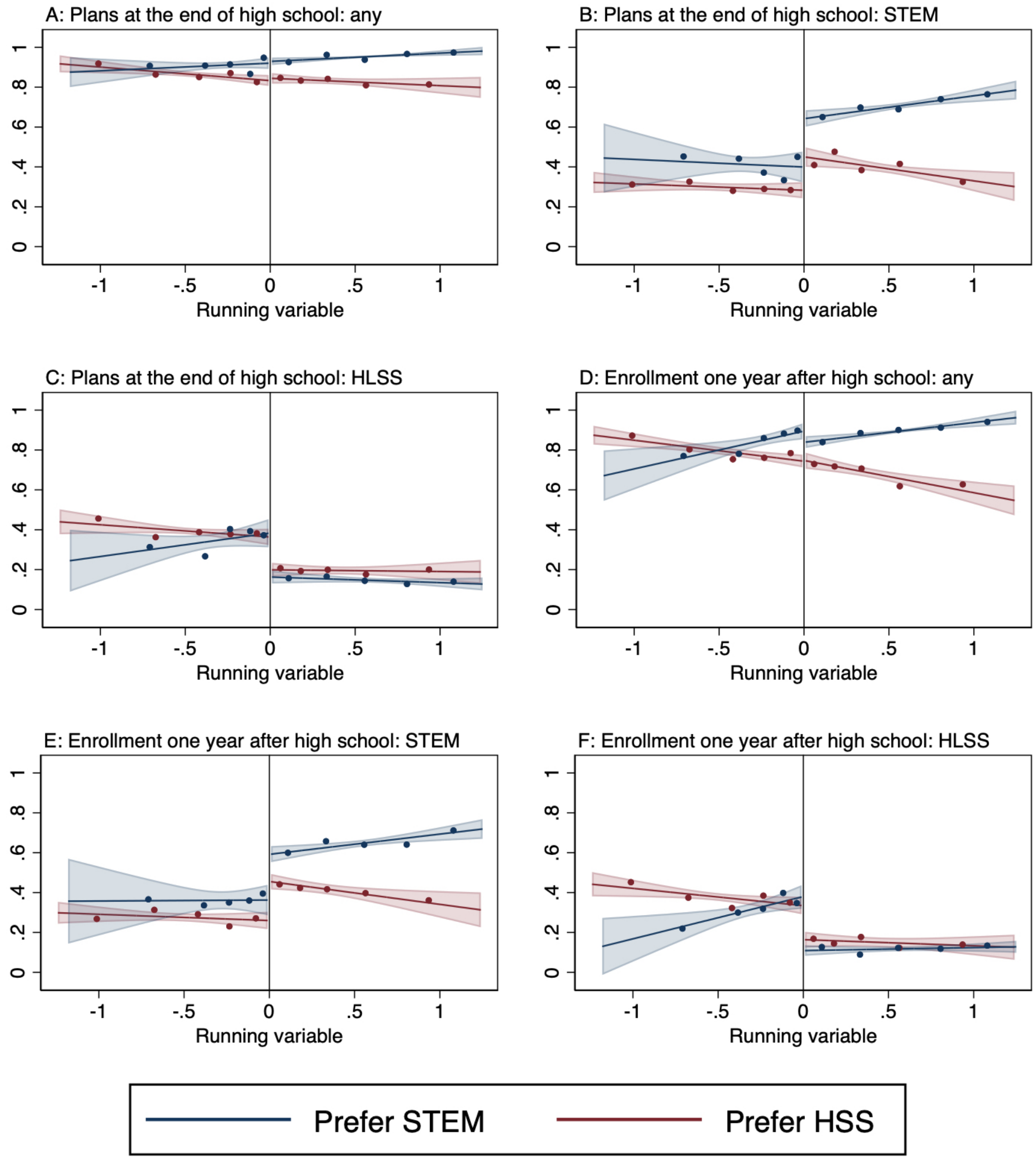
The table is analogous to Table 4, but restricted to students from the second follow-up survey, which occurred one and a half years after high school. The sample is the same across panels, so it is presented in a single row at the bottom of the table.

Table A17: Robustness for effects on college enrollment

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: College plans at the end of high school: any college						
STEM	0.010	0.007	0.021	0.019	0.022	0.015
	(0.018)	(0.021)	(0.019)	(0.017)	(0.017)	(0.018)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987
Panel B: College plans at the end of high school: STEM						
STEM	0.233***	0.242***	0.242***	0.229***	0.230***	0.230***
	(0.035)	(0.039)	(0.036)	(0.034)	(0.032)	(0.035)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987
Panel C: College plans at the end of high school: humanities, law, or social science						
STEM	-0.224***	-0.239***	-0.224***	-0.218***	-0.213***	-0.216***
	(0.032)	(0.038)	(0.034)	(0.031)	(0.030)	(0.031)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987
Panel D: College enrollment one year after high school: any college						
STEM	-0.037	-0.058**	-0.047*	-0.031	-0.024	-0.034
	(0.025)	(0.027)	(0.025)	(0.025)	(0.025)	(0.025)
Student-cutoffs	3,327	2,520	2,991	3,555	3,692	3,327
Panel E: College enrollment one year after high school: STEM						
STEM	0.246***	0.243***	0.235***	0.251***	0.248***	0.243***
	(0.036)	(0.040)	(0.035)	(0.033)	(0.032)	(0.035)
Student-cutoffs	3,327	2,520	2,991	3,555	3,692	3,327
Panel F: College enrollment one year after high school: humanities, law, or social science						
STEM	-0.261***	-0.277***	-0.257***	-0.264***	-0.260***	-0.255***
	(0.031)	(0.036)	(0.032)	(0.030)	(0.030)	(0.030)
Student-cutoffs	3,327	2,520	2,991	3,555	3,692	3,327

The table shows robustness for the effects in Table A13. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Figure A4: RD plots of effects on college enrollment



The figure displays RD plots for effects on the outcomes in Table A13. See the notes to Figure 1 for details on RD plots.

Table A18: Effects on additional college outcomes

	Type of college				**Paying for college**			**Pass winter exams**	**Expect to finish**
	Any	Public	Private	Outside Romania	Scholar-ship	Tuition waiver	Out of pocket		
Panel A: All students									
STEM	-0.021	-0.018	-0.019	0.015	-0.125***	0.084	0.002	-0.020	-0.025
	(0.045)	(0.048)	(0.016)	(0.013)	(0.046)	(0.060)	(0.052)	(0.132)	(0.134)
Intercept	0.82	0.78	0.04	0.00	0.27	0.35	0.27	3.24	3.28
Std. dev.	0.38	0.42	0.13	0.17	0.43	0.49	0.45	1.11	1.19
Student-cutoffs	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159	1,159
Panel B: Low-achievers									
STEM	-0.124	-0.133	0.009	-0.001	-0.235***	0.013	-0.026	-0.385	-0.288
	(0.087)	(0.083)	(0.019)	(0.006)	(0.076)	(0.091)	(0.107)	(0.241)	(0.252)
Intercept	0.82	0.79	0.01	0.02	0.32	0.31	0.29	3.34	3.21
Std. dev.	0.44	0.45	0.14	0.09	0.39	0.46	0.45	1.25	1.32
Student-cutoffs	547	547	547	547	547	547	547	547	547
Panel C: High-achievers									
STEM	-0.004	0.007	-0.022	0.011	-0.105	0.205**	-0.049	0.151	-0.068
	(0.046)	(0.058)	(0.025)	(0.025)	(0.073)	(0.090)	(0.070)	(0.152)	(0.139)
Intercept	0.91	0.86	0.04	0.01	0.27	0.36	0.31	3.33	3.62
Std. dev.	0.31	0.38	0.13	0.22	0.46	0.50	0.44	0.93	1.02
Student-cutoffs	612	612	612	612	612	612	612	612	612

The table presents results for the ATE of STEM assignment, β, for additional college outcomes. Outcomes are from the first follow-up survey and thus are measured a year after high school. The variables under the "Type of college" and "Paying for college" headings are indicators. For "Type of college", "Any" equals 1 if a student is enrolled in college, while the other variables equal 1 if a student is enrolled in a college of the listed type. For "Paying for college", the variables equal 1 if a student pays for college using the given method. The college types are mutually exclusive; the ways of paying for college are not. See Footnote 16 for details on paying for college. "Pass winter exams" and "Expect to finish" are on a scale of 1-4. For "Pass winter exams", 1 is if a student passed none of the first-year winter exams for their college program or was never enrolled in college, 2 is if they passed some of the exams, 3 is if they passed most, and 4 is if they passed all. For "Expect to finish", 1 is if a student does not think they will finish their college program or was not enrolled in college at the time of the survey, 2 is if finishing is somewhat likely, 3 is if it is likely, and 4 is if finishing is very likely. "Low-achievers" and "High-achievers" reflect the same sample split as "Achievement-Low" and "Achievement-High" in Table A6. Other details are as in Panel A of Table 2.

Table A19: Heterogeneity for effects on desired careers one year after high school

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Technology or engineering									
STEM	0.254***	0.333***	0.175**	0.245***	0.257***	0.360***	0.183***	0.129	0.339***
	(0.051)	(0.072)	(0.067)	(0.084)	(0.063)	(0.119)	(0.051)	(0.105)	(0.066)
Intercept	0.10	0.10	0.10	0.17	0.07	0.21	0.09	0.19	0.06
Panel B: Medicine									
STEM	-0.041	-0.033	-0.049	-0.051	-0.035	-0.084*	-0.014	-0.050	0.002
	(0.044)	(0.056)	(0.059)	(0.070)	(0.059)	(0.045)	(0.068)	(0.065)	(0.070)
Intercept	0.17	0.17	0.17	0.14	0.16	0.09	0.18	0.11	0.18
Panel C: Business or economics									
STEM	-0.040	-0.090	0.009	0.030	-0.035	-0.034	-0.033	0.157*	-0.161
	(0.063)	(0.072)	(0.093)	(0.094)	(0.088)	(0.117)	(0.077)	(0.080)	(0.102)
Intercept	0.33	0.35	0.31	0.37	0.25	0.29	0.33	0.12	0.44
Panel D: Art, education, law, or social services									
STEM	-0.145***	-0.169**	-0.121**	-0.166**	-0.202***	-0.169**	-0.140**	-0.228**	-0.173***
	(0.046)	(0.072)	(0.049)	(0.067)	(0.070)	(0.077)	(0.062)	(0.112)	(0.056)
Intercept	0.23	0.22	0.24	0.18	0.32	0.18	0.26	0.36	0.22
Panel E: Other/unsure									
STEM	-0.028	-0.041	-0.014	-0.058	0.015	-0.074	0.004	-0.007	-0.008
	(0.040)	(0.056)	(0.050)	(0.065)	(0.051)	(0.101)	(0.047)	(0.090)	(0.044)
Intercept	0.17	0.16	0.18	0.14	0.19	0.23	0.13	0.21	0.10
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

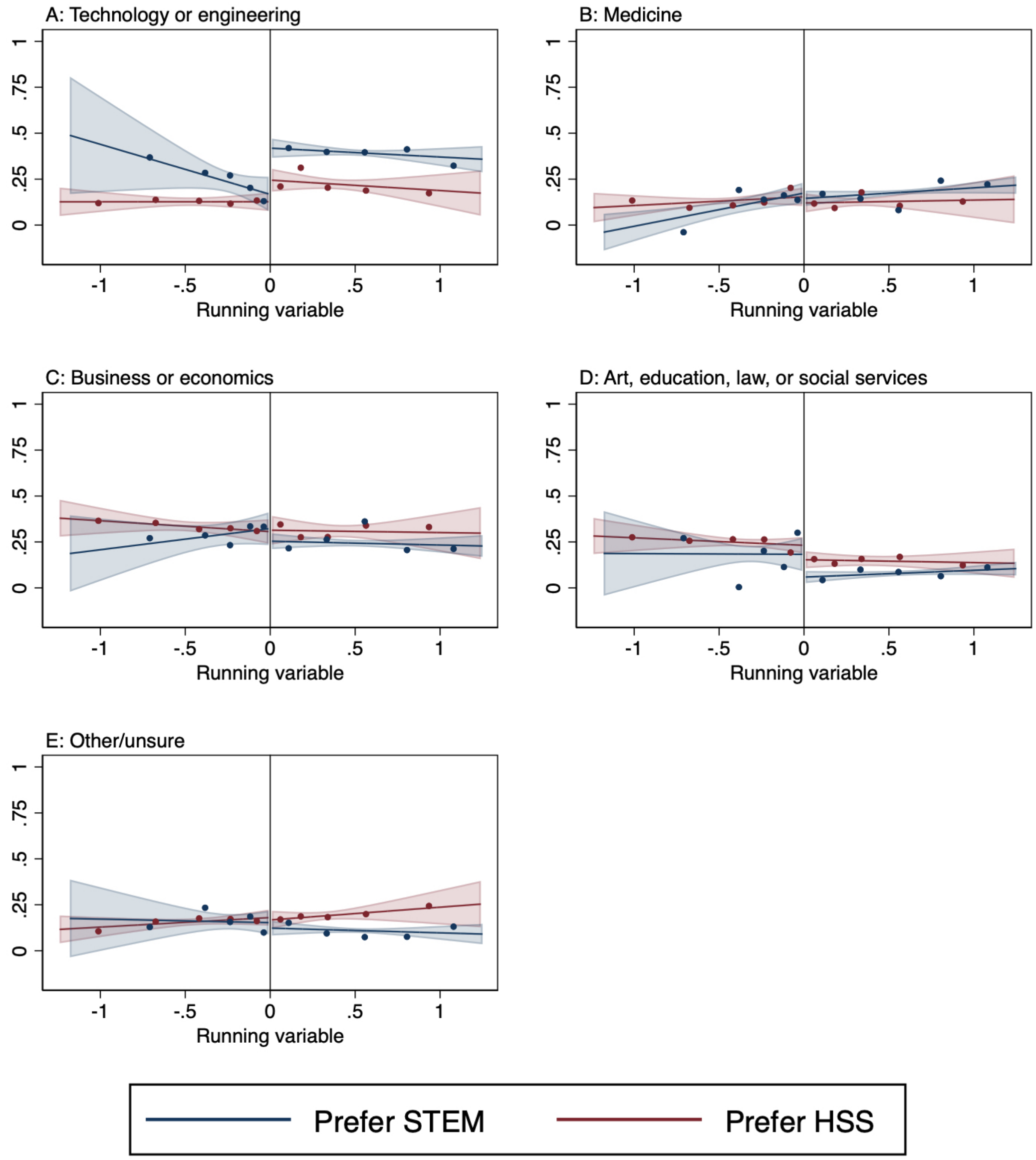
The table shows heterogeneity for the effects in Table 5. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A20: Robustness for effects on desired careers one year after high school

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Technology or engineering						
STEM	0.254***	0.245***	0.251***	0.242***	0.225***	0.246***
	(0.051)	(0.059)	(0.052)	(0.049)	(0.046)	(0.048)
Panel B: Medicine						
STEM	-0.041	-0.063	-0.063	-0.039	-0.026	-0.035
	(0.044)	(0.052)	(0.047)	(0.041)	(0.039)	(0.045)
Panel C: Business or economics						
STEM	-0.040	-0.040	-0.018	-0.040	-0.043	-0.043
	(0.063)	(0.071)	(0.066)	(0.062)	(0.059)	(0.063)
Panel D: Art, education, law, or social services						
STEM	-0.145***	-0.155***	-0.150***	-0.141***	-0.141***	-0.141***
	(0.046)	(0.055)	(0.050)	(0.046)	(0.043)	(0.044)
Panel E: Other/unsure						
STEM	-0.028	0.013	-0.020	-0.021	-0.016	-0.027
	(0.040)	(0.042)	(0.040)	(0.038)	(0.036)	(0.040)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Table 5. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A5: RD plots of effects on desired careers one year after high school



The figure displays RD plots for effects on the outcomes in Table 5. See the notes to Figure 1 for details on RD plots.

A5 Effects on time use

We included questions about time use in the end-of-high-school and second follow-up surveys. The questions asked students how many hours they spend on different activities on a typical weekday. Those in the end-of-high-school survey concerned a weekday during high school; those in the second follow-up survey were about a weekday at the time of the survey (approximately 1.5 years after high school).[67]

Estimates for the effects of STEM assignment on time use are in Tables A21 (during high school) and A23 (1.5 years after high school). The tables provide results for all students and by initial curricular preferences, relative academic strength, gender, and baseline achievement. Tables A22 and A24 show robustness, and Figures A6 and A7 provide associated RD plots.

The tables yield a few findings. Starting with effects during high school, STEM assignment causes students with low baseline achievement to report spending more time on homework (Table A21). The estimated effect is 0.5 hours per day. This is a 23% increase over the mean for low-achievers at STEM vs. HSS cutoffs who are assigned to HSS (2.1 hours), and it amounts to about 30% of the standard deviation for all students in the RD sample (1.6). In contrast, being placed in STEM does not affect study time for high-achievers, possibly reflecting that these students are less mismatched to the material. Next, STEM assignment does not influence the amount of time that high school students spend working for pay, caring for others or volunteering, doing extracurricular activities, hanging out with friends, or watching TV. On the other hand, STEM assignment reduces the amount of time that high school students spend reading, especially for boys (0.5 hours, a 40% decline or 35% of the sd for all students in the RD sample). In addition, it reduces time spent on social media, particularly for girls (0.4 hours, a 12% reduction or 26% of the all-student sd). Finally, STEM assignment seems to lower the amount of time that boys spend playing video games, although the estimate is only significant at a 10% confidence level.

By 1.5 years after high school, STEM assignment continues to reduce time spent reading for boys and time on social media for girls (Table A23). Surprisingly, it lowers the amount of time that students spend on homework, which could reflect impacts on whether students are enrolled in college together with differences in the structure of STEM and non-STEM college programs. Estimated effects for the other activities are generally small and statistically insignificant.

Our finding that being placed in STEM causes some high school students to spend more time on homework aligns with research that U.S. college students who major in STEM study more than those who major in non-STEM fields (Arcidiacono, Aucejo, and Spenner 2012; Ahn et al. 2024). We are unaware of existing research that examines the effects of curricular assignment on the other time use categories.

67. The activities asked about are not exhaustive; as a result, we did not require answers to sum to 24. We capped responses at a maximum of 6 hours.

Table A21: Effects on time use on a typical weekday in high school

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Completing homework									
STEM	0.248**	0.331**	0.165	0.308*	0.172	0.342*	0.404***	0.490**	0.058
	(0.109)	(0.157)	(0.123)	(0.175)	(0.150)	(0.185)	(0.124)	(0.192)	(0.153)
Intercept	2.44	2.48	2.41	2.46	2.45	1.86	2.66	2.13	2.75
Std. dev.	1.61	1.67	1.52	1.67	1.53	1.53	1.59	1.50	1.68
Panel B: Working for pay									
STEM	0.047	0.111	-0.017	0.278	-0.172	0.114	-0.061	0.121	0.040
	(0.114)	(0.166)	(0.123)	(0.176)	(0.172)	(0.205)	(0.158)	(0.158)	(0.176)
Intercept	1.63	1.46	1.79	1.48	1.81	1.67	1.62	1.76	1.42
Std. dev.	1.85	1.83	1.85	1.85	1.84	1.88	1.82	1.84	1.83
Panel C: Caring for others or volunteering									
STEM	-0.036	-0.032	-0.040	0.082	-0.139	0.013	-0.058	0.074	-0.075
	(0.058)	(0.076)	(0.073)	(0.086)	(0.090)	(0.087)	(0.085)	(0.082)	(0.087)
Intercept	0.53	0.56	0.49	0.41	0.59	0.41	0.58	0.43	0.56
Std. dev.	1.09	1.09	1.09	1.06	1.12	0.96	1.16	1.10	1.09
Panel D: Doing extracurricular activities									
STEM	0.032	0.080	-0.016	0.082	0.091	0.080	0.007	0.029	0.065
	(0.086)	(0.111)	(0.108)	(0.139)	(0.113)	(0.185)	(0.100)	(0.133)	(0.138)
Intercept	0.88	0.92	0.83	0.96	0.71	1.04	0.78	0.79	0.97
Std. dev.	1.36	1.37	1.34	1.41	1.30	1.47	1.27	1.31	1.40
Panel E: Hanging out with friends									
STEM	-0.127	-0.198	-0.055	-0.013	-0.040	-0.029	-0.235	0.064	-0.180
	(0.112)	(0.139)	(0.150)	(0.174)	(0.167)	(0.194)	(0.148)	(0.184)	(0.143)
Intercept	2.68	2.64	2.71	2.70	2.61	2.73	2.70	2.64	2.62
Std. dev.	1.76	1.70	1.79	1.72	1.78	1.86	1.70	1.78	1.72
Panel F: Reading									
STEM	-0.251***	-0.267*	-0.235***	-0.264**	-0.280**	-0.472***	-0.103	-0.345**	-0.287**
	(0.091)	(0.139)	(0.089)	(0.131)	(0.141)	(0.153)	(0.126)	(0.163)	(0.128)
Intercept	1.42	1.38	1.46	1.29	1.57	1.17	1.59	1.60	1.35
Std. dev.	1.36	1.31	1.39	1.31	1.39	1.26	1.37	1.36	1.34
Panel G: Watching TV									
STEM	-0.004	-0.046	0.038	0.106	-0.020	-0.050	0.037	0.094	-0.031
	(0.074)	(0.101)	(0.097)	(0.108)	(0.117)	(0.125)	(0.097)	(0.121)	(0.095)
Intercept	0.86	0.76	0.96	0.71	0.97	0.75	0.93	0.84	0.81
Std. dev.	1.26	1.18	1.32	1.16	1.32	1.19	1.29	1.31	1.19
Panel H: Playing video games									
STEM	-0.096	-0.204	0.012	0.050	-0.076	-0.362*	-0.137	0.050	-0.189
	(0.107)	(0.147)	(0.126)	(0.174)	(0.158)	(0.191)	(0.106)	(0.164)	(0.157)
Intercept	1.41	1.52	1.30	1.49	1.37	2.57	0.78	1.45	1.37
Std. dev.	1.65	1.62	1.68	1.66	1.63	1.87	1.20	1.69	1.61
Panel I: On social media									
STEM	-0.428***	-0.462***	-0.394***	-0.453***	-0.325*	-0.215	-0.437***	-0.064	-0.560***
	(0.111)	(0.146)	(0.138)	(0.163)	(0.175)	(0.189)	(0.147)	(0.185)	(0.148)
Intercept	3.42	3.32	3.53	3.26	3.50	2.87	3.68	3.19	3.48
Std. dev.	1.69	1.67	1.70	1.67	1.68	1.69	1.64	1.70	1.68
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894

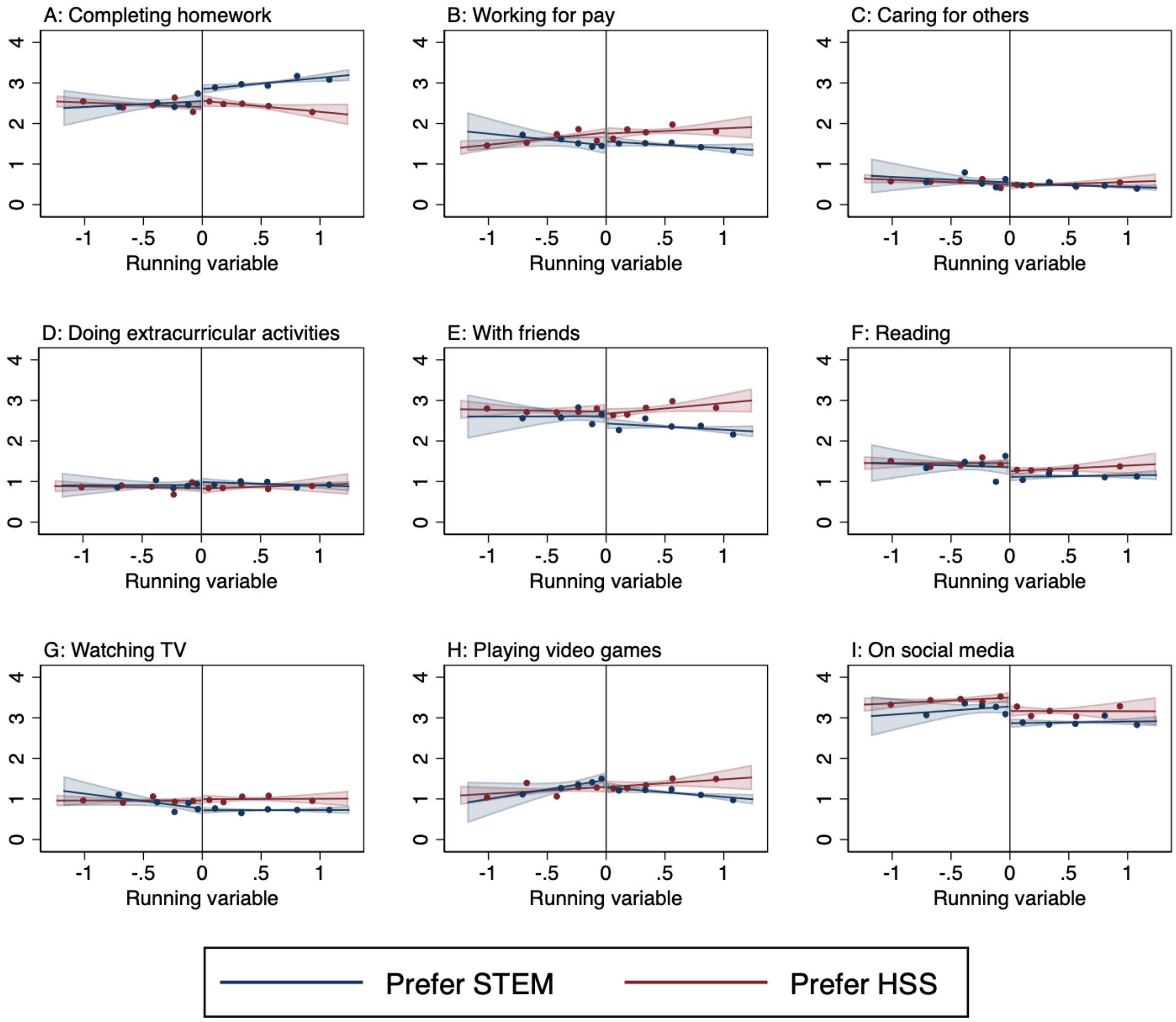
The table presents results for the effects of STEM assignment on the number of hours spent on the listed activities on a typical weekday in high school. Outcome variables are from the end-of-high-school survey. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings. Other details match those in Table 2.

Table A22: Robustness for effects on time use on a typical weekday in high school

	Main	Alternative bandwidths				Adding covariates
		0.75	1.00	1.50	1.75	
Panel A: Completing homework						
STEM	0.248**	0.193	0.203*	0.276***	0.305***	0.297***
	(0.109)	(0.126)	(0.118)	(0.105)	(0.103)	(0.103)
Panel B: Working for pay						
STEM	0.047	0.063	0.098	0.070	0.113	0.040
	(0.114)	(0.134)	(0.119)	(0.108)	(0.106)	(0.114)
Panel C: Caring for others or volunteering						
STEM	-0.036	-0.021	0.006	-0.048	-0.047	-0.022
	(0.058)	(0.067)	(0.060)	(0.059)	(0.058)	(0.058)
Panel D: Doing extracurricular activities						
STEM	0.032	0.025	0.048	0.046	0.028	0.032
	(0.086)	(0.096)	(0.092)	(0.082)	(0.076)	(0.083)
Panel E: Hanging out with friends						
STEM	-0.127	-0.136	-0.144	-0.128	-0.143	-0.131
	(0.112)	(0.129)	(0.119)	(0.106)	(0.102)	(0.113)
Panel F: Reading						
STEM	-0.251***	-0.386***	-0.294***	-0.247***	-0.235***	-0.218**
	(0.091)	(0.114)	(0.098)	(0.086)	(0.083)	(0.089)
Panel G: Watching TV						
STEM	-0.004	-0.009	0.044	-0.018	-0.061	0.008
	(0.074)	(0.077)	(0.079)	(0.071)	(0.069)	(0.073)
Panel H: Playing video games						
STEM	-0.096	-0.058	-0.084	-0.064	-0.071	-0.195**
	(0.107)	(0.134)	(0.119)	(0.102)	(0.098)	(0.097)
Panel I: On social media						
STEM	-0.428***	-0.290**	-0.403***	-0.426***	-0.406***	-0.387***
	(0.111)	(0.136)	(0.118)	(0.104)	(0.102)	(0.113)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987

The table shows robustness for the effects in Table A21. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A6: RD plots of effects on time use on a typical weekday in high school



The figure displays RD plots for effects on the outcomes in Table A21. See the notes to Figure 1 for details on RD plots.

Table A23: Effects on time use on a typical weekday 1.5 years after high school

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Completing homework									
STEM	-0.383**	-0.347	-0.419**	-0.433	-0.398	-0.466	-0.233	0.163	-0.798***
	(0.185)	(0.284)	(0.187)	(0.399)	(0.313)	(0.341)	(0.239)	(0.346)	(0.249)
Intercept	2.87	3.08	2.66	2.63	2.87	2.73	2.84	2.42	3.34
Std. dev.	1.70	1.63	1.72	1.68	1.70	1.69	1.68	1.70	1.64
Panel B: Working for pay									
STEM	-0.372	-0.636	-0.108	-0.885**	-0.367	-0.580	-0.633*	-0.933*	-0.259
	(0.285)	(0.434)	(0.322)	(0.444)	(0.397)	(0.444)	(0.381)	(0.509)	(0.388)
Intercept	1.82	1.75	1.88	2.00	2.09	2.36	1.84	2.85	1.26
Std. dev.	2.33	2.07	2.51	2.28	2.33	2.41	2.24	2.55	1.99
Panel C: Caring for others or volunteering									
STEM	0.115	0.126	0.103	-0.205	0.223	-0.238	0.235	0.560*	0.013
	(0.125)	(0.185)	(0.157)	(0.237)	(0.219)	(0.245)	(0.173)	(0.306)	(0.124)
Intercept	0.26	0.25	0.26	0.37	0.28	0.48	0.17	-0.12	0.32
Std. dev.	0.97	0.96	0.98	0.94	1.03	0.93	1.01	1.08	0.82
Panel D: Doing hobbies									
STEM	0.154	0.211	0.097	0.201	0.164	0.087	0.193	-0.013	0.362**
	(0.111)	(0.158)	(0.140)	(0.199)	(0.166)	(0.230)	(0.147)	(0.225)	(0.146)
Intercept	0.54	0.60	0.48	0.43	0.60	0.74	0.42	0.60	0.51
Std. dev.	0.91	0.92	0.89	0.88	0.95	0.96	0.85	0.91	0.90
Panel E: Hanging out with friends									
STEM	0.026	0.019	0.034	0.364	0.101	0.254	-0.140	0.048	0.170
	(0.163)	(0.219)	(0.215)	(0.295)	(0.268)	(0.314)	(0.243)	(0.340)	(0.272)
Intercept	1.91	1.95	1.86	2.04	1.80	1.96	1.88	1.98	1.80
Std. dev.	1.35	1.32	1.39	1.33	1.40	1.38	1.31	1.42	1.28
Panel F: Reading									
STEM	-0.404*	-0.096	-0.713**	-0.896***	-0.217	-0.686**	-0.267	-0.593	-0.528**
	(0.225)	(0.297)	(0.316)	(0.334)	(0.336)	(0.331)	(0.300)	(0.471)	(0.246)
Intercept	2.71	2.59	2.84	2.53	3.00	2.32	2.89	2.90	2.87
Std. dev.	1.67	1.60	1.73	1.59	1.72	1.63	1.65	1.73	1.60
Panel G: Watching TV									
STEM	0.076	0.017	0.134	0.062	0.273**	0.147	0.083	0.256*	0.031
	(0.087)	(0.100)	(0.130)	(0.120)	(0.128)	(0.144)	(0.123)	(0.137)	(0.113)
Intercept	0.39	0.30	0.48	0.36	0.35	0.29	0.45	0.24	0.36
Std. dev.	0.76	0.68	0.83	0.72	0.80	0.73	0.79	0.81	0.71
Panel H: Playing video games									
STEM	0.072	0.152	-0.009	0.133	-0.013	-0.032	0.114	-0.169	0.176
	(0.125)	(0.183)	(0.147)	(0.185)	(0.174)	(0.318)	(0.125)	(0.206)	(0.163)
Intercept	0.48	0.52	0.44	0.51	0.47	0.95	0.19	0.58	0.40
Std. dev.	1.08	1.05	1.11	1.08	1.05	1.34	0.78	1.11	1.05
Panel I: On social media									
STEM	-0.356**	-0.370	-0.343	0.016	-0.336	-0.213	-0.430**	0.019	-0.659***
	(0.170)	(0.229)	(0.224)	(0.321)	(0.297)	(0.313)	(0.209)	(0.317)	(0.222)
Intercept	3.01	2.99	3.03	2.70	3.23	2.76	3.16	2.87	3.17
Std. dev.	1.42	1.40	1.44	1.39	1.45	1.30	1.46	1.46	1.38
Student-cutoffs	1,199	575	624	540	550	373	728	618	581

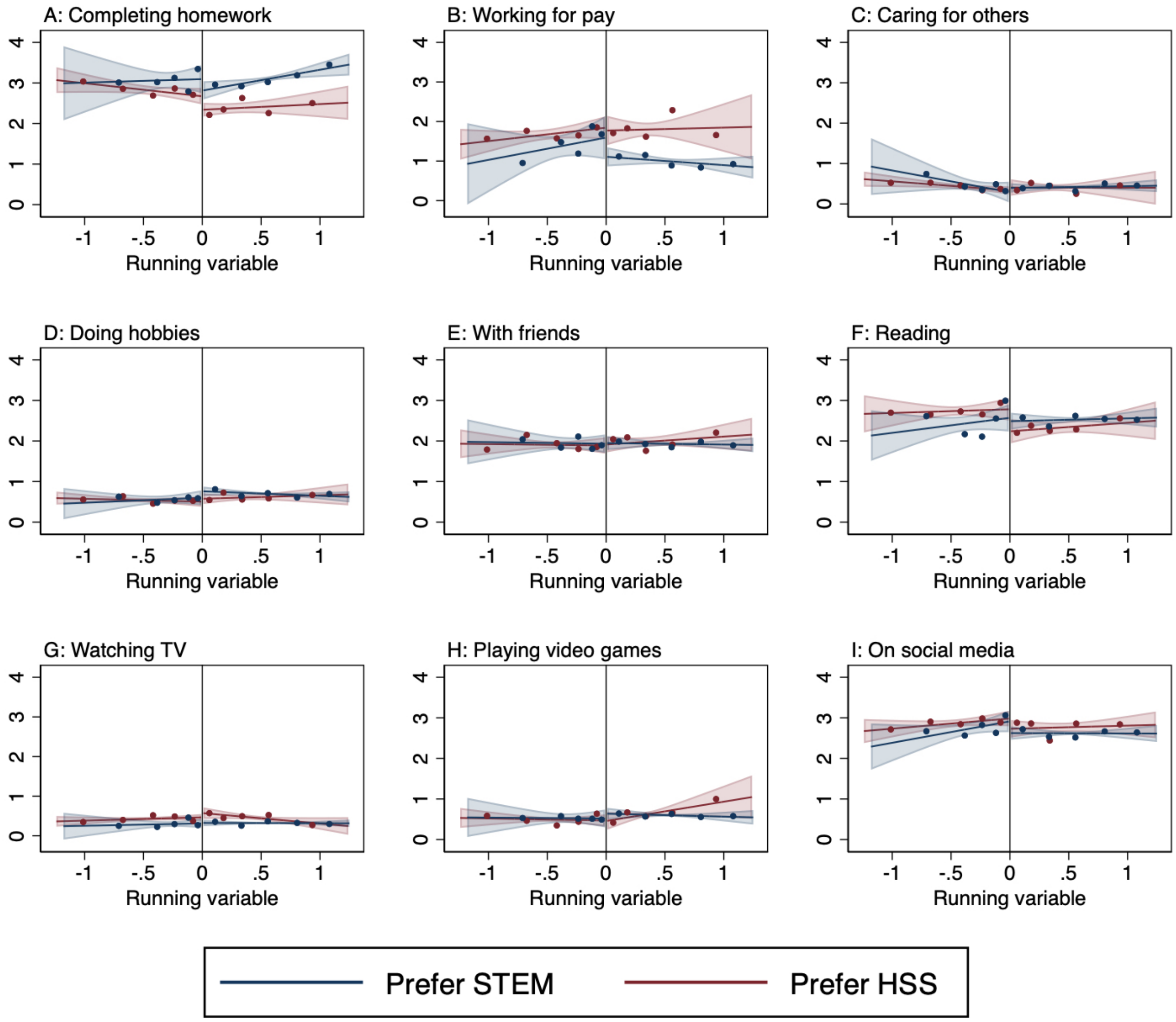
The table presents results for the effects of STEM assignment on the number of hours spent on the listed activities on a typical weekday a year and a half after high school. Outcome variables are from the second follow-up survey. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings. Other details match those in Table 2.

Table A24: Robustness for effects on time use on a typical weekday 1.5 years after high school

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Completing homework						
STEM	-0.383**	-0.469**	-0.560***	-0.317*	-0.218	-0.381**
	(0.185)	(0.212)	(0.195)	(0.181)	(0.178)	(0.184)
Panel B: Working for pay						
STEM	-0.372	-0.403	-0.252	-0.416	-0.511*	-0.396
	(0.285)	(0.325)	(0.296)	(0.279)	(0.273)	(0.283)
Panel C: Caring for others or volunteering						
STEM	0.115	0.210	0.133	0.090	0.057	0.116
	(0.125)	(0.144)	(0.123)	(0.120)	(0.114)	(0.127)
Panel D: Doing hobbies						
STEM	0.154	0.208	0.191	0.152	0.160	0.143
	(0.111)	(0.130)	(0.119)	(0.107)	(0.106)	(0.111)
Panel E: Hanging out with friends						
STEM	0.026	0.235	0.122	0.004	0.002	0.016
	(0.163)	(0.200)	(0.179)	(0.154)	(0.146)	(0.163)
Panel F: Reading						
STEM	-0.404*	-0.429*	-0.435*	-0.379*	-0.306	-0.364
	(0.225)	(0.230)	(0.231)	(0.214)	(0.213)	(0.221)
Panel G: Watching TV						
STEM	0.076	0.074	0.060	0.057	0.048	0.070
	(0.087)	(0.097)	(0.088)	(0.085)	(0.081)	(0.086)
Panel H: Playing video games						
STEM	0.072	-0.015	-0.028	0.078	0.062	0.024
	(0.125)	(0.139)	(0.130)	(0.117)	(0.110)	(0.124)
Panel I: On social media						
STEM	-0.356**	-0.219	-0.250	-0.330**	-0.291*	-0.323*
	(0.170)	(0.190)	(0.171)	(0.163)	(0.155)	(0.164)
Student-cutoffs	1,199	883	1,068	1,271	1,318	1,199

The table shows robustness for the effects in Table A23. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A7: RD plots of effects on time use on a typical weekday 1.5 years after high school



The figure displays RD plots for effects on the outcomes in Table A23. See the notes to Figure 1 for details on RD plots.

A6 Additional results for risk and difficulty

Table A25: Heterogeneity for effects on baccalaureate performance

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Take the exam									
STEM	-0.011***	-0.010***	-0.012***	-0.001	-0.025***	-0.004	-0.014***	-0.035***	-0.001
	(0.003)	(0.003)	(0.004)	(0.003)	(0.005)	(0.004)	(0.004)	(0.007)	(0.003)
Intercept	0.95	0.97	0.94	0.96	0.95	0.95	0.96	0.92	0.98
Student-cutoffs	73,470	37,376	36,094	45,077	28,060	31,900	41,295	27,204	46,266
Panel B: Pass the exam									
STEM	-0.036***	-0.030***	-0.042***	-0.016***	-0.071***	-0.033***	-0.036***	-0.111***	-0.008**
	(0.004)	(0.004)	(0.007)	(0.004)	(0.007)	(0.006)	(0.005)	(0.010)	(0.003)
Intercept	0.92	0.95	0.89	0.93	0.90	0.91	0.93	0.86	0.97
Student-cutoffs	73,470	37,376	36,094	45,077	28,060	31,900	41,295	27,204	46,266
Panel C: Exam score									
STEM	-0.351***	-0.312***	-0.391***	-0.312***	-0.434***	-0.359***	-0.340***	-0.502***	-0.302***
	(0.015)	(0.018)	(0.020)	(0.018)	(0.023)	(0.021)	(0.019)	(0.032)	(0.016)
Intercept	8.08	8.28	7.88	8.17	7.92	7.90	8.24	7.45	8.44
Student-cutoffs	69,938	36,282	33,656	43,454	26,154	30,364	39,321	24,751	45,187
Panel D: Pass in STEM									
STEM	0.621***	0.646***	0.597***	0.621***	0.621***	0.558***	0.678***	0.556***	0.649***
	(0.007)	(0.009)	(0.010)	(0.009)	(0.010)	(0.010)	(0.008)	(0.014)	(0.008)
Intercept	0.13	0.19	0.07	0.19	0.05	0.18	0.09	0.03	0.20
Student-cutoffs	73,470	37,376	36,094	45,077	28,060	31,900	41,295	27,204	46,266
Panel E: Pass in HSS									
STEM	-0.698***	-0.688***	-0.708***	-0.674***	-0.738***	-0.631***	-0.755***	-0.712***	-0.692***
	(0.007)	(0.009)	(0.008)	(0.008)	(0.009)	(0.010)	(0.007)	(0.012)	(0.008)
Intercept	0.78	0.75	0.81	0.74	0.85	0.72	0.84	0.82	0.76
Student-cutoffs	73,470	37,376	36,094	45,077	28,060	31,900	41,295	27,204	46,266
Panel F: Pass in Other									
STEM	0.040***	0.011***	0.070***	0.037***	0.046***	0.040***	0.042***	0.046***	0.036***
	(0.004)	(0.003)	(0.007)	(0.004)	(0.005)	(0.005)	(0.004)	(0.007)	(0.004)
Intercept	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Student-cutoffs	73,470	37,376	36,094	45,077	28,060	31,900	41,295	27,204	46,266

The table shows heterogeneity for the effects in Table 6. See the notes to Table A6 for definitions of the column headings.

Table A26: Effects on baccalaureate performance with no restriction on outcome timing

	Take the exam	**Pass the exam**	**Exam score**	**Pass in**		
				STEM	HSS	Other
STEM	-0.010***	-0.028***	-0.345***	0.633***	-0.701***	0.040***
	(0.003)	(0.004)	(0.015)	(0.007)	(0.007)	(0.004)
Intercept	0.96	0.93	8.09	0.13	0.79	0.01
Student-cutoffs	73,470	73,470	70,141	73,470	73,470	73,470

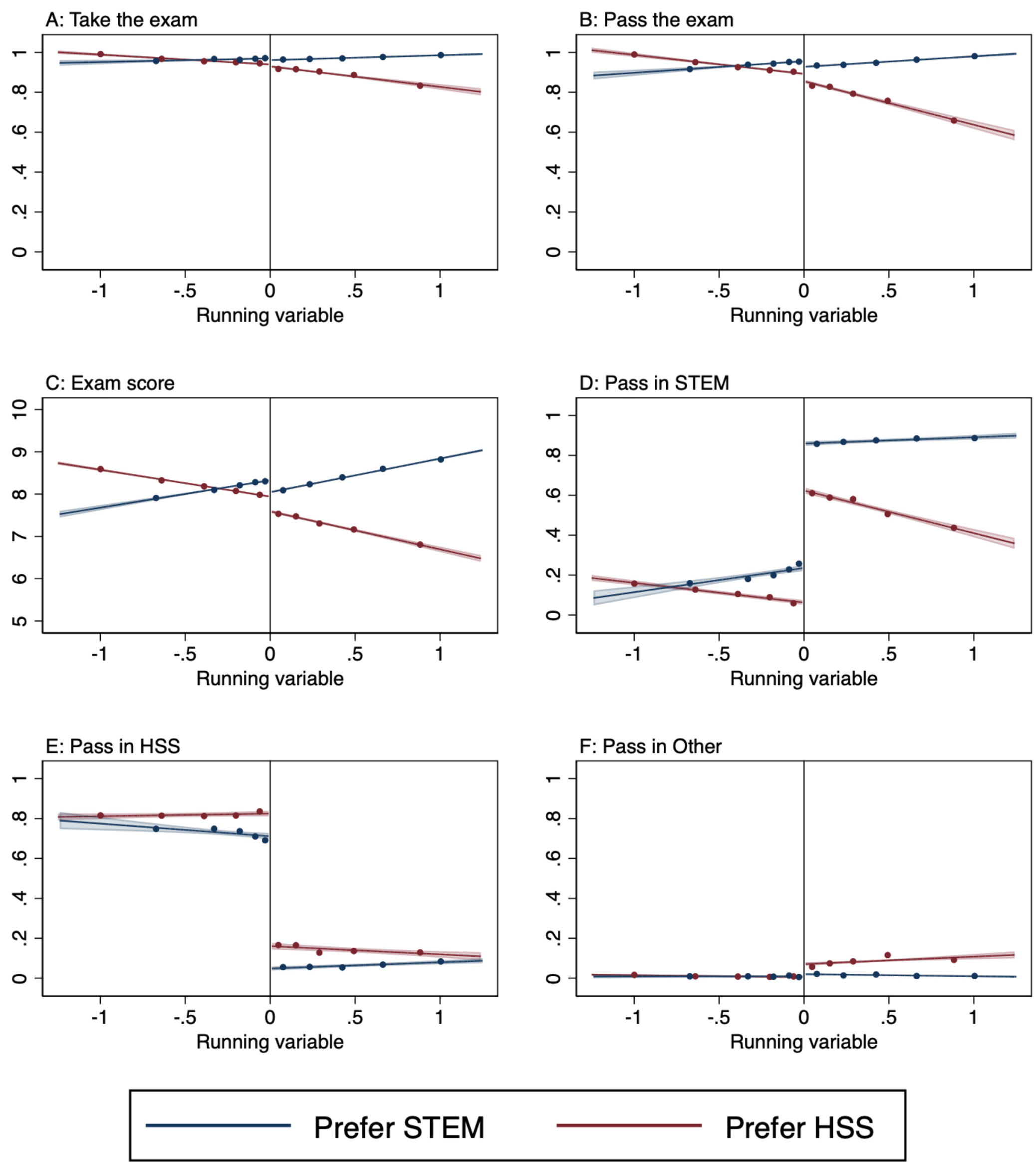
The table is analogous to Table 6; however, outcomes are measured over all years after track assignment, not just the first four.

Table A27: Robustness for effects on baccalaureate performance

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Take the exam						
STEM	-0.011***	-0.013***	-0.011***	-0.012***	-0.011***	-0.011***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Student-cutoffs	73,470	59,375	67,804	77,330	79,842	73,470
Panel B: Pass the exam						
STEM	-0.036***	-0.038***	-0.037***	-0.039***	-0.040***	-0.036***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Student-cutoffs	73,470	59,375	67,804	77,330	79,842	73,470
Panel C: Exam score						
STEM	-0.351***	-0.355***	-0.351***	-0.355***	-0.360***	-0.351***
	(0.015)	(0.016)	(0.015)	(0.015)	(0.014)	(0.014)
Student-cutoffs	69,938	56,635	64,577	73,545	75,887	69,938
Panel D: Pass in STEM						
STEM	0.621***	0.615***	0.619***	0.622***	0.623***	0.621***
	(0.007)	(0.008)	(0.007)	(0.007)	(0.007)	(0.007)
Student-cutoffs	73,470	59,375	67,804	77,330	79,842	73,470
Panel E: Pass in HSS						
STEM	-0.698***	-0.688***	-0.694***	-0.704***	-0.707***	-0.698***
	(0.007)	(0.008)	(0.007)	(0.007)	(0.006)	(0.007)
Student-cutoffs	73,470	59,375	67,804	77,330	79,842	73,470
Panel F: Pass in Other						
STEM	0.040***	0.035***	0.038***	0.043***	0.044***	0.040***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Student-cutoffs	73,470	59,375	67,804	77,330	79,842	73,470

The table shows robustness for the effects in Table 6. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score and an indicator for female.

Figure A8: RD plots of effects on baccalaureate performance



The figure displays RD plots for effects on the outcomes in Table 6. See the notes to Figure 1 for details on RD plots.

Table A28: Effects on additional outcomes related to risk and difficulty

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Grit									
STEM	0.083**	0.079*	0.087*	0.090	0.044	0.157**	0.037	0.068	0.057
	(0.037)	(0.045)	(0.049)	(0.064)	(0.052)	(0.061)	(0.051)	(0.050)	(0.056)
Intercept	-0.10	-0.11	-0.09	-0.12	-0.05	-0.16	-0.06	-0.10	-0.06
Std. dev.	0.57	0.57	0.57	0.57	0.57	0.56	0.58	0.57	0.57
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel B: The baccalaureate exam for my track type was particularly hard									
STEM	0.173*	0.228**	0.118	0.192*	0.075	0.580***	0.090	0.297**	0.172
	(0.088)	(0.114)	(0.122)	(0.115)	(0.125)	(0.193)	(0.118)	(0.135)	(0.127)
Intercept	1.88	1.85	1.92	1.77	1.95	1.61	1.97	1.74	1.89
Std. dev.	0.73	0.71	0.71	0.74	0.72	0.75	0.72	0.71	0.74
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel C: My track prepares students well for the baccalaureate exam									
STEM	0.039	0.036	0.041	0.089	0.003	0.071	0.021	-0.006	0.057
	(0.038)	(0.049)	(0.053)	(0.076)	(0.056)	(0.075)	(0.049)	(0.074)	(0.056)
Intercept	0.84	0.84	0.84	0.87	0.84	0.79	0.85	0.87	0.84
Std. dev.	0.34	0.34	0.35	0.34	0.34	0.34	0.35	0.35	0.34
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

The table presents results for the effects of STEM assignment on additional outcomes related to risk and difficulty. "Grit" is an index and is defined in the notes to Table A29. The outcomes in Panels B and C are from the first follow-up survey. The Panel B outcome is on a scale of 1-3. 1 (3) is that a student believes the exam for their track type is easier (harder) than the exams for other track types; 2 is the same/unsure. The Panel C outcome is an indicator equal to 1 if a student agrees with the listed statement. See Table A6 for definitions of the column headings. Other details match those in Table 2.

Table A29: Effects on components of the grit index

	Index	Components				
		Give up now for later	Finish what begin	Work hard	Don't get distracted	Follow through with goals
STEM	0.083**	-0.009	0.151**	0.121**	0.175**	0.011
	(0.037)	(0.070)	(0.060)	(0.060)	(0.076)	(0.087)
Intercept	-0.10	3.81	3.68	3.85	2.57	3.23
Std. dev.	0.57	1.06	1.02	0.95	1.12	1.21
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987

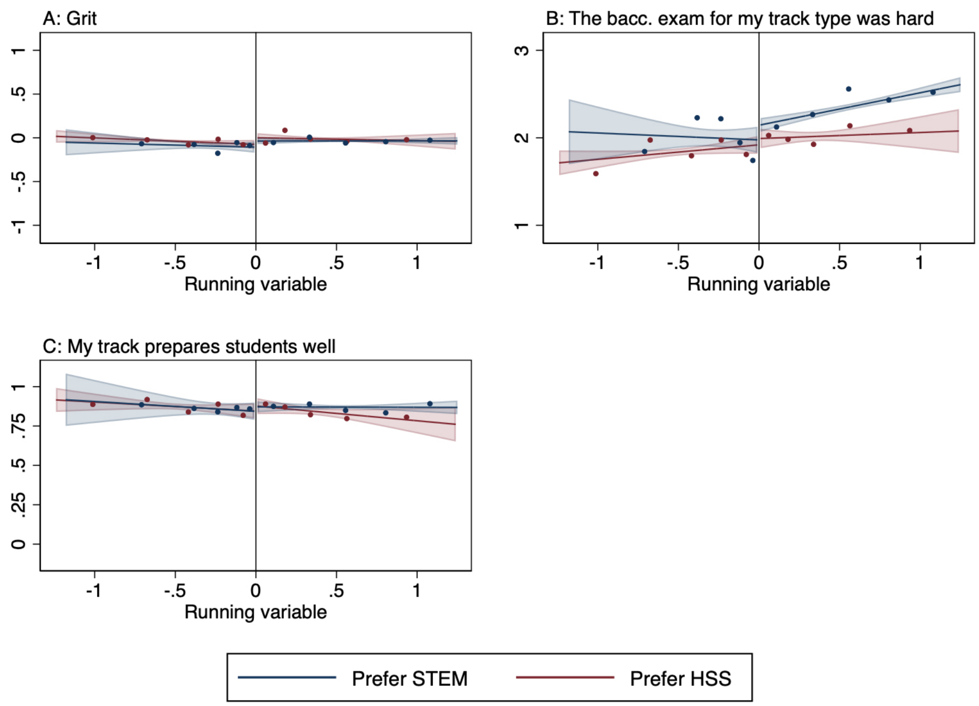
The table shows effects on components of the grit index used in Table A28. The components are based on questions where students were asked how much they agree with a statement on a scale of 1-5. The statements are: "I am willing to give up something that is beneficial for me today in order to benefit more in the future", "I finish whatever I begin", "I am a hard worker", "New ideas and projects sometimes distract me from previous ones", and "I often set a goal but later choose to pursue a different one". In calculating "Don't get distracted" and "Follow through with goals", we reverse the order of the responses so that higher values indicate higher grit. The questions were asked in both the end-of-high-school and second follow-up surveys. The components use data from both surveys. They are calculated in three steps. First, we demean a student's responses for a given question using survey-specific means that are calculated over the students with non-missing responses in both surveys (the "common" sample). Second, we average the demeaned responses by student, ignoring missing values. Third, for interpretability, we add back the overall mean response from the common sample. Steps 1 and 2 are equivalent to obtaining the student fixed effects from a panel regression of a question's responses on student and survey fixed effects. Finally, the grit index is the average of standardized versions of all of a student's responses. The average again uses only the responses that are non-missing for a student. The standardization uses survey-specific means and standard deviations that are calculated over the students without any missing responses. Other details follow Panel A of Table 2.

Table A30: Robustness for effects on additional outcomes related to risk and difficulty

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Grit						
STEM	0.083**	0.099**	0.084**	0.087**	0.086**	0.088**
	(0.037)	(0.043)	(0.039)	(0.035)	(0.034)	(0.037)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987
Panel B: The baccalaureate exam for my track type was particularly hard						
STEM	0.173*	0.241**	0.181*	0.210**	0.246***	0.169*
	(0.088)	(0.102)	(0.094)	(0.087)	(0.086)	(0.088)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel C: My track prepares students well for the baccalaureate exam						
STEM	0.039	0.069	0.057	0.032	0.036	0.039
	(0.038)	(0.048)	(0.043)	(0.037)	(0.038)	(0.038)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Table A28. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Figure A9: RD plots of effects on additional outcomes related to risk and difficulty



The figure displays RD plots for effects on the outcomes in Table A28. See the notes to Figure 1 for details on RD plots.

A7 Additional results for mechanisms

A7.1 Obtaining and classifying jobs recommended by O*NET

In the second follow-up survey, we administered an abridged O*NET Interest Profiler. We use each student's O*NET responses to generate a list of five jobs recommended by O*NET for the student. In addition, we calculate the share of the recommended jobs that are STEM-related, HSS-related, or Other.

To generate the recommended jobs, we follow O*NET's algorithm for job recommendations. When taking the Interest Profiler, a student indicates whether they would enjoy a given job task. O*NET groups job tasks as Realistic, Investigative, Artistic, Social, Enterprising, or Conventional. Based on a student's responses, we calculate the share of tasks in each group that the student enjoys; these shares are called the student's "RIASEC scores". Similarly, for each job, O*NET provides RIASEC scores. Then, for each student, we identify the five jobs whose RIASEC scores are most strongly correlated with the student's scores. These jobs are the best fit for the student in terms of the alignment between the types of tasks required by a job and the types of tasks that the student enjoys.

To classify which jobs are STEM-related, we rely on O*NET's All STEM Occupations list.[68] This list is expansive and includes some jobs that we do not think qualify as STEM. For instance, it categorizes all higher education teaching jobs as STEM, even those in non-STEM fields. Consequently, we modify the list by excluding all jobs with any of the following keywords in their title: Religion, History, Sociology, Social Sciences, Literature, Geography, Political Science, Psychology, Cultural Studies, Archaeology, Anthropology, Art Therapy, Music Therapist, or Sales Representative.

O*Net does not provide a list of HSS-related occupations; thus, we code these manually. In particular, we include all non-STEM jobs that (a) are in the Arts, Entertainment, & Design or Education O*NET Career Clusters, (b) are in the Behavioral & Mental Health, Community & Social Services, or Judicial Systems sub-clusters, or (c) contain any of the keywords mentioned in the previous paragraph except for Sales Representative.[69] In addition, we exclude jobs in the Fashion & Interiors sub-cluster as well as those with the keywords Attendant, Data Entry, Occupational Therapist, Fundraising Manager, Printing Press Operator, Technician, Design, Sales, Fundraising, Business Manager, Athletics, Sports, or Scouts.

All jobs that do not fall into the STEM- or HSS-related categories get classified as Other.

68. https://www.onetonline.org/find/stem?t=0.
69. https://www.onetonline.org/find/career?c=0.

A7.2 Tables and figures

Table A31: Heterogeneity for effects on beliefs about own abilities and preferences: high school subjects

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Beliefs about own high school STEM abilities at the end of high school									
STEM	0.873***	0.789***	0.956***	0.853***	0.916***	0.765***	0.912***	0.876***	0.854***
	(0.077)	(0.106)	(0.092)	(0.123)	(0.105)	(0.127)	(0.093)	(0.125)	(0.110)
Intercept	2.60	2.85	2.36	2.85	2.41	2.75	2.51	2.38	2.87
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel B: Beliefs about own high school HSS abilities at the end of high school									
STEM	-0.400***	-0.439***	-0.360***	-0.505***	-0.322***	-0.395***	-0.382***	-0.238***	-0.531***
	(0.056)	(0.073)	(0.073)	(0.078)	(0.077)	(0.103)	(0.069)	(0.079)	(0.081)
Intercept	4.03	4.02	4.03	3.96	4.07	3.93	4.08	3.99	4.05
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel C: Beliefs about own high school STEM abilities one year after high school									
STEM	0.744***	0.718***	0.770***	0.797***	0.737***	0.823***	0.656***	0.668**	0.693***
	(0.124)	(0.160)	(0.159)	(0.212)	(0.171)	(0.213)	(0.161)	(0.259)	(0.168)
Intercept	2.96	3.16	2.76	3.17	2.72	3.01	2.97	2.77	3.17
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel D: Beliefs about own high school HSS abilities one year after high school									
STEM	-0.506***	-0.494***	-0.518***	-0.574***	-0.602***	-0.287	-0.548***	-0.378**	-0.575***
	(0.090)	(0.123)	(0.117)	(0.167)	(0.120)	(0.207)	(0.108)	(0.176)	(0.129)
Intercept	4.13	4.02	4.24	4.00	4.33	3.90	4.18	4.14	4.08
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel E: Preferences for STEM high school subjects one year after high school									
STEM	1.01***	0.850***	1.17***	1.03***	1.14***	1.14***	0.952***	1.07***	1.04***
	(0.151)	(0.184)	(0.208)	(0.275)	(0.192)	(0.290)	(0.191)	(0.287)	(0.208)
Intercept	2.72	3.00	2.43	3.01	2.39	2.78	2.69	2.41	2.83
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel F: Preferences for HSS high school subjects one year after high school									
STEM	-0.551***	-0.525***	-0.576***	-0.772***	-0.537***	-0.422**	-0.539***	-0.459***	-0.660***
	(0.085)	(0.119)	(0.108)	(0.153)	(0.129)	(0.177)	(0.113)	(0.145)	(0.113)
Intercept	4.11	3.91	4.31	4.03	4.29	3.84	4.16	4.20	4.04
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

The table shows heterogeneity for some of the results in Table 7. The "HSS" outcomes are the average of the outcomes in the second and third columns of Table 7. See the notes to Table A6 for definitions of the column headings.

Table A32: Effects on beliefs about own abilities in high school subjects: students from the first follow-up survey

	STEM subjects	**Humanities subjects**	**Social studies subjects**
Panel A: Beliefs at the end of high school			
STEM	0.966***	-0.038	-0.409***
	(0.139)	(0.116)	(0.140)
Intercept	2.65	4.00	3.84
Std. dev.	1.28	0.84	1.16
Panel B: Beliefs one year after high school			
STEM	0.744***	-0.267***	-0.745***
	(0.124)	(0.087)	(0.139)
Intercept	2.96	4.20	4.06
Std. dev.	1.10	0.84	1.13
Panel C: Change in beliefs in the year after high school			
STEM	-0.222	-0.229**	-0.336**
	(0.140)	(0.105)	(0.141)
Intercept	0.31	0.20	0.22
Std. dev.	1.10	0.94	1.13
Student-cutoffs	1,159	1,159	1,159

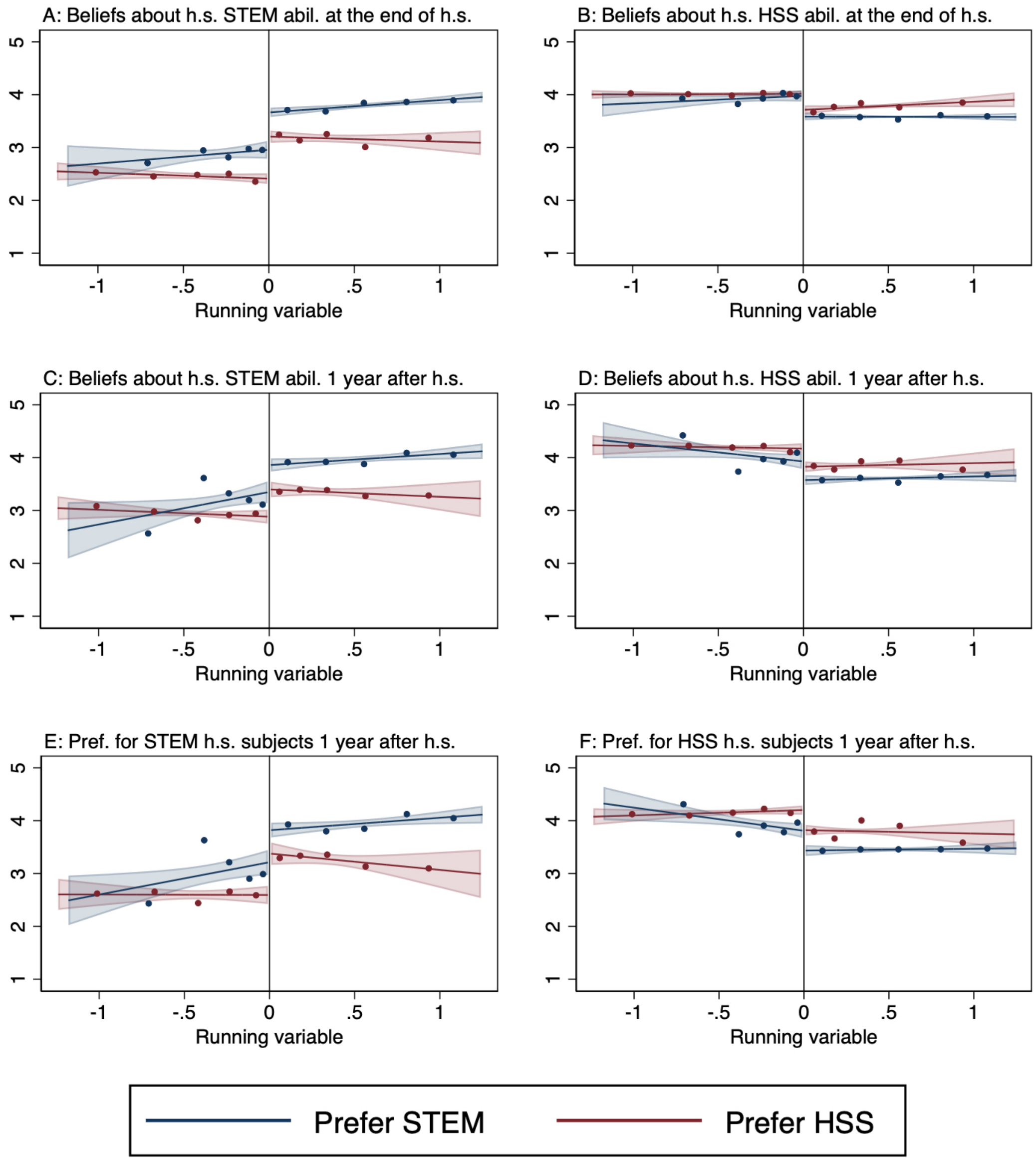
The table is analogous to Panels A and B of Table 7, but restricted to students from the first follow-up survey. The outcomes in Panel C are the difference between those in Panels B and A. The number of observations is the same across panels, so it is displayed in a single row at the bottom of the table.

Table A33: Robustness for effects on beliefs about own abilities and preferences: high school subjects

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Beliefs about own high school STEM abilities at the end of high school						
STEM	0.873***	0.832***	0.868***	0.866***	0.878***	0.870***
	(0.077)	(0.091)	(0.079)	(0.073)	(0.071)	(0.075)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987
Panel B: Beliefs about own high school HSS abilities at the end of high school						
STEM	-0.400***	-0.397***	-0.381***	-0.388***	-0.374***	-0.391***
	(0.056)	(0.063)	(0.058)	(0.053)	(0.051)	(0.056)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987
Panel C: Beliefs about own high school STEM abilities one year after high school						
STEM	0.744***	0.793***	0.701***	0.725***	0.736***	0.745***
	(0.124)	(0.138)	(0.130)	(0.117)	(0.111)	(0.122)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel D: Beliefs about own high school HSS abilities one year after high school						
STEM	-0.506***	-0.454***	-0.407***	-0.500***	-0.488***	-0.495***
	(0.090)	(0.116)	(0.102)	(0.086)	(0.081)	(0.094)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel E: Preferences for STEM high school subjects one year after high school						
STEM	1.01***	1.13***	0.949***	1.01***	1.01***	1.01***
	(0.151)	(0.169)	(0.164)	(0.144)	(0.139)	(0.150)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel F: Preferences for HSS high school subjects one year after high school						
STEM	-0.551***	-0.553***	-0.454***	-0.530***	-0.524***	-0.537***
	(0.085)	(0.104)	(0.094)	(0.083)	(0.079)	(0.088)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Table A31. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Figure A10: RD plots of effects on beliefs about own abilities and preferences: high school subjects



The figure displays RD plots for effects on the outcomes in Table A31. See the notes to Figure 1 for details on RD plots.

Table A34: Heterogeneity for effects on beliefs about own abilities and preferences: college subjects

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Beliefs about own college STEM abilities one year after high school									
STEM	0.659***	0.622***	0.696***	0.773***	0.554**	0.725**	0.579***	0.263	0.895***
	(0.151)	(0.197)	(0.203)	(0.211)	(0.223)	(0.315)	(0.208)	(0.269)	(0.194)
Intercept	2.57	2.80	2.34	2.74	2.36	2.53	2.63	2.52	2.69
Panel B: Beliefs about own college non-STEM abilities one year after high school									
STEM	-0.337**	-0.409**	-0.265	-0.329	-0.477**	-0.276	-0.500***	-0.578**	-0.316*
	(0.143)	(0.201)	(0.184)	(0.212)	(0.209)	(0.302)	(0.186)	(0.250)	(0.180)
Intercept	3.20	3.35	3.05	3.21	3.22	2.94	3.40	3.30	3.36
Panel C: Preferences for STEM college subjects one year after high school									
STEM	0.776***	0.723***	0.829***	0.856***	0.748***	1.05***	0.614***	0.396	0.914***
	(0.149)	(0.194)	(0.196)	(0.220)	(0.226)	(0.330)	(0.203)	(0.268)	(0.182)
Intercept	2.48	2.72	2.25	2.73	2.22	2.25	2.60	2.44	2.66
Panel D: Preferences for non-STEM college subjects one year after high school									
STEM	-0.449***	-0.495**	-0.403**	-0.433*	-0.484**	-0.292	-0.620***	-0.711***	-0.395*
	(0.150)	(0.221)	(0.178)	(0.227)	(0.209)	(0.308)	(0.176)	(0.248)	(0.208)
Intercept	3.15	3.28	3.02	3.10	3.11	2.79	3.37	3.29	3.27
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

The table shows heterogeneity for some of the results in Table 8. The "non-STEM" outcomes are the average of the outcomes in the second and third columns of Table 8. The sample is the same across panels, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A35: Effects on beliefs about own abilities in and preferences for college subjects with no imputations for missing responses

	STEM subjects	**Subjects that involve reading and writing**	**Subjects that involve memorization**
Panel A: Beliefs one year after high school			
STEM	0.901***	-0.409***	-0.280*
	(0.152)	(0.124)	(0.156)
Intercept	2.85	3.64	3.59
Panel B: Preferences one year after high school			
STEM	1.04***	-0.584***	-0.408**
	(0.136)	(0.145)	(0.157)
Intercept	2.75	3.66	3.47
Student-cutoffs	965	965	965

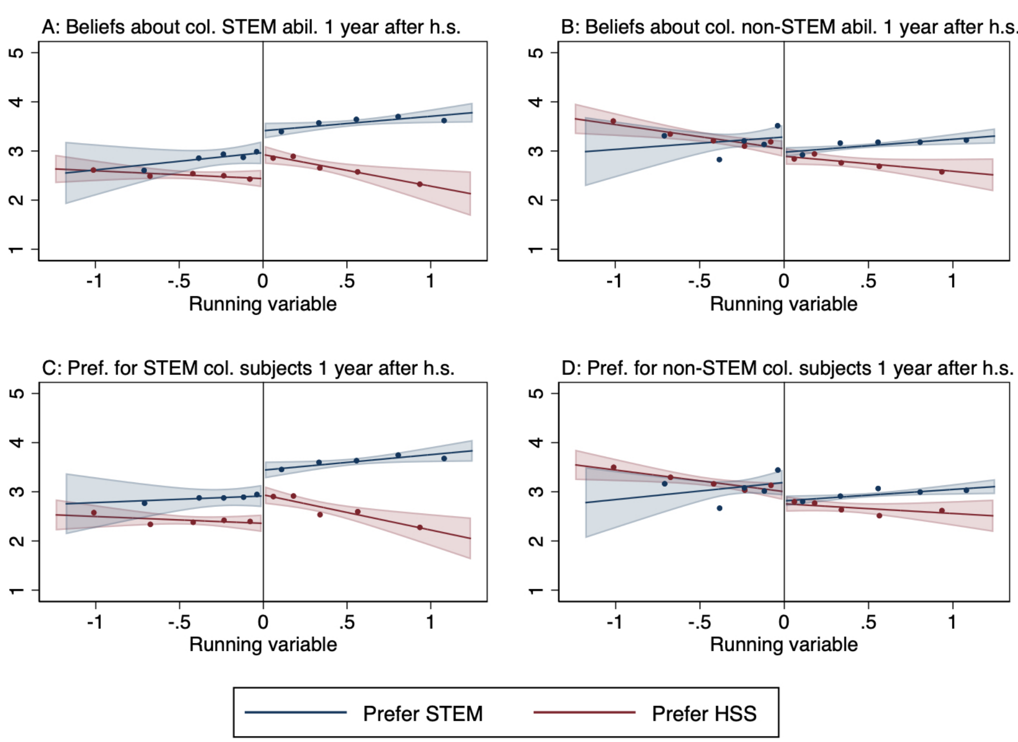
The table is analogous to Table 8, but it does not impute values of 1 for students who had never attended college by the time of the first follow-up survey. Instead, it drops these students.

Table A36: Robustness for effects on beliefs about own abilities and preferences: college subjects

	Main	Alternative bandwidths				Adding covariates
		0.75	1.00	1.50	1.75	
Panel A: Beliefs about own college STEM abilities one year after high school						
STEM	0.659***	0.580***	0.542***	0.631***	0.640***	0.654***
	(0.151)	(0.183)	(0.157)	(0.144)	(0.136)	(0.148)
Panel B: Beliefs about own college non-STEM abilities one year after high school						
STEM	-0.337**	-0.399**	-0.276*	-0.367***	-0.339**	-0.326**
	(0.143)	(0.155)	(0.145)	(0.139)	(0.138)	(0.144)
Panel C: Preferences for STEM college subjects one year after high school						
STEM	0.776***	0.736***	0.679***	0.765***	0.760***	0.769***
	(0.149)	(0.179)	(0.152)	(0.144)	(0.136)	(0.148)
Panel D: Preferences for non-STEM college subjects one year after high school						
STEM	-0.449***	-0.455***	-0.335**	-0.454***	-0.426***	-0.439***
	(0.150)	(0.164)	(0.155)	(0.145)	(0.142)	(0.148)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Table A34. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A11: RD plots of effects on beliefs about own abilities and preferences: college subjects



The figure displays RD plots for effects on the outcomes in Table A34. See the notes to Figure 1 for details on RD plots.

Table A37: Effects on outcomes related to skill acquisition

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Score on the Romanian language and literature part of the baccalaureate exam									
STEM	-0.315***	-0.260***	-0.370***	-0.303***	-0.377***	-0.338***	-0.276***	-0.358***	-0.217*
	(0.073)	(0.098)	(0.097)	(0.106)	(0.104)	(0.111)	(0.082)	(0.113)	(0.116)
Intercept	7.92	8.12	7.73	7.76	8.01	7.54	8.18	7.50	8.34
Std. dev.	1.28	1.14	1.34	1.30	1.25	1.30	1.21	1.33	1.03
Student-cutoffs	3,951	1,920	2,031	1,905	1,965	1,384	2,488	2,060	1,891
Panel B: Average score on the non-Romanian parts of the baccalaureate exam									
STEM	-0.528***	-0.559***	-0.496***	-0.555***	-0.515***	-0.558***	-0.495***	-0.545***	-0.456***
	(0.066)	(0.084)	(0.088)	(0.099)	(0.095)	(0.100)	(0.084)	(0.128)	(0.085)
Intercept	8.43	8.64	8.23	8.53	8.29	8.31	8.52	7.95	8.89
Std. dev.	1.28	1.09	1.38	1.18	1.33	1.28	1.27	1.38	0.96
Student-cutoffs	3,930	1,915	2,015	1,897	1,951	1,377	2,474	2,039	1,891
Panel C: Prefer books and movies with exciting plots to those with rich characters									
STEM	-0.071	-0.128	-0.014	-0.131	0.043	-0.036	-0.056	-0.121	-0.107
	(0.075)	(0.106)	(0.083)	(0.121)	(0.116)	(0.133)	(0.103)	(0.121)	(0.111)
Intercept	3.37	3.38	3.37	3.45	3.26	3.39	3.32	3.36	3.45
Std. dev.	1.18	1.16	1.21	1.17	1.20	1.16	1.19	1.21	1.15
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894

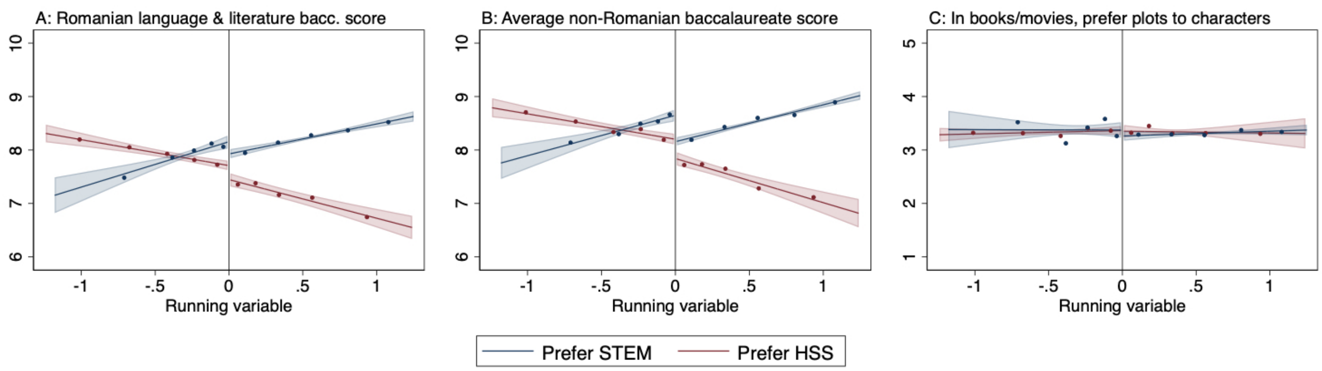
The table presents results for the ATE of STEM assignment, β, for three outcomes related to skill acquisition: a student's score on the Romanian language and literature part of the baccalaureate exam, the student's average score on the other parts of the baccalaureate exam, and the student's preferences over books and movies. The first two outcomes are from the administrative data, but we limit the sample to students from the end-of-high-school survey in order to allow comparability with the results on students' beliefs about their academic abilities; these outcomes are missing for students who did not complete the relevant exam components. The third outcome is based on a question where students were asked how much they agree (on a scale of 1-5) with the statement: "I prefer books and movies with exciting plots to those that focus on the feelings and motivations of the characters". The question was asked in both the end-of-high-school and second follow-up surveys. The outcome uses data from both surveys. Specifically, as in Table A29, it is equal to the student fixed effects from a panel regression of the responses on student and survey fixed effects, centered at the mean response for students with non-missing responses in both surveys.

Table A38: Robustness for effects on outcomes related to skill acquisition

	Main	Alternative bandwidths				Adding covariates
		0.75	1.00	1.50	1.75	
Panel A: Score on the Romanian language and literature part of the baccalaureate exam						
STEM	-0.315***	-0.372***	-0.317***	-0.314***	-0.307***	-0.275***
	(0.073)	(0.086)	(0.079)	(0.071)	(0.069)	(0.066)
Student-cutoffs	3,951	2,969	3,542	4,213	4,374	3,951
Panel B: Average score on the non-Romanian parts of the baccalaureate exam						
STEM	-0.528***	-0.583***	-0.504***	-0.513***	-0.519***	-0.523***
	(0.066)	(0.079)	(0.068)	(0.064)	(0.062)	(0.065)
Student-cutoffs	3,930	2,956	3,524	4,191	4,350	3,930
Panel C: Prefer books and movies with exciting plots to those with rich characters						
STEM	-0.071	-0.075	-0.050	-0.048	-0.059	-0.089
	(0.075)	(0.090)	(0.079)	(0.073)	(0.071)	(0.075)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987

The table shows robustness for the effects in Table A37. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Figure A12: RD plots of effects on outcomes related to skill acquisition



The figure displays RD plots for effects on the outcomes in Table A37. See the notes to Figure 1 for details on RD plots.

Table A39: Effects on enjoyment of specific O*NET job tasks

Outcome	**Coefficient estimate**	**Standard error**	**Intercept**	**Student-cutoffs**
Panel A: STEM-related job tasks				
Develop or code a computer/software program	0.141**	0.062	0.376	1,199
Install software across computers on a large network	0.138**	0.063	0.383	1,199
Operate a calculator	0.063	0.051	0.820	1,199
Develop a new medicine	0.053	0.052	0.483	1,199
Conduct chemical experiments	0.042	0.056	0.496	1,199
Examine blood samples using a microscope	0.090	0.059	0.416	1,199
Assemble electronic parts	0.153***	0.056	0.319	1,199
Manage a department within a large company	0.124***	0.047	0.691	1,199
Keep shipping and receiving records	0.058	0.058	0.341	1,199
Panel B: HSS-related job tasks				
Write books or plays	-0.191***	0.073	0.558	1,199
Write scripts for movies or television shows	-0.084	0.068	0.526	1,199
Help people with personal or emotional problems	-0.108**	0.044	0.901	1,199
Do volunteer work at a non-profit organization	-0.067	0.048	0.837	1,199
Teach a high school class	-0.005	0.062	0.525	1,199
Panel C: Other job tasks				
Repair household appliances	0.019	0.055	0.311	1,199
Drive a truck to deliver packages to offices and homes	-0.031	0.053	0.294	1,199
Start your own business	-0.001	0.040	0.889	1,199
Negotiate business contracts	-0.021	0.050	0.782	1,199
Compose or arrange music	0.083	0.058	0.452	1,199

The table expands on Table 9 by showing effects on whether a student enjoys each job task in the O*NET questionnaire.

Table A40: Heterogeneity for effects on O*NET outcomes

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Share of STEM-related job tasks that enjoy									
STEM	0.096***	0.102***	0.090***	0.173***	0.052	0.098*	0.085**	0.079**	0.093**
	(0.024)	(0.033)	(0.032)	(0.041)	(0.037)	(0.050)	(0.033)	(0.036)	(0.037)
Intercept	0.48	0.48	0.48	0.45	0.51	0.55	0.46	0.50	0.48
Panel B: Share of HSS-related job tasks that enjoy									
STEM	-0.091**	-0.090*	-0.092	-0.030	-0.156***	-0.030	-0.087*	-0.158**	-0.101*
	(0.041)	(0.052)	(0.059)	(0.066)	(0.051)	(0.061)	(0.045)	(0.065)	(0.053)
Intercept	0.67	0.65	0.69	0.59	0.72	0.53	0.73	0.74	0.67
Panel C: Share of Other job tasks that enjoy									
STEM	0.010	-0.029	0.048	0.061	0.004	0.024	-0.009	0.009	0.004
	(0.028)	(0.042)	(0.034)	(0.054)	(0.037)	(0.051)	(0.032)	(0.048)	(0.039)
Intercept	0.55	0.56	0.53	0.57	0.52	0.60	0.52	0.56	0.56
Panel D: Difference in the share of STEM- vs. HSS-related job tasks that enjoy									
STEM	0.187***	0.192***	0.181***	0.203***	0.208***	0.127*	0.172***	0.237***	0.194***
	(0.046)	(0.065)	(0.059)	(0.069)	(0.055)	(0.075)	(0.053)	(0.081)	(0.056)
Intercept	-0.19	-0.17	-0.21	-0.14	-0.21	0.03	-0.27	-0.24	-0.18
*Panel E: Share of O*NET-recommended jobs that are STEM-related*									
STEM	0.105***	0.159***	0.050	0.094*	0.176***	0.024	0.181***	0.191**	0.077*
	(0.032)	(0.052)	(0.034)	(0.051)	(0.062)	(0.073)	(0.047)	(0.089)	(0.039)
Intercept	0.14	0.13	0.14	0.13	0.12	0.23	0.08	0.03	0.16
*Panel F: Share of O*NET-recommended jobs that are HSS-related*									
STEM	-0.097**	-0.111	-0.084	-0.040	-0.190***	-0.048	-0.113**	-0.144*	-0.100
	(0.048)	(0.073)	(0.057)	(0.068)	(0.060)	(0.086)	(0.055)	(0.082)	(0.060)
Intercept	0.43	0.44	0.42	0.32	0.50	0.29	0.51	0.51	0.40
*Panel G: Share of O*NET-recommended jobs that are Other*									
STEM	-0.007	-0.048	0.034	-0.053	0.014	0.023	-0.068	-0.047	0.023
	(0.044)	(0.062)	(0.055)	(0.072)	(0.056)	(0.082)	(0.055)	(0.082)	(0.056)
Intercept	0.43	0.42	0.44	0.55	0.37	0.48	0.41	0.46	0.44
Student-cutoffs	1,199	575	624	540	550	373	728	618	581

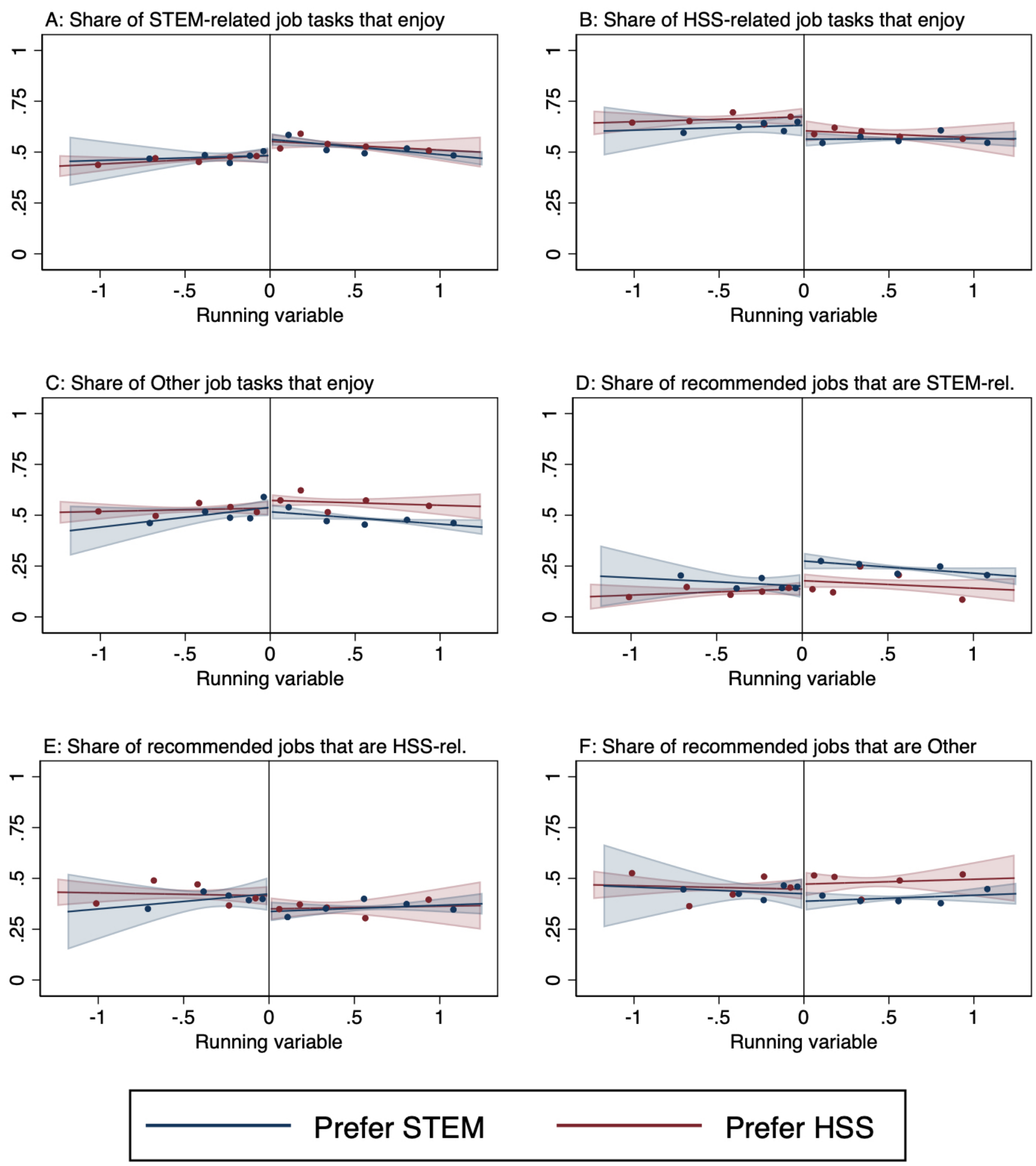
The table shows heterogeneity for the effects in Table 9. The outcome in Panel D is the difference between the outcomes in Panels A and B. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A41: Robustness for effects on O*NET outcomes

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Share of STEM-related job tasks that enjoy						
STEM	0.096***	0.110***	0.096***	0.085***	0.087***	0.089***
	(0.024)	(0.028)	(0.026)	(0.023)	(0.023)	(0.023)
Panel B: Share of HSS-related job tasks that enjoy						
STEM	-0.091**	-0.081	-0.087*	-0.089**	-0.078**	-0.081**
	(0.041)	(0.050)	(0.046)	(0.039)	(0.038)	(0.038)
Panel C: Share of Other job tasks that enjoy						
STEM	0.010	0.051	0.029	0.004	-0.004	0.001
	(0.028)	(0.033)	(0.031)	(0.027)	(0.026)	(0.027)
*Panel D: Share of O*NET-recommended jobs that are STEM-related*						
STEM	0.105***	0.077*	0.085**	0.096***	0.096***	0.103***
	(0.032)	(0.042)	(0.036)	(0.032)	(0.031)	(0.033)
*Panel E: Share of O*NET-recommended jobs that are HSS-related*						
STEM	-0.097**	-0.075	-0.088*	-0.092*	-0.083*	-0.087*
	(0.048)	(0.056)	(0.050)	(0.048)	(0.045)	(0.045)
*Panel F: Share of O*NET-recommended jobs that are Other*						
STEM	-0.007	-0.002	0.003	-0.004	-0.014	-0.016
	(0.044)	(0.052)	(0.046)	(0.042)	(0.040)	(0.042)
Student-cutoffs	1,199	883	1,068	1,271	1,318	1,199

The table shows robustness for the effects in Table 9. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A13: RD plots of effects on O*NET outcomes



The figure displays RD plots for effects on the outcomes in Table 9. See the notes to Figure 1 for details on RD plots.

Table A42: Heterogeneity for effects on choices and beliefs regarding representative jobs

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Would choose to be a technology or engineering worker									
STEM	0.146***	0.222***	0.071	0.081	0.238***	0.212**	0.085	0.235***	0.130*
	(0.047)	(0.066)	(0.056)	(0.089)	(0.066)	(0.096)	(0.061)	(0.082)	(0.066)
Intercept	0.20	0.18	0.23	0.29	0.12	0.23	0.22	0.12	0.21
Panel B: Difference in beliefs about pay									
STEM	-0.006	0.029	-0.041	-0.073	0.082	-0.227	0.100	0.215	-0.046
	(0.097)	(0.123)	(0.125)	(0.209)	(0.100)	(0.217)	(0.110)	(0.155)	(0.163)
Intercept	1.00	1.08	0.92	0.99	0.96	1.18	0.93	0.67	1.10
Panel C: Difference in beliefs about enjoying the work content									
STEM	0.736***	0.663**	0.808***	0.665**	0.959***	0.756*	0.536**	0.642*	0.826***
	(0.211)	(0.323)	(0.246)	(0.299)	(0.259)	(0.386)	(0.233)	(0.354)	(0.309)
Intercept	-0.64	-0.44	-0.85	-0.27	-0.82	-0.05	-0.77	-0.50	-0.70
Panel D: Difference in beliefs about coworkers and work conditions									
STEM	0.251	0.265	0.237	-0.183	0.624***	0.262	0.101	0.659**	0.204
	(0.187)	(0.298)	(0.190)	(0.290)	(0.214)	(0.346)	(0.227)	(0.328)	(0.281)
Intercept	-0.32	-0.16	-0.48	0.15	-0.67	0.10	-0.39	-0.68	-0.24
Panel E: Difference in beliefs about own preparation									
STEM	0.896***	0.931**	0.861***	0.831**	1.23***	1.05***	0.639**	1.01***	1.07***
	(0.232)	(0.360)	(0.255)	(0.393)	(0.286)	(0.383)	(0.277)	(0.367)	(0.317)
Intercept	-0.73	-0.54	-0.92	-0.33	-1.12	-0.17	-0.97	-0.85	-0.78
Panel F: Difference in beliefs about approval of friends and family									
STEM	0.304**	0.221	0.387**	0.540**	0.341**	0.410	0.174	0.004	0.559***
	(0.120)	(0.161)	(0.153)	(0.232)	(0.139)	(0.310)	(0.127)	(0.210)	(0.182)
Intercept	0.05	0.18	-0.09	0.03	0.04	0.26	-0.03	0.29	-0.04
Student-cutoffs	1,199	575	624	540	550	373	728	618	581

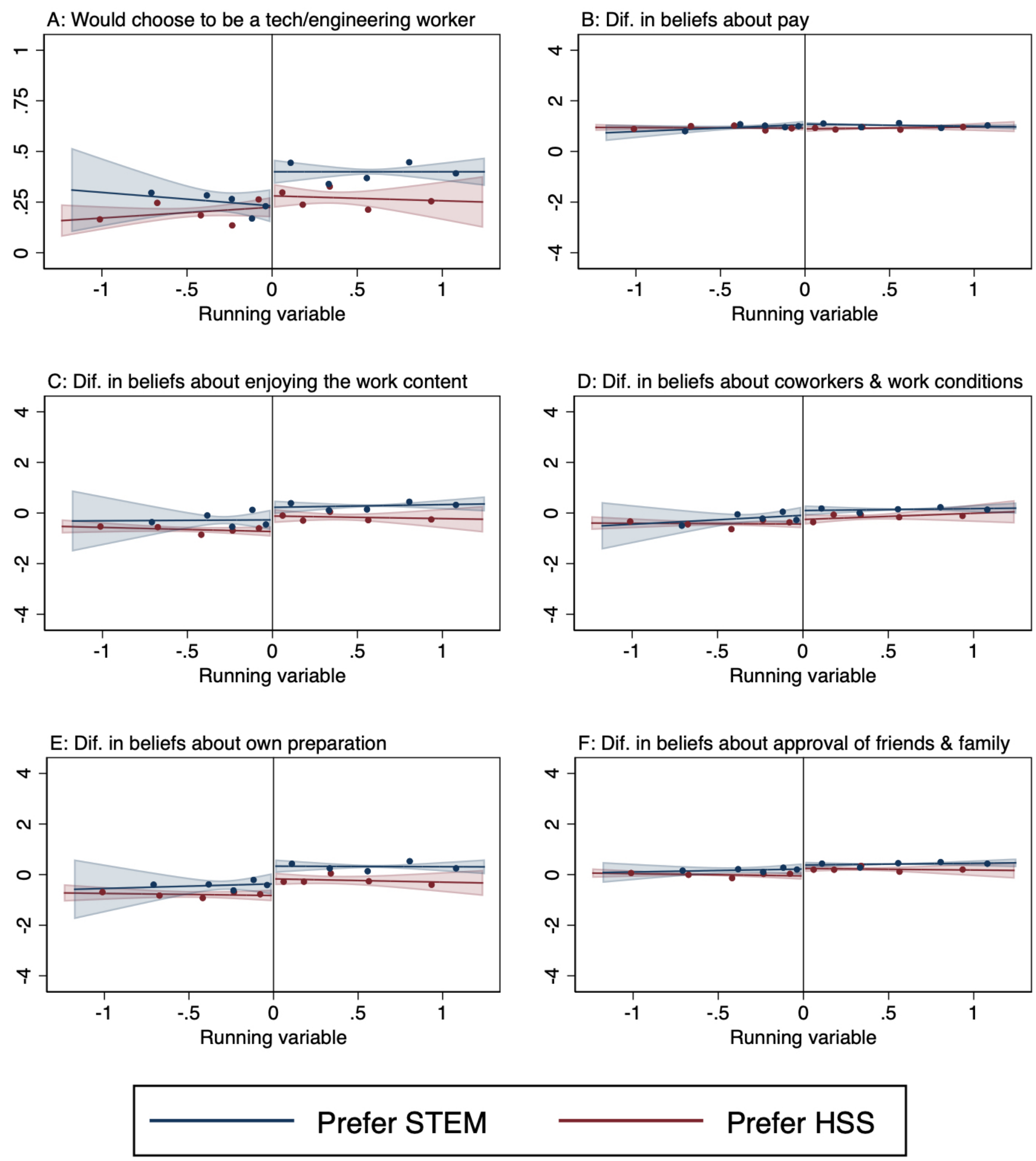
The table shows heterogeneity for effects on outcomes related to those in Table 10. "Difference in beliefs" is the difference between a student's beliefs about being a technology or engineering worker and the average of their beliefs about being a humanities teacher or a person who runs a small business. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A43: Robustness for effects on choices and beliefs regarding representative jobs

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Would choose to be a technology or engineering worker						
STEM	0.146***	0.193***	0.149***	0.139***	0.114**	0.139***
	(0.047)	(0.056)	(0.051)	(0.046)	(0.046)	(0.046)
Panel B: Difference in beliefs about pay						
STEM	-0.006	0.048	0.023	0.010	0.007	-0.000
	(0.097)	(0.124)	(0.110)	(0.094)	(0.087)	(0.098)
Panel C: Difference in beliefs about enjoying the work content						
STEM	0.736***	0.869***	0.752***	0.648***	0.551***	0.684***
	(0.211)	(0.240)	(0.226)	(0.205)	(0.197)	(0.194)
Panel D: Difference in beliefs about coworkers and work conditions						
STEM	0.251	0.257	0.197	0.225	0.212	0.216
	(0.187)	(0.217)	(0.196)	(0.178)	(0.169)	(0.175)
Panel E: Difference in beliefs about own preparation						
STEM	0.896***	1.03***	0.822***	0.840***	0.811***	0.847***
	(0.232)	(0.257)	(0.241)	(0.223)	(0.212)	(0.211)
Panel F: Difference in beliefs about approval of friends and family						
STEM	0.304**	0.341**	0.276**	0.249**	0.229**	0.298**
	(0.120)	(0.142)	(0.133)	(0.116)	(0.111)	(0.121)
Student-cutoffs	1,199	883	1,068	1,271	1,318	1,199

The table shows robustness for effects on the outcomes in Table A42. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A14: RD plots of effects on choices and beliefs regarding representative jobs



The figure displays RD plots for effects on the outcomes in Table A42. See the notes to Figure 1 for details on RD plots.

A8 The factors that students weigh in their decisions

This appendix provides additional analysis of how students make choices regarding college fields of study and careers.

In the first follow-up survey, we gave students a list of reasons that could explain their choice of college field of study, and we asked them to select yes (rather than no) if a reason was a factor they considered. In the second follow-up survey, we did the same but for what they expect will drive their choice of job at age 30. We convert the responses into indicator variables and run separate RD regressions for each of them. We use the RD regressions to (a) predict the share selecting yes at the RD threshold, both overall and for students assigned to STEM or HSS, and (b) estimate the ATE of STEM assignment, β, on the share selecting yes.

The results are in Tables A44 (for college field of study) and A45 (for job at age 30). The questions for college field of study were not asked to students who had never attended college by the time of the first follow-up survey. Thus, Table A44 excludes these students; we find that results are qualitatively similar if we include the dropped students by giving them a value of zero ("no") for all outcomes.

The tables offer a few insights. First, almost all students care about whether an option matches their interests or abilities. The shares at the RD threshold who indicated these attributes were important for the choice of field of study are 96% and 97%, respectively. The shares who expect to care about these attributes for their future job choice are 95% and 97%. Second, considerably fewer students report being influenced by switching costs or by teachers and peers. 38% of observations at the RD threshold indicated that part of why they chose their college field of study was because it matched what they studied in high school and they believed that switching to a different area would be difficult. 46% report being influenced by encouragement from their high school teachers, while 22% chose a field because it is the same as what their friends chose. Similarly, 43% of observations at the RD threshold expect to choose a job because it is related to what they studied in high school and changing would be difficult. Meanwhile, 42% expect their job choice to be influenced by what their high school teachers encouraged them to do. Third, students care about a number of other attributes of a field of study or job, such as family approval, location, prestige, earnings, and coworkers and working conditions. Finally, being assigned to STEM vs. HSS generally has a modest effect on the attributes that students care about. A few exceptions are that STEM assignment makes students more likely to say that switching costs constrained their field choice and more likely to report that their job choice will be influenced by family approval, encouragement from high school teachers, work content, and earnings.

Table A44: The explanations students selected for why they chose their college field of study

Explanation	**Share at the RD threshold selecting yes**			**The effect of STEM assignment**	
	All	Assigned to STEM	Assigned to HSS	Coefficient estimate	Standard error
The subject matched my abilities	0.97	0.97	0.96	0.01	0.03
The subject matched my interests	0.96	0.96	0.96	-0.01	0.03
The subject would lead to a job with high earnings	0.92	0.94	0.89	0.05	0.04
The subject would lead to a job that I would be happy with	0.91	0.91	0.92	-0.01	0.04
My parents wanted me to study the subject	0.77	0.77	0.77	0.00	0.05
In high school, I learned about career paths related to the subject	0.58	0.57	0.58	0.00	0.06
My high school teachers encouraged me to study the subject	0.46	0.51	0.42	0.09	0.07
The subject matched what I studied in high school, and it was hard to change	0.38	0.47	0.29	0.18***	0.06
I thought the subject would be easy	0.25	0.24	0.27	-0.03	0.06
The subject is the same as what my friends chose	0.22	0.19	0.25	-0.05	0.05

The table provides information on the factors that students considered when choosing their college field of study. Each row is for a different RD regression. Outcomes are from the first follow-up survey and are indicators equal to 1 if a student selected yes rather than no when asked if a listed explanation was one of the factors they considered. The sample contains 965 student-cutoff observations; it is the RD sample for the first follow-up survey, but excluding students who had never attended college by the time of this survey. "Share at the RD threshold selecting yes" is the predicted value of an outcome at the RD threshold, either overall ("All") or on the STEM or HSS sides of the threshold ("Assigned to STEM" and "Assigned to HSS"). "The effect of STEM assignment" is the coefficient estimate and standard error for the ATE of STEM assignment, β. "Assigned to HSS" is the same as the "Intercept" term in Panel A of Table 2. "Assigned to STEM" is the sum of "Assigned to HSS" and the β estimate. "All" is the simple average of "Assigned to STEM" and "Assigned to HSS". Other details are as in Panel A of Table 2.

Table A45: The explanations that students expect will drive their choice of job at age 30

Explanation	**Share at the RD threshold selecting yes**			**The effect of STEM assignment**	
	All	Assigned to STEM	Assigned to HSS	Coefficient estimate	Standard error
The job has good coworkers and working conditions	0.98	0.97	0.98	-0.01	0.01
The job provides a high income	0.97	0.99	0.95	0.04**	0.02
The job matches my abilities and educational background	0.97	0.97	0.96	0.00	0.02
The content of the work involved in the job matches my interests	0.95	0.98	0.93	0.05*	0.02
The job would let me live close to where my friends and family are	0.86	0.87	0.86	0.02	0.05
The job is prestigious	0.78	0.78	0.78	0.00	0.05
My family would approve of me doing the job	0.67	0.76	0.58	0.18***	0.05
The job is easy	0.48	0.53	0.43	0.10	0.07
The job is related to what I studied in high school, and it is hard to change	0.43	0.45	0.42	0.03	0.06
My high school teachers encouraged me to do the job	0.42	0.48	0.36	0.12*	0.07

The table provides information on the factors that students expect to be important for determining which job they will choose at age 30. Each row is for a RD different regression. Outcomes are from the second follow-up survey and are indicators equal to 1 if a student selected yes rather than no when asked if a listed explanation is likely to be one of the factors that they will consider. The sample is the RD sample for the second follow-up survey (1,199 student-cutoff observations). Other details are the same as in Table A44.

A9 Additional results for wellbeing and school satisfaction

Table A46: Effects on components of the wellbeing index

	Index	**Components**		
		Overall, am happy	Belong at school	Not depressed
Panel A: End of high school				
STEM	0.133***	0.146**	0.199**	0.066
	(0.051)	(0.072)	(0.077)	(0.055)
Intercept	-0.14	3.66	2.58	2.67
Std. dev.	0.74	1.05	1.12	0.78
Student-cutoffs	3,987	3,987	3,987	3,987
Panel B: 1.5 years after high school				
STEM	-0.033	-0.018	-0.131	0.027
	(0.068)	(0.095)	(0.107)	(0.082)
Intercept	0.66	4.21	3.80	3.28
Std. dev.	0.56	0.77	0.90	0.63
Student-cutoffs	1,199	1,198	1,196	1,199

The table shows effects on components of the wellbeing index used in Table 11. The outcomes in Panel A (B) are from the end-of-high-school (second follow-up) survey. "Overall, am happy" and "Belong at school" are responses from questions where students were asked how much they agree with a statement on a scale of 1-5. The respective statements are: (i) "Overall, I am happy" and (ii) "I feel like I belong at school" (Panel A) or "I feel like I belong in my school, workplace, or community" (Panel B). "Not depressed" is on a scale of 1-4. It is the reverse of a student's average score on the PHQ-4 Depression and Anxiety Questionnaire (Kroenke et al. 2009). In each panel, the wellbeing index for a student is the average of standardized versions of the student's values of the components. The average ignores any components that are missing for the student. To enhance comparability, the components are always standardized using the mean and standard deviation from the end-of-high-school survey, calculated over students with non-missing end-of-high-school values for each component. Other details are as in Panel A of Table 2.

Table A47: Heterogeneity for effects on wellbeing and high school satisfaction at the end of high school

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Wellbeing									
STEM	0.133***	0.111	0.155***	0.192**	0.081	0.055	0.142**	0.094	0.114
	(0.051)	(0.077)	(0.053)	(0.077)	(0.077)	(0.088)	(0.068)	(0.085)	(0.077)
Intercept	-0.14	-0.14	-0.13	-0.15	-0.09	-0.00	-0.20	-0.06	-0.16
Panel B: Liked the high school experience									
STEM	0.113*	0.171*	0.054	0.112	0.164*	0.096	0.112	0.260**	0.013
	(0.068)	(0.094)	(0.084)	(0.113)	(0.084)	(0.127)	(0.083)	(0.111)	(0.098)
Intercept	3.69	3.56	3.82	3.62	3.73	3.61	3.75	3.60	3.74
Panel C: Liked the high school curriculum									
STEM	0.002	-0.002	0.007	-0.001	-0.010	0.037	-0.006	0.107	-0.150
	(0.066)	(0.087)	(0.083)	(0.110)	(0.091)	(0.133)	(0.071)	(0.107)	(0.108)
Intercept	3.32	3.26	3.38	3.25	3.42	3.13	3.41	3.37	3.32
Panel D: Liked the high school peers									
STEM	0.233***	0.309***	0.156*	0.139	0.356***	0.160	0.235***	0.352***	0.169
	(0.072)	(0.091)	(0.094)	(0.118)	(0.106)	(0.121)	(0.090)	(0.133)	(0.109)
Intercept	3.53	3.47	3.60	3.59	3.42	3.75	3.43	3.44	3.58
Panel E: Liked the high school teachers									
STEM	-0.022	-0.082	0.037	-0.109	0.059	0.026	-0.025	0.094	-0.175*
	(0.068)	(0.086)	(0.088)	(0.111)	(0.086)	(0.139)	(0.074)	(0.114)	(0.096)
Intercept	3.60	3.56	3.64	3.52	3.64	3.48	3.65	3.60	3.63
Panel F: The high school curriculum was a good fit for my abilities									
STEM	0.001	0.037	-0.035	-0.060	0.074	-0.019	-0.017	0.202***	-0.089
	(0.053)	(0.069)	(0.064)	(0.087)	(0.076)	(0.108)	(0.062)	(0.069)	(0.088)
Intercept	3.39	3.33	3.45	3.40	3.36	3.32	3.45	3.28	3.42
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894

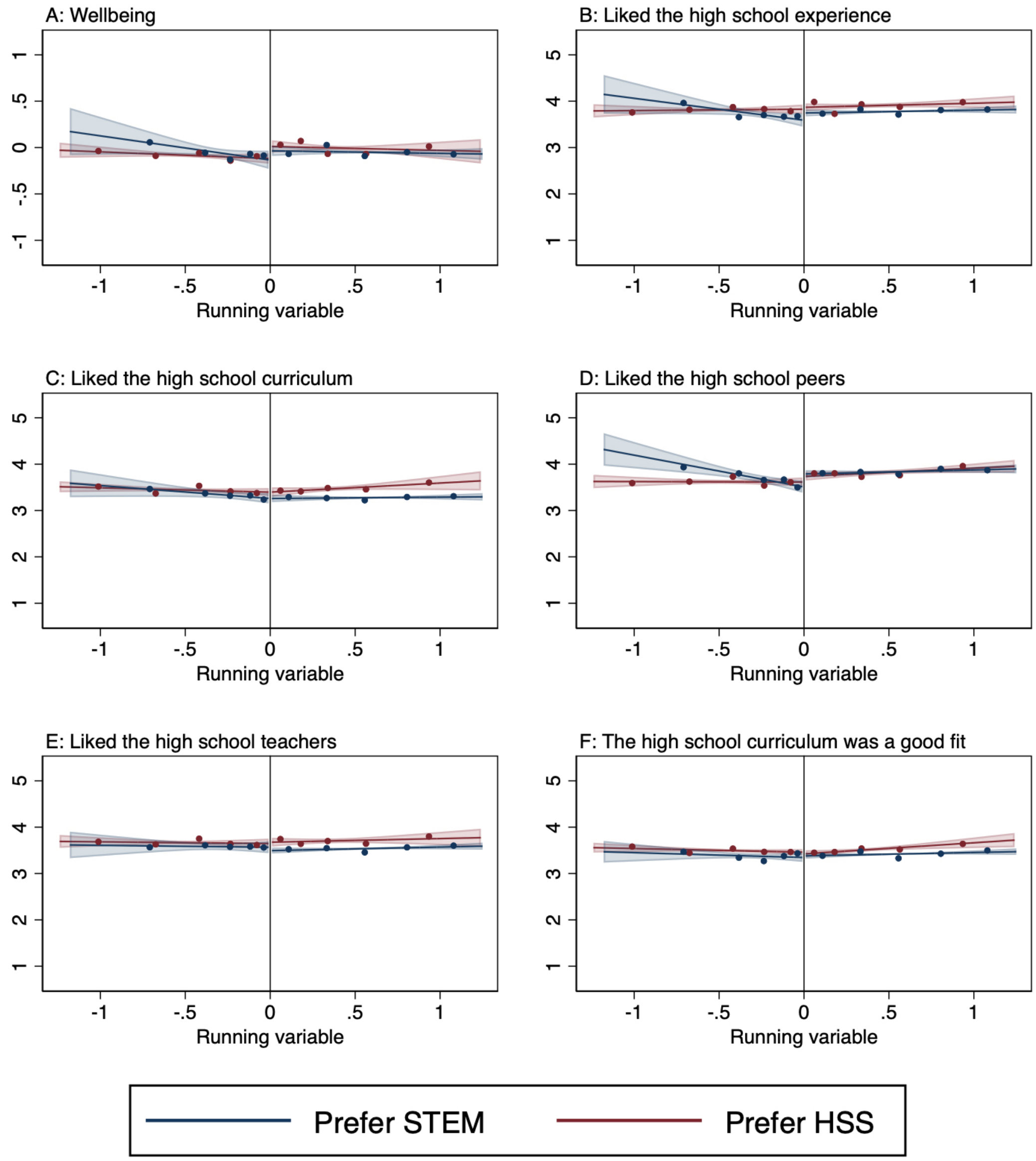
The table shows heterogeneity for the effects in Panel A of Table 11. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A48: Robustness for effects on wellbeing and high school satisfaction at the end of high school

	Main	Alternative bandwidths				Adding covariates
		0.75	1.00	1.50	1.75	
Panel A: Wellbeing						
STEM	0.133***	0.122**	0.144***	0.143***	0.128***	0.124**
	(0.051)	(0.056)	(0.051)	(0.047)	(0.044)	(0.049)
Panel B: Liked the high school experience						
STEM	0.113*	0.133*	0.113	0.109*	0.114*	0.122*
	(0.068)	(0.077)	(0.070)	(0.066)	(0.062)	(0.067)
Panel C: Liked the high school curriculum						
STEM	0.002	0.049	0.027	-0.019	-0.017	0.019
	(0.066)	(0.076)	(0.068)	(0.063)	(0.061)	(0.065)
Panel D: Liked the high school peers						
STEM	0.233***	0.246***	0.262***	0.222***	0.228***	0.214***
	(0.072)	(0.078)	(0.072)	(0.072)	(0.069)	(0.071)
Panel E: Liked the high school teachers						
STEM	-0.022	0.040	-0.000	-0.011	-0.023	-0.015
	(0.068)	(0.084)	(0.072)	(0.066)	(0.065)	(0.068)
Panel F: The high school curriculum was a good fit for my abilities						
STEM	0.001	-0.019	0.005	-0.006	0.016	0.012
	(0.053)	(0.065)	(0.058)	(0.051)	(0.049)	(0.052)
Student-cutoffs	3,987	2,993	3,573	4,249	4,415	3,987

The table shows robustness for the effects in Panel A of Table 11. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A15: RD plots of effects on wellbeing and high school satisfaction at the end of high school



The figure displays RD plots for effects on the outcomes in Panel A of Table 11. See the notes to Figure 1 for details on RD plots.

Table A49: Heterogeneity for effects on wellbeing and high school satisfaction 1-1.5 years after high school

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Wellbeing									
STEM	-0.033	0.012	-0.077	-0.056	0.045	0.034	-0.044	0.102	-0.100
	(0.068)	(0.091)	(0.087)	(0.107)	(0.103)	(0.143)	(0.088)	(0.124)	(0.107)
Intercept	0.66	0.60	0.72	0.68	0.61	0.58	0.72	0.56	0.67
Student-cutoffs	1,199	575	624	540	550	373	728	618	581
Panel B: Liked the high school experience									
STEM	0.217*	0.335**	0.099	0.376**	0.161	0.709***	-0.088	0.120	0.381***
	(0.110)	(0.136)	(0.156)	(0.172)	(0.136)	(0.246)	(0.134)	(0.225)	(0.126)
Intercept	3.90	3.77	4.03	3.85	3.90	3.54	4.02	3.98	3.72
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel C: Liked the high school curriculum									
STEM	-0.004	0.043	-0.050	0.140	0.010	0.187	-0.212	0.015	0.037
	(0.137)	(0.159)	(0.208)	(0.219)	(0.179)	(0.309)	(0.161)	(0.277)	(0.168)
Intercept	3.13	3.02	3.25	3.03	3.13	2.91	3.28	3.19	3.03
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel D: Liked the high school peers									
STEM	0.287**	0.543***	0.031	0.462**	0.220	0.567**	0.064	0.091	0.422*
	(0.138)	(0.171)	(0.194)	(0.210)	(0.218)	(0.260)	(0.184)	(0.235)	(0.217)
Intercept	3.82	3.66	3.97	3.76	3.80	3.79	3.87	3.99	3.68
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel E: Liked the high school teachers									
STEM	0.128	0.132	0.123	-0.026	0.254	0.492*	-0.038	0.145	0.078
	(0.130)	(0.166)	(0.188)	(0.194)	(0.182)	(0.272)	(0.141)	(0.283)	(0.144)
Intercept	3.75	3.62	3.89	3.83	3.66	3.27	3.88	3.72	3.81
Student-cutoffs	1,159	589	570	546	520	325	746	547	612
Panel F: The high school curriculum was a good fit for my abilities									
STEM	-0.123	0.199	-0.446***	-0.085	-0.151	0.213	-0.364**	0.152	-0.292*
	(0.118)	(0.143)	(0.164)	(0.182)	(0.161)	(0.250)	(0.140)	(0.246)	(0.157)
Intercept	3.49	3.36	3.63	3.41	3.51	3.21	3.65	3.29	3.57
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

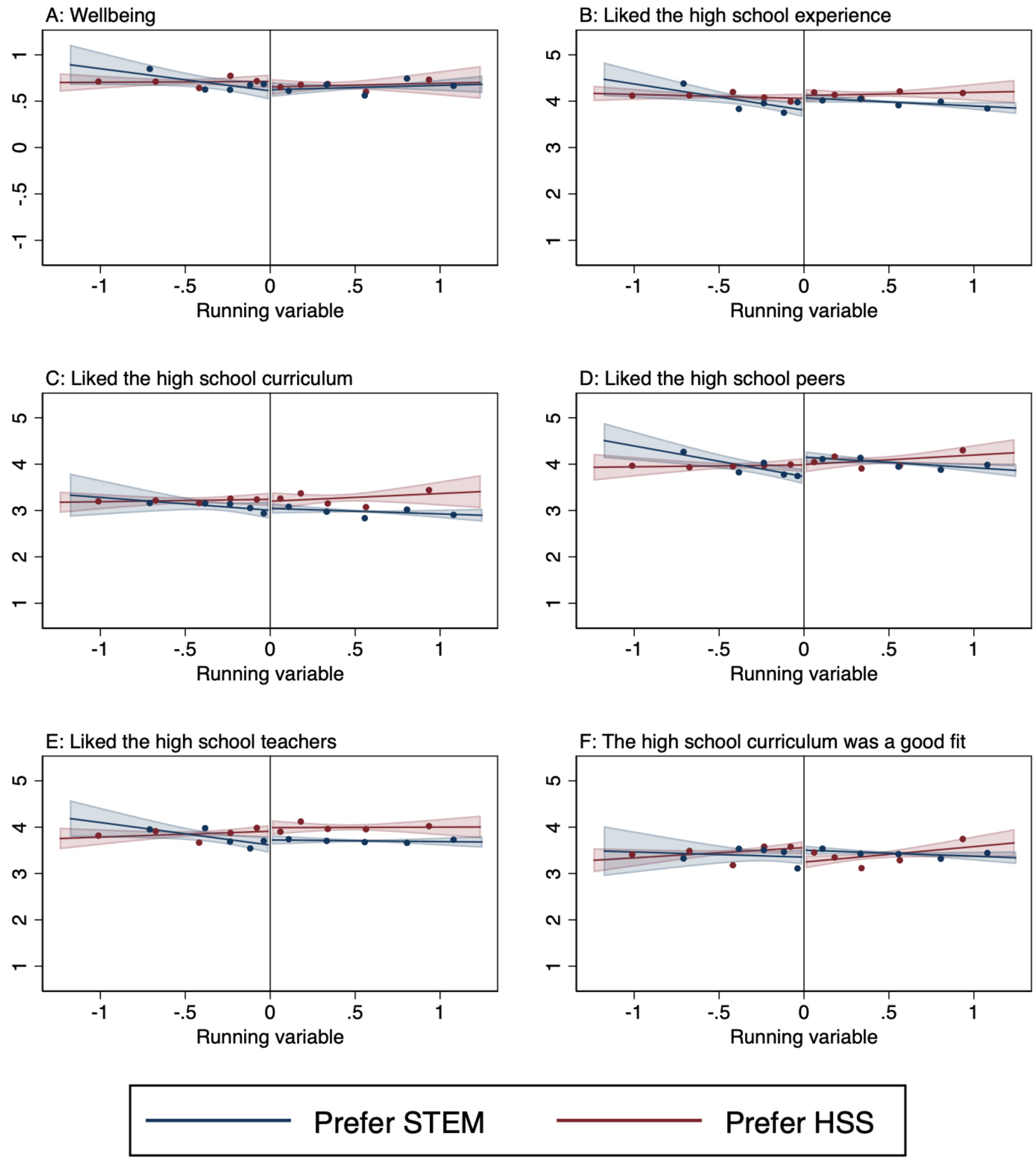
The table shows heterogeneity for the effects in Panel B of Table 11. See the notes to Table A6 for definitions of the column headings.

Table A50: Robustness for effects on wellbeing and high school satisfaction 1-1.5 years after high school

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Wellbeing						
STEM	-0.033	-0.055	-0.053	-0.025	-0.036	-0.033
	(0.068)	(0.073)	(0.070)	(0.066)	(0.063)	(0.066)
Student-cutoffs	1,199	883	1,068	1,271	1,318	1,199
Panel B: Liked the high school experience						
STEM	0.217*	0.278**	0.197	0.175*	0.141	0.206*
	(0.110)	(0.132)	(0.120)	(0.106)	(0.105)	(0.108)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel C: Liked the high school curriculum						
STEM	-0.004	0.037	-0.053	-0.022	-0.039	0.003
	(0.137)	(0.157)	(0.147)	(0.134)	(0.129)	(0.138)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel D: Liked the high school peers						
STEM	0.287**	0.366**	0.283*	0.232*	0.211*	0.284**
	(0.138)	(0.168)	(0.150)	(0.133)	(0.127)	(0.137)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel E: Liked the high school teachers						
STEM	0.128	0.158	0.128	0.067	0.077	0.136
	(0.130)	(0.143)	(0.137)	(0.126)	(0.119)	(0.132)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159
Panel F: The high school curriculum was a good fit for my abilities						
STEM	-0.123	-0.055	-0.058	-0.143	-0.126	-0.114
	(0.118)	(0.135)	(0.129)	(0.114)	(0.112)	(0.116)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Panel B of Table 11. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Figure A16: RD plots of effects on wellbeing and high school satisfaction 1-1.5 years after high school



The figure displays RD plots for effects on the outcomes in Panel B of Table 11. See the notes to Figure 1 for details on RD plots.

Table A51: Effects on wellbeing and high school satisfaction for students from the follow-up surveys

	Wellbeing	**Liked the high school:**				**H.s. curriculum was a good fit for my abilities**
		Experience	Curriculum	Peers	Teachers	
Panel A: End of high school						
STEM	0.051	0.127	0.185	0.242**	0.228*	0.275***
	(0.078)	(0.125)	(0.117)	(0.117)	(0.131)	(0.100)
Intercept	-0.10	3.63	3.17	3.47	3.39	3.22
Std. dev.	0.72	0.99	1.00	1.09	1.02	0.85
Panel B: 1-1.5 years after high school						
STEM	-0.033	0.217*	-0.004	0.287**	0.128	-0.123
	(0.068)	(0.110)	(0.137)	(0.138)	(0.130)	(0.118)
Intercept	0.66	3.90	3.13	3.82	3.75	3.49
Std. dev.	0.56	0.89	1.06	1.08	0.93	1.02
Panel C: Change versus the end of high school						
STEM	-0.084	0.090	-0.189	0.045	-0.100	-0.398***
	(0.088)	(0.118)	(0.138)	(0.140)	(0.134)	(0.124)
Intercept	0.76	0.27	-0.04	0.34	0.36	0.27
Std. dev.	0.80	1.06	1.25	1.15	1.10	1.21
Student-cutoffs	1,199	1,159	1,159	1,159	1,159	1,159

The table is analogous to Table 11 but for restricted samples. The sample in the "Wellbeing" column (remaining columns) is restricted to students from the second (first) follow-up survey. The outcomes in Panel C are the difference between those in Panels B and A. The number of observations is the same across panels, so it is displayed in a single row at the bottom of the table.

Table A52: Heterogeneity for effects on regret over high school application choices one year after high school

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Am happy with the high school application choices that I made									
STEM	0.049	0.282	-0.185	0.215	-0.172	-0.049	0.112	-0.452**	0.265
	(0.129)	(0.189)	(0.155)	(0.219)	(0.191)	(0.189)	(0.156)	(0.183)	(0.172)
Intercept	4.20	4.14	4.25	3.99	4.31	4.27	4.16	4.48	4.06
Panel B: If could do over, would make no change									
STEM	0.045	0.081	0.009	0.063	0.122**	0.066	0.042	-0.015	0.093
	(0.042)	(0.054)	(0.057)	(0.076)	(0.060)	(0.100)	(0.047)	(0.068)	(0.062)
Intercept	0.80	0.77	0.83	0.78	0.78	0.79	0.80	0.80	0.81
Panel C: If could do over, would rank STEM tracks higher									
STEM	-0.032	-0.042	-0.022	-0.021	-0.062	-0.047	-0.028	0.034	-0.053
	(0.035)	(0.047)	(0.047)	(0.062)	(0.043)	(0.072)	(0.042)	(0.036)	(0.051)
Intercept	0.10	0.11	0.10	0.12	0.09	0.13	0.11	0.06	0.10
Panel D: If could do over, would rank HSS tracks higher									
STEM	-0.018	-0.037	0.001	-0.079	-0.032	-0.049	-0.007	-0.003	-0.052
	(0.032)	(0.040)	(0.047)	(0.051)	(0.051)	(0.074)	(0.035)	(0.057)	(0.042)
Intercept	0.08	0.09	0.06	0.11	0.10	0.09	0.07	0.09	0.08
Panel E: If could do over, would rank Other tracks higher									
STEM	0.005	-0.002	0.012	0.037*	-0.028	0.031*	-0.007	-0.016	0.012
	(0.013)	(0.015)	(0.018)	(0.020)	(0.025)	(0.016)	(0.022)	(0.045)	(0.009)
Intercept	0.02	0.03	0.01	-0.00	0.03	-0.00	0.02	0.05	0.01
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

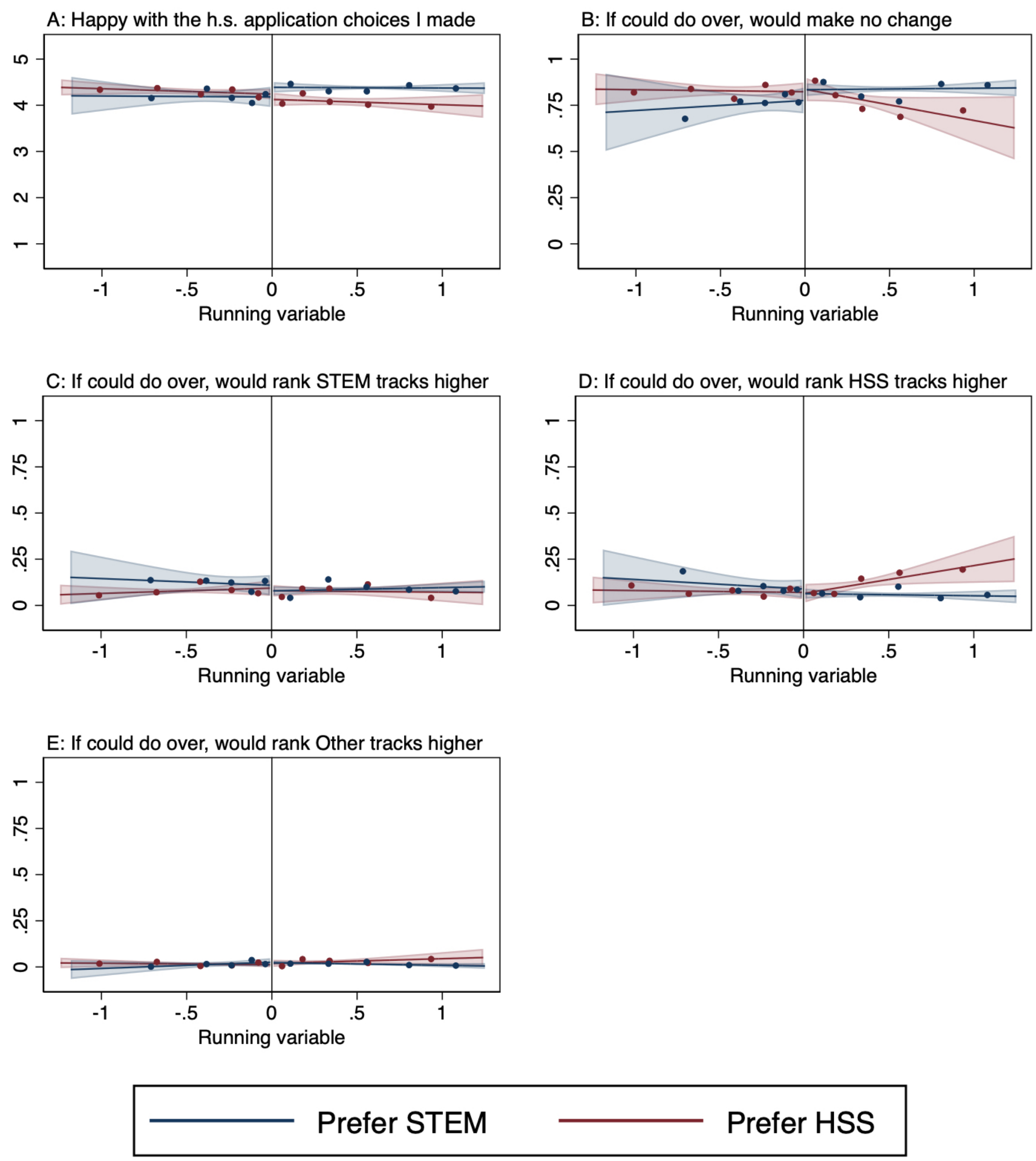
The table shows heterogeneity for the effects in Table 12. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A53: Robustness for effects on regret over high school application choices one year after high school

	Main	Alternative bandwidths				Adding covariates
		0.75	1.00	1.50	1.75	
Panel A: Am happy with the high school application choices that I made						
STEM	0.049	0.115	0.077	0.059	0.043	0.046
	(0.129)	(0.147)	(0.133)	(0.126)	(0.121)	(0.129)
Panel B: If could do over, would make no change						
STEM	0.045	0.044	0.025	0.043	0.043	0.047
	(0.042)	(0.058)	(0.047)	(0.041)	(0.042)	(0.041)
Panel C: If could do over, would rank STEM tracks higher						
STEM	-0.032	-0.030	-0.025	-0.029	-0.023	-0.033
	(0.035)	(0.045)	(0.037)	(0.033)	(0.033)	(0.034)
Panel D: If could do over, would rank HSS tracks higher						
STEM	-0.018	-0.018	-0.006	-0.021	-0.030	-0.017
	(0.032)	(0.038)	(0.032)	(0.031)	(0.031)	(0.032)
Panel E: If could do over, would rank Other tracks higher						
STEM	0.005	0.005	0.005	0.007	0.010	0.004
	(0.013)	(0.015)	(0.014)	(0.013)	(0.013)	(0.013)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Table 12. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A17: RD plots of effects on regret over high school application choices one year after high school



The figure displays RD plots for effects on the outcomes in Table 12. See the notes to Figure 1 for details on RD plots.

Table A54: Heterogeneity for effects on college satisfaction one year after high school

	All	**Prefer**		**Stronger in**		**Gender**		**Achievement**	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Like the college experience									
STEM	-0.443***	-0.521***	-0.366**	-0.746***	-0.213	-0.496**	-0.477***	-0.441	-0.413**
	(0.138)	(0.188)	(0.166)	(0.192)	(0.227)	(0.246)	(0.167)	(0.320)	(0.172)
Intercept	2.20	2.34	2.05	2.52	1.95	2.10	2.30	2.13	2.26
Panel B: Like the college curriculum									
STEM	-0.227*	-0.433**	-0.021	-0.543**	-0.064	-0.224	-0.188	-0.324	-0.205
	(0.129)	(0.165)	(0.176)	(0.215)	(0.178)	(0.235)	(0.169)	(0.303)	(0.137)
Intercept	2.25	2.39	2.11	2.72	1.95	2.24	2.23	2.23	2.33
Panel C: Like the college peers									
STEM	-0.398**	-0.470**	-0.326	-0.515*	-0.262	-0.319	-0.453**	-0.574	-0.348*
	(0.166)	(0.215)	(0.219)	(0.291)	(0.218)	(0.301)	(0.182)	(0.368)	(0.203)
Intercept	2.18	2.36	2.00	2.49	1.89	2.05	2.27	2.32	2.16
Panel D: Like the college instructors									
STEM	-0.352***	-0.376**	-0.328*	-0.353	-0.386*	-0.131	-0.443***	-0.303	-0.345**
	(0.134)	(0.169)	(0.192)	(0.233)	(0.221)	(0.259)	(0.158)	(0.281)	(0.160)
Intercept	2.31	2.44	2.17	2.58	2.16	2.12	2.40	2.11	2.44
Panel E: The college curriculum is a good fit for my abilities									
STEM	0.082	-0.052	0.216	0.200	-0.040	-0.157	0.031	-0.454*	0.206
	(0.156)	(0.205)	(0.223)	(0.271)	(0.239)	(0.342)	(0.201)	(0.240)	(0.174)
Intercept	3.48	3.75	3.21	3.61	3.37	3.55	3.57	3.59	3.74
Panel F: Am happy with the college application choices that I made									
STEM	0.122	-0.207	0.451**	0.368	0.021	0.282	0.022	-0.215	0.198
	(0.179)	(0.267)	(0.212)	(0.269)	(0.273)	(0.364)	(0.230)	(0.275)	(0.220)
Intercept	3.72	4.14	3.31	3.79	3.59	3.49	3.86	3.61	4.05
Student-cutoffs	1,159	589	570	546	520	325	746	547	612

The table shows heterogeneity for the effects in Table 13. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table. See the notes to Table A6 for definitions of the column headings.

Table A55: Effects on college satisfaction one year after high school with no imputations for missing responses

	Like the college:				**College curric. is a good fit for my abilities**	**Am happy w/ the appl. choices I made**
	Experience	Curriculum	Peers	Instructors		
STEM	-0.462***	-0.222*	-0.455**	-0.386***	0.163	0.226*
	(0.156)	(0.133)	(0.178)	(0.142)	(0.106)	(0.136)
Intercept	2.40	2.50	2.39	2.54	3.97	4.26
Std. dev.	1.13	1.06	1.22	1.12	0.79	0.92
Student-cutoffs	965	965	965	965	965	965

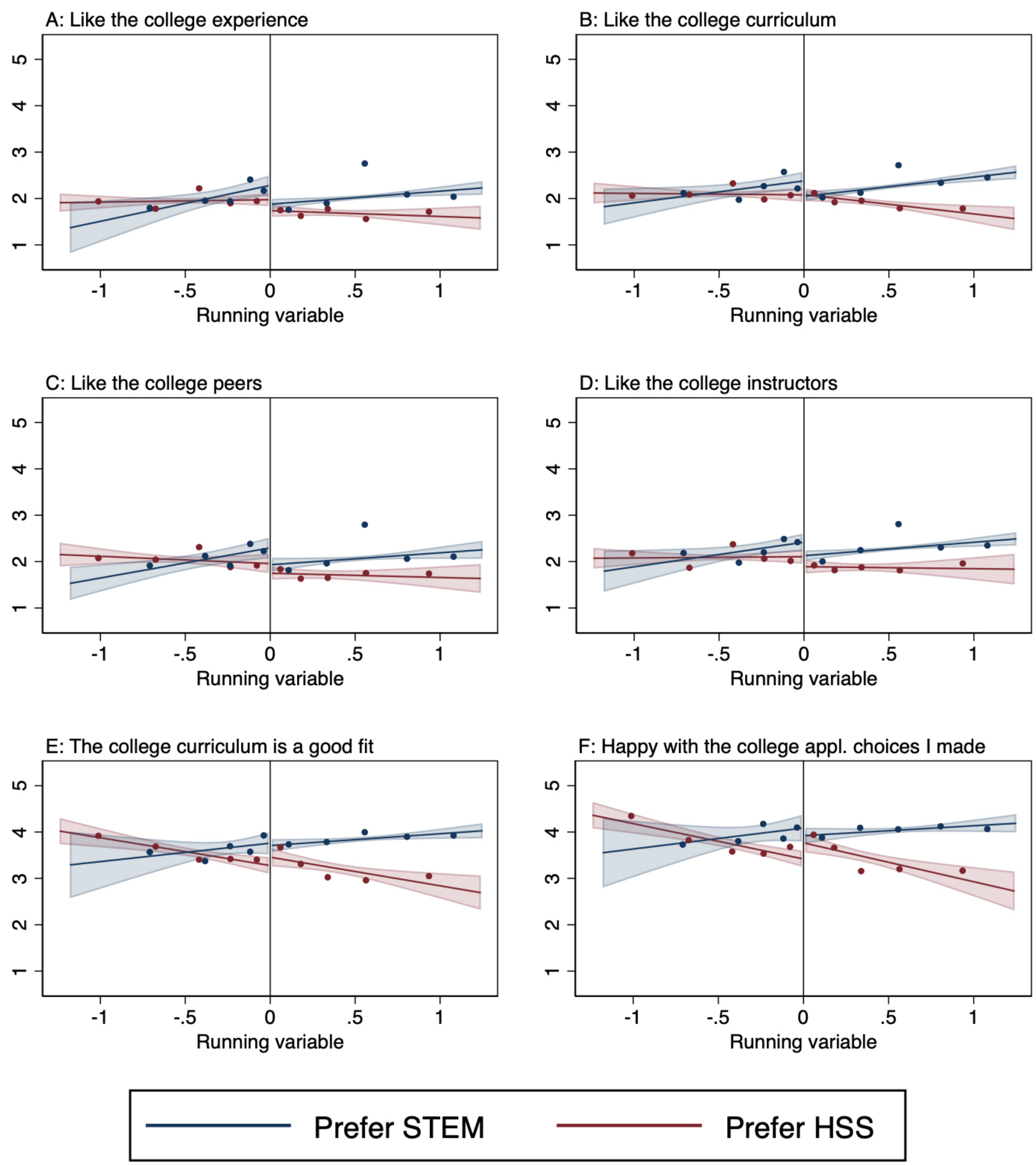
The table is analogous to Table 13, but it does not impute values of 1 for students who had never attended college by the time of the first follow-up survey. Instead, it drops these students.

Table A56: Robustness for effects on college satisfaction one year after high school

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Like the college experience						
STEM	-0.443***	-0.653***	-0.498***	-0.420***	-0.384***	-0.450***
	(0.138)	(0.161)	(0.150)	(0.134)	(0.131)	(0.140)
Panel B: Like the college curriculum						
STEM	-0.227*	-0.297**	-0.266**	-0.211*	-0.161	-0.238*
	(0.129)	(0.149)	(0.130)	(0.121)	(0.118)	(0.131)
Panel C: Like the college peers						
STEM	-0.398**	-0.502**	-0.382**	-0.430***	-0.382**	-0.402**
	(0.166)	(0.196)	(0.173)	(0.156)	(0.150)	(0.169)
Panel D: Like the college instructors						
STEM	-0.352***	-0.547***	-0.409***	-0.320**	-0.290**	-0.365***
	(0.134)	(0.154)	(0.136)	(0.128)	(0.124)	(0.137)
Panel E: The college curriculum is a good fit for my abilities						
STEM	0.082	0.067	0.141	0.054	0.097	0.079
	(0.156)	(0.183)	(0.159)	(0.148)	(0.148)	(0.159)
Panel F: Am happy with the college application choices that I made						
STEM	0.122	0.090	0.169	0.091	0.097	0.125
	(0.179)	(0.212)	(0.183)	(0.174)	(0.172)	(0.182)
Student-cutoffs	1,159	886	1,041	1,263	1,319	1,159

The table shows robustness for the effects in Table 13. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling. The sample is the same for all outcomes, so it is presented in a single row at the bottom of the table.

Figure A18: RD plots of effects on college satisfaction one year after high school



The figure displays RD plots for effects on the outcomes in Table 13. See the notes to Figure 1 for details on RD plots.

A10 Additional results for social and civic outcomes

Table A57: Heterogeneity for effects on social and civic outcomes

	All	Prefer		Stronger in		Gender		Achievement	
		STEM	HSS	Math	Language	Male	Female	Low	High
Panel A: Traditionalist expectations									
STEM	0.096***	0.110**	0.081**	0.126**	0.139***	0.116**	0.034	0.074	0.091**
	(0.034)	(0.051)	(0.037)	(0.051)	(0.043)	(0.048)	(0.033)	(0.061)	(0.044)
Intercept	-0.10	-0.12	-0.07	-0.03	-0.16	0.22	-0.29	-0.03	-0.13
Std. dev.	0.49	0.51	0.47	0.51	0.46	0.41	0.41	0.48	0.50
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel B: Right-wing political views									
STEM	0.042	0.024	0.060*	0.071	0.042	0.145***	-0.012	0.044	0.023
	(0.031)	(0.047)	(0.034)	(0.049)	(0.045)	(0.052)	(0.036)	(0.048)	(0.043)
Intercept	-0.06	-0.07	-0.05	-0.07	-0.04	-0.05	-0.08	-0.01	-0.08
Std. dev.	0.44	0.44	0.44	0.45	0.42	0.45	0.42	0.42	0.45
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel C: Trust									
STEM	0.016	0.019	0.013	-0.031	0.008	-0.012	0.028	-0.021	-0.023
	(0.050)	(0.065)	(0.065)	(0.076)	(0.075)	(0.085)	(0.068)	(0.077)	(0.080)
Intercept	-0.03	0.01	-0.08	0.03	-0.05	0.05	-0.10	0.04	-0.04
Std. dev.	0.78	0.76	0.79	0.77	0.79	0.77	0.78	0.79	0.77
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel D: Turn out to vote in the Fall 2024 elections									
STEM	0.027	0.036	0.018	0.009	0.019	-0.005	0.049	-0.010	0.056
	(0.036)	(0.053)	(0.041)	(0.077)	(0.037)	(0.077)	(0.043)	(0.046)	(0.051)
Intercept	0.87	0.84	0.90	0.88	0.90	0.89	0.87	0.92	0.84
Std. dev.	0.26	0.26	0.26	0.27	0.23	0.28	0.24	0.26	0.26
Student-cutoffs	1,199	575	624	540	550	373	728	618	581
Panel E: Good friends									
STEM	-0.005	0.143	-0.154	0.303	-0.052	-0.066	-0.041	0.128	-0.304
	(0.185)	(0.273)	(0.200)	(0.312)	(0.249)	(0.321)	(0.236)	(0.263)	(0.249)
Intercept	6.07	6.13	6.02	6.06	5.87	6.61	5.78	5.92	6.32
Std. dev.	2.76	2.73	2.77	2.75	2.75	2.69	2.78	2.76	2.75
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel F: Very close friends									
STEM	-0.041	-0.000	-0.082	-0.101	-0.049	0.004	-0.063	0.042	-0.161
	(0.096)	(0.127)	(0.119)	(0.149)	(0.138)	(0.171)	(0.114)	(0.162)	(0.137)
Intercept	3.22	3.28	3.15	3.26	3.18	3.42	3.07	3.05	3.38
Std. dev.	1.50	1.49	1.51	1.49	1.51	1.51	1.48	1.51	1.48
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel G: Good female vs. male friends									
STEM	-0.764***	-0.868***	-0.660***	-0.983***	-0.812***	-0.706**	-0.491***	-0.362	-1.04***
	(0.191)	(0.299)	(0.202)	(0.299)	(0.250)	(0.281)	(0.188)	(0.293)	(0.261)
Intercept	0.62	0.60	0.64	0.34	0.91	-1.03	1.50	0.12	0.97
Std. dev.	2.76	2.86	2.65	2.87	2.63	2.48	2.30	2.71	2.80
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel H: Verbal development									
STEM	-0.279***	-0.272***	-0.285***	-0.289***	-0.308***	-0.260***	-0.273***	-0.255***	-0.304***
	(0.033)	(0.048)	(0.039)	(0.046)	(0.051)	(0.052)	(0.043)	(0.057)	(0.047)
Intercept	0.18	0.18	0.18	0.07	0.27	-0.01	0.29	0.15	0.21
Std. dev.	0.49	0.47	0.51	0.49	0.48	0.48	0.47	0.50	0.48
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894
Panel I: Empathy									
STEM	-0.116**	-0.051	-0.181***	-0.158*	-0.103	-0.145	-0.082	-0.053	-0.128*
	(0.054)	(0.076)	(0.066)	(0.091)	(0.084)	(0.093)	(0.069)	(0.109)	(0.069)
Intercept	0.06	0.02	0.10	0.00	0.12	-0.04	0.10	0.03	0.02
Std. dev.	0.89	0.87	0.91	0.89	0.89	0.92	0.86	0.92	0.86
Student-cutoffs	3,987	1,925	2,062	1,921	1,985	1,396	2,510	2,093	1,894

The table shows heterogeneity for effects on the main outcomes in Section 6.6. See the notes to Table A6 for definitions of the column headings.

Table A58: Effects on expectations about one's household wealth decile at age 30

	Decile	**Decile groups**			
		≤ 4	$5-6$	$7-8$	$9-10$
Panel A: All students					
STEM	0.133	-0.003	0.021	-0.089***	0.071***
	(0.086)	(0.006)	(0.025)	(0.030)	(0.023)
Intercept	7.40	0.01	0.17	0.68	0.14
Std. dev.	1.33	0.08	0.37	0.45	0.38
Student-cutoffs	3,987	3,987	3,987	3,987	3,987
Panel B: Male students					
STEM	0.030	-0.008	0.055	-0.073	0.026
	(0.147)	(0.014)	(0.041)	(0.055)	(0.041)
Intercept	7.51	0.02	0.14	0.66	0.18
Std. dev.	1.34	0.10	0.36	0.45	0.38
Student-cutoffs	1,396	1,396	1,396	1,396	1,396
Panel C: Female students					
STEM	0.172	0.001	0.007	-0.108***	0.100***
	(0.114)	(0.007)	(0.034)	(0.037)	(0.032)
Intercept	7.33	0.00	0.20	0.69	0.11
Std. dev.	1.32	0.08	0.38	0.45	0.38
Student-cutoffs	2,510	2,510	2,510	2,510	2,510

The table presents results for the ATE of STEM assignment, β, for outcomes capturing how wealthy a student expects their household to be when the student is 30 years old. The outcomes are based on a question where students were asked to predict their household wealth decile. We use this question to create a variable equal to the raw response ("Decile") as well as indicator variables that equal one when a response is in a given category ("Decile groups"). The question was asked in both the end-of-high-school and second follow-up surveys. The outcomes in the table use data from both surveys. As in Table A29, they are equal to the student fixed effects from a panel regression of a given derived variable on student and survey fixed effects, centered at the overall mean of the variable for students with non-missing values in both surveys. Other details match those in Panel A of Table 2.

Table A59: Effects on the amount of education that students expect to obtain

	Years	**Degree**				
		High school	Foreman's	Bachelor's	Master's/Professional	Doctoral
Panel A: All students						
STEM	-0.375*	-0.008	0.002	0.079*	0.013	-0.085
	(0.209)	(0.021)	(0.012)	(0.043)	(0.058)	(0.053)
Intercept	17.16	0.05	0.02	0.15	0.53	0.26
Std. dev.	1.89	0.20	0.12	0.38	0.49	0.40
Student-cutoffs	1,199	1,199	1,199	1,199	1,199	1,199
Panel B: Male students						
STEM	-0.896**	-0.028	0.049**	-0.030	0.325***	-0.316***
	(0.388)	(0.034)	(0.024)	(0.088)	(0.108)	(0.094)
Intercept	17.35	0.06	0.00	0.23	0.34	0.37
Std. dev.	1.86	0.20	0.15	0.41	0.50	0.37
Student-cutoffs	373	373	373	373	373	373
Panel C: Female students						
STEM	0.083	-0.008	-0.013	0.095*	-0.139**	0.065
	(0.275)	(0.023)	(0.017)	(0.054)	(0.068)	(0.068)
Intercept	17.06	0.05	0.02	0.12	0.62	0.20
Std. dev.	1.87	0.18	0.11	0.36	0.49	0.41
Student-cutoffs	728	728	728	728	728	728

The table presents results for the ATE of STEM assignment, β, for outcomes related to how much education a student expects to obtain. Outcomes are from the second follow-up survey and are based on a question where students were asked to select their expected final degree from the options shown in the table. The "Degree" outcomes are indicator variables equal to one if a student selected the given degree. "Years" is the number of years of schooling associated with a student's selected degree: 12 for High school, 14 for Foreman's, 15 for Bachelor's, 17 for Master's/Professional, and 20 for Doctoral. Other details match those in Panel A of Table 2.

Table A60: Effects on components of the trust index

	Index	**Components**	
		People can be trusted	Government workers can be trusted
Panel A: All students			
STEM	0.016	0.018	0.014
	(0.050)	(0.062)	(0.067)
Intercept	-0.03	2.34	2.35
Std. dev.	0.78	0.99	0.95
Student-cutoffs	3,987	3,987	3,987
Panel B: Male students			
STEM	-0.012	-0.025	-0.006
	(0.085)	(0.111)	(0.105)
Intercept	0.05	2.46	2.41
Std. dev.	0.77	0.97	0.95
Student-cutoffs	1,396	1,396	1,396
Panel C: Female students			
STEM	0.028	0.040	0.021
	(0.068)	(0.089)	(0.086)
Intercept	-0.10	2.25	2.30
Std. dev.	0.78	1.00	0.95
Student-cutoffs	2,510	2,510	2,510

The table shows effects on components of the trust index used in Table 16. The components are based on questions where students were asked how much they agree with a statement on a scale of 1-5. The statements are: "Generally speaking, people can be trusted" and "Generally speaking, government workers can be trusted". The questions were asked in both the end-of-high-school and second follow-up surveys. The components and index use data from both surveys; they are calculated using the procedure described in the notes to Table A29. Other details match those in Panel A of Table 2.

Table A61: Effects on components of the index of verbal development

	Index	Components										
		Beliefs about own high school humanities abilities	Beliefs about own high school soc. studies abilities	Pref. for high school humanities subjects	Pref. for high school soc. studies subjects	Beliefs about own college reading & writing abilities	Pref. for reading & writing-heavy college subjects	Romanian language & literature bacc. score	In books & movies, prefer characters to plots	Hours spent reading on a typical weekday	Would like to write books or plays	Would like to write scripts for movies/TV
Panel A: All students												
STEM	-0.279***	-0.281***	-0.620***	-0.405***	-0.697***	-0.396**	-0.525***	-0.315***	0.071	-0.284***	-0.191***	-0.084
	(0.033)	(0.059)	(0.071)	(0.102)	(0.135)	(0.154)	(0.164)	(0.073)	(0.075)	(0.093)	(0.073)	(0.068)
Intercept	0.18	4.14	4.04	4.13	4.08	3.23	3.24	7.92	2.63	2.04	0.56	0.53
Std. dev.	0.49	0.86	1.10	1.04	1.21	1.32	1.31	1.28	1.18	1.31	0.50	0.50
Student-cutoffs	3,987	3,987	3,987	1,159	1,159	1,159	1,159	3,951	3,987	3,987	1,199	1,199
Panel B: Male students												
STEM	-0.260***	-0.279***	-0.560***	-0.550**	-0.293	-0.452	-0.413	-0.338***	0.036	-0.494***	-0.068	0.046
	(0.052)	(0.107)	(0.131)	(0.232)	(0.293)	(0.324)	(0.352)	(0.111)	(0.133)	(0.149)	(0.118)	(0.110)
Intercept	-0.01	3.96	4.01	3.90	3.79	2.98	2.85	7.54	2.61	1.77	0.33	0.32
Std. dev.	0.48	0.91	1.16	1.16	1.20	1.22	1.22	1.30	1.16	1.25	0.46	0.48
Student-cutoffs	1,396	1,396	1,396	325	325	325	325	1,384	1,396	1,396	373	373
Panel C: Female students												
STEM	-0.273***	-0.252***	-0.655***	-0.300**	-0.778***	-0.512***	-0.659***	-0.276***	0.056	-0.145	-0.222***	-0.091
	(0.043)	(0.074)	(0.086)	(0.140)	(0.162)	(0.194)	(0.191)	(0.082)	(0.103)	(0.123)	(0.083)	(0.080)
Intercept	0.29	4.26	4.04	4.25	4.07	3.43	3.46	8.18	2.68	2.23	0.65	0.60
Std. dev.	0.47	0.80	1.08	0.94	1.22	1.33	1.32	1.21	1.19	1.31	0.50	0.50
Student-cutoffs	2,510	2,510	2,510	746	746	746	746	2,488	2,510	2,510	728	728

The table shows effects on components of the index of verbal development used in Table 16. "Beliefs about own high school humanities abilities" combines the "Humanities subjects" outcomes in Panels A and B of Table 7. It is equal to the student fixed effects from a panel regression of the responses for the relevant question from the end-of-high-school and first follow-up surveys on student and survey fixed effects, centered at the mean response for students with non-missing values in both surveys. "Beliefs about own high school soc. studies abilities" is the same, but for the "Social studies subjects" outcomes in Panels A and B of Table 7. "Pref. for high school humanities subjects" ("Pref. for high school soc. studies subjects") is the "Humanities subjects" ("Social studies subjects") outcome in Panel C of Table 7. "Beliefs about own college reading & writing abilities" ("Pref. for reading & writing-heavy college subjects") is the "Subjects that involve reading and writing" outcome in Panel A (B) of Table 8. "Romanian language & literature bacc. score" is the outcome in Panel A of Table A37. "In books & movies, prefer characters to plots" is the negative of the outcome in Panel B of the same table. "Hours spent reading on a typical weekday" combines the Panel F outcomes in Tables A21 and A23. Similar to before, it equals the student fixed effects from a panel regression of the responses for the relevant question from the end-of-high-school and second follow-up surveys on student and survey fixed effects, centered at the mean response for students with non-missing values in both surveys. "Would like to write books or plays" and "Would like to write scripts for movies/TV" are from the O*NET Interest Profiler included in the second follow-up survey; as in Table A39, they are indicator variables equal to one if a student reports that they would enjoy doing the given activity as a job task. Finally, the verbal development index is calculated using the procedure described in the notes to Table A29. Other details match those in Panel A of Table 2

Table A62: Effects on components of the empathy index

	Index	Components: Notice when people are sad or angry even when they hide it	Components: Would enjoy helping people with personal/ emotional problems
Panel A: All students			
STEM	-0.116**	-0.092*	-0.108**
	(0.054)	(0.051)	(0.044)
Intercept	0.06	4.35	0.90
Std. dev.	0.89	0.83	0.37
Student-cutoffs	3,987	3,987	1,199
Panel B: Male students			
STEM	-0.145	-0.128	-0.127
	(0.093)	(0.086)	(0.099)
Intercept	-0.04	4.28	0.86
Std. dev.	0.92	0.86	0.43
Student-cutoffs	1,396	1,396	373
Panel C: Female students			
STEM	-0.082	-0.056	-0.094*
	(0.069)	(0.065)	(0.049)
Intercept	0.10	4.39	0.93
Std. dev.	0.86	0.80	0.32
Student-cutoffs	2,510	2,510	728

The table shows effects on components of the empathy index used in Table 16. The first component is based on a question where students were asked how much they agree (on a scale of 1-5) with the statement: "I notice when people are sad or angry even when they try to hide it". This question was asked in both the end-of-high-school and second follow-up surveys. The second component is from the O*NET Interest Profiler included in the second follow-up survey; as in Table A39, it is an indicator variable equal to one if a student reports that they would enjoy doing the listed activity as a job task. The first component and the overall empathy index are calculated using the procedure described in the notes to Table A29. Other details match those in Panel A of Table 2.

Table A63: Effects on social and civic outcomes using only the end-of-high-school survey

	Traditionalist expectations	Right-wing political views	Trust	Friends: Good	Friends: Very close	Friends: Good female vs. male	Verbal development	Empathy
Panel A: All students								
STEM	0.094***	0.056*	0.025	0.054	-0.087	-0.852***	-0.213***	-0.099*
	(0.033)	(0.031)	(0.049)	(0.197)	(0.100)	(0.198)	(0.033)	(0.057)
Intercept	-0.07	-0.08	-0.07	6.72	3.18	0.69	0.20	0.09
Std. dev.	0.50	0.44	0.81	2.94	1.61	2.94	0.49	0.93
Student-cutoffs	3,987	3,987	3,987	3,987	3,987	3,987	3,987	3,987
Panel B: Male students								
STEM	0.125***	0.144***	-0.024	0.071	-0.061	-0.945***	-0.249***	-0.137
	(0.048)	(0.052)	(0.085)	(0.326)	(0.196)	(0.321)	(0.054)	(0.107)
Intercept	0.23	-0.06	0.05	7.23	3.41	-0.79	0.07	0.00
Std. dev.	0.43	0.45	0.79	2.86	1.63	2.72	0.48	0.97
Student-cutoffs	1,396	1,396	1,396	1,396	1,396	1,396	1,396	1,396
Panel C: Female students								
STEM	0.025	0.009	0.050	-0.041	-0.086	-0.523***	-0.184***	-0.065
	(0.033)	(0.035)	(0.069)	(0.260)	(0.122)	(0.200)	(0.042)	(0.075)
Intercept	-0.26	-0.10	-0.15	6.44	3.01	1.49	0.30	0.13
Std. dev.	0.42	0.43	0.81	2.97	1.59	2.51	0.46	0.90
Student-cutoffs	2,510	2,510	2,510	2,510	2,510	2,510	2,510	2,510

The table shows effects on versions of the main outcomes in Section 6.6 that use data only from the end-of-high-school survey. All indices are calculated using the procedure described in the notes to Table A46. Other details follow Panel A of Table 2.

Table A64: Robustness for effects on social and civic outcomes: male students

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Traditionalist expectations						
STEM	0.116**	0.116**	0.111**	0.110**	0.097**	0.117**
	(0.048)	(0.057)	(0.050)	(0.046)	(0.045)	(0.048)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel B: Right-wing political views						
STEM	0.145***	0.094	0.152***	0.140***	0.150***	0.150***
	(0.052)	(0.064)	(0.056)	(0.050)	(0.048)	(0.052)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel C: Trust						
STEM	-0.012	-0.006	-0.041	-0.021	-0.039	-0.013
	(0.085)	(0.096)	(0.095)	(0.081)	(0.082)	(0.083)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel D: Turn out to vote in the Fall 2024 elections						
STEM	-0.005	0.015	-0.013	-0.001	0.001	-0.010
	(0.077)	(0.088)	(0.080)	(0.076)	(0.076)	(0.079)
Student-cutoffs	373	272	334	392	399	373
Panel E: Good friends						
STEM	-0.066	-0.554	-0.119	0.052	0.064	-0.064
	(0.321)	(0.384)	(0.352)	(0.304)	(0.294)	(0.317)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel F: Very close friends						
STEM	0.004	-0.113	-0.064	-0.089	-0.039	0.005
	(0.171)	(0.211)	(0.180)	(0.167)	(0.165)	(0.172)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel G: Good female vs. male friends						
STEM	-0.706**	-0.611*	-0.760***	-0.677**	-0.538**	-0.722**
	(0.281)	(0.344)	(0.290)	(0.271)	(0.267)	(0.280)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel H: Verbal development						
STEM	-0.260***	-0.302***	-0.269***	-0.267***	-0.246***	-0.263***
	(0.052)	(0.068)	(0.057)	(0.050)	(0.049)	(0.049)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396
Panel I: Empathy						
STEM	-0.145	-0.251**	-0.186*	-0.174*	-0.140	-0.145
	(0.093)	(0.121)	(0.103)	(0.090)	(0.086)	(0.092)
Student-cutoffs	1,396	1,073	1,252	1,470	1,526	1,396

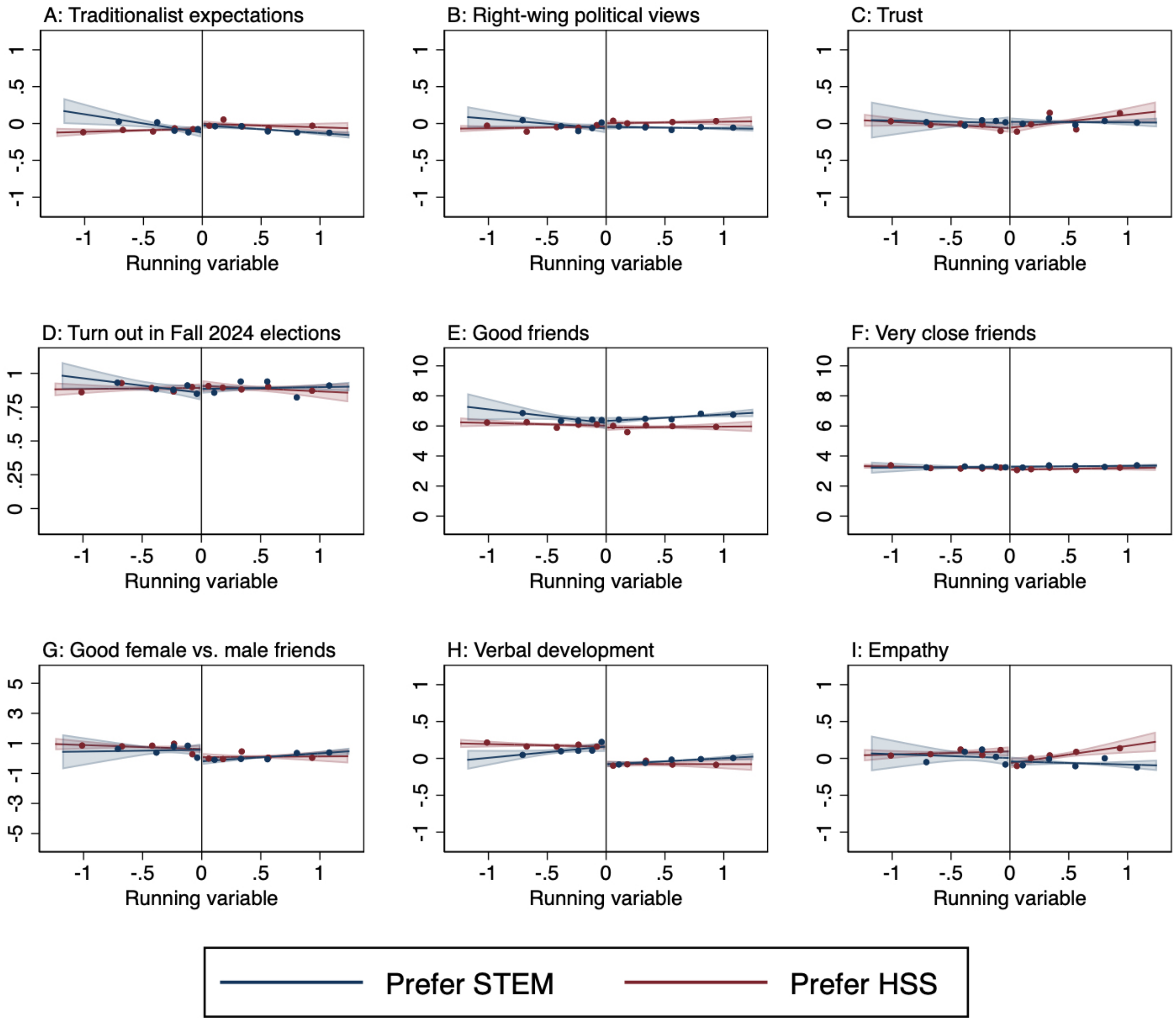
The table shows robustness for the effects in Table A57 for male students. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Table A65: Robustness for effects on social and civic outcomes: female students

	Main	**Alternative bandwidths**				**Adding covariates**
		0.75	1.00	1.50	1.75	
Panel A: Traditionalist expectations						
STEM	0.034	0.052	0.038	0.043	0.025	0.032
	(0.033)	(0.040)	(0.037)	(0.031)	(0.032)	(0.032)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel B: Right-wing political views						
STEM	-0.012	-0.025	-0.010	-0.007	-0.016	-0.012
	(0.036)	(0.045)	(0.040)	(0.034)	(0.033)	(0.036)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel C: Trust						
STEM	0.028	-0.012	0.017	0.029	0.015	0.034
	(0.068)	(0.081)	(0.073)	(0.066)	(0.064)	(0.067)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel D: Turn out to vote in the Fall 2024 elections						
STEM	0.049	0.055	0.070	0.040	0.046	0.050
	(0.043)	(0.056)	(0.050)	(0.040)	(0.039)	(0.043)
Student-cutoffs	728	526	638	779	819	728
Panel E: Good friends						
STEM	-0.041	0.105	0.034	-0.082	-0.016	-0.023
	(0.236)	(0.275)	(0.257)	(0.229)	(0.220)	(0.234)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel F: Very close friends						
STEM	-0.063	-0.035	-0.013	-0.072	-0.057	-0.058
	(0.114)	(0.144)	(0.127)	(0.110)	(0.106)	(0.113)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel G: Good female vs. male friends						
STEM	-0.491***	-0.234	-0.474**	-0.435**	-0.451***	-0.496***
	(0.188)	(0.229)	(0.209)	(0.183)	(0.173)	(0.188)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel H: Verbal development						
STEM	-0.273***	-0.292***	-0.270***	-0.258***	-0.259***	-0.271***
	(0.043)	(0.051)	(0.046)	(0.041)	(0.039)	(0.043)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510
Panel I: Empathy						
STEM	-0.082	-0.055	-0.080	-0.074	-0.055	-0.083
	(0.069)	(0.088)	(0.078)	(0.067)	(0.065)	(0.069)
Student-cutoffs	2,510	1,846	2,241	2,696	2,807	2,510

The table shows robustness for the effects in Table A57 for female students. Main is the main specification, which uses a 1.25 point bandwidth. The added covariates are the components of the transition score, an indicator for female, and mother's and father's years of schooling.

Figure A19: RD plots of effects on social and civic outcomes



The figure displays RD plots for effects on the outcomes in Table A57. See the notes to Figure 1 for details on RD plots.

Table A66: Effects on changes in social and civic outcomes after high school

	Traditionalist expectations	**Trust**	**Friends**		
			Good	Very close	Good female vs. male
Panel A: End of high school					
STEM	-0.039	0.119	0.437	-0.212	-0.733**
	(0.055)	(0.086)	(0.393)	(0.195)	(0.339)
Intercept	0.04	-0.18	6.81	3.30	0.60
Std. dev.	0.48	0.78	2.86	1.57	3.00
Panel B: 1.5 years after high school					
STEM	-0.036	0.107	0.107	0.146	-0.452
	(0.056)	(0.089)	(0.351)	(0.188)	(0.323)
Intercept	-0.08	0.28	5.64	3.25	0.36
Std. dev.	0.46	0.73	2.80	1.51	2.58
Panel C: Change in the 1.5 years after high school					
STEM	0.003	-0.011	-0.330	0.358	0.280
	(0.053)	(0.123)	(0.442)	(0.229)	(0.392)
Intercept	-0.12	0.46	-1.17	-0.04	-0.23
Std. dev.	0.45	0.96	3.48	2.00	2.86
Student-cutoffs	1,199	1,199	1,199	1,199	1,199

The table shows effects on changes in social and civic outcomes in the time after high school. The outcomes included are those from Section 6.6 that can be calculated in the same manner in both the end-of-high-school survey and a follow-up survey—i.e., those that are entirely based on questions that are repeated in multiple surveys. For all such outcomes, the relevant follow-up survey is the second; as such, the change is always in the 1.5 years after high school. To match Panel B, the sample in Panel A is restricted to students who appear in the second follow-up survey. Thus, the sample is the same for all panels, and the number of observations is listed in a single row at the bottom of the table. In Panels A and B, the "Traditionalist expectations" and "Trust" indices are calculated using the procedure described in the notes to Table A46. The outcomes in Panel C are the difference between those in Panels B and A. Other details follow Panel A of Table 2.

Table A67: Female-male transition score gaps
in the tracks of students at STEM vs. HSS cutoffs

	Transition score			
	Overall score	Math exam score	Language exam score	Grades 5-8 GPA
Panel A: 2015-2017 and 2019 cohorts				
Gap on the STEM side	0.07	-0.20	0.28	0.17
Gap on the HSS side	0.08	-0.21	0.31	0.18
Difference: STEM v. HSS	-0.010***	0.008	-0.027***	-0.014***
	(0.004)	(0.008)	(0.007)	(0.004)
Student-cutoffs	73,432	73,432	73,432	73,432
Panel B: Second follow-up survey				
Gap on the STEM side	0.07	-0.23	0.29	0.19
Gap on the HSS side	0.10	-0.16	0.29	0.22
Difference: STEM v. HSS	-0.030*	-0.061*	-0.002	-0.024
	(0.017)	(0.035)	(0.033)	(0.021)
Student-cutoffs	1,199	1,199	1,199	1,199

The table summarizes gender gaps in incoming achievement for classmates of students at STEM vs. HSS cutoffs. The results are obtained using our main RD specification. The outcomes are the difference in average values of a given transition score variable for the female and male students in a student's assigned track. "Gap on the STEM side" ("Gap on the HSS side") is the predicted value of the gap on the STEM (HSS) side of the RD threshold. "Difference: STEM vs. HSS" is the coefficient estimate and standard error for the ATE of STEM assignment, β. "Gap on the HSS side" is the same as the "Intercept" term in Panel A of Table 2. "Gap on the STEM side" is the sum of "Gap on the HSS side" and the β estimate. The table uses the administrative data. Panel A is for the entire 2015-2017 and 2019 cohorts. Panel B restricts to students in the second follow-up survey, as these are the students to whom we asked whether boys are naturally better than girls in math. Other details follow Panel A of Table 2.

Table A68: Female-male gaps in baccalaureate performance
in the tracks of students at STEM vs. HSS cutoffs

	Baccalaureate performance					
	Take the exam	Exam score	Math exam score	History exam score	Romanian exam score	Elective exam score
Panel A: 2015-2017 and 2019 cohorts						
Gap on the STEM side	-0.00	0.27	0.06	-	0.53	0.22
Gap on the HSS side	0.00	0.34	-	0.19	0.60	0.23
Difference: STEM v. HSS	-0.003	-0.076***	-	-	-0.069***	-0.012
	(0.002)	(0.011)	-	-	(0.013)	(0.015)
Student-cutoffs	71,793	71,773	41,076	30,476	71,793	71,774
Panel B: Second follow-up survey						
Gap on the STEM side	0.01	0.34	0.09	-	0.65	0.27
Gap on the HSS side	0.01	0.42	-	0.22	0.72	0.30
Difference: STEM v. HSS	-0.000	-0.078	-	-	-0.071	-0.022
	(0.008)	(0.053)	-	-	(0.053)	(0.068)
Student-cutoffs	1,199	1,199	676	434	1,199	1,199

The table is analogous to Table A67 but for gaps in baccalaureate performance. Students in HSS (STEM) tracks do not take the math (history) component of the baccalaureate exam. Hence, for these outcomes, we can only estimate gaps on one side of a cutoff.

A11 Adjusting for the effect of scoring above a cutoff

As discussed in Section 5.2, the RDs for STEM- and HSS-above cutoffs combine three sub-treatments, with the third being whether a student scores above or below a cutoff. Since the third sub-treatment has been studied in prior work, we hope to eliminate it and thereby recover an effect that reflects only the first two. This effect is the impact of a change in curriculum together with exposure to the types of peers who congregate in STEM vs. HSS. Alternatively, it can be understood as the impact of being assigned to a STEM track when choosing among STEM and HSS tracks that are equal on vertical quality dimensions.

In the main paper, our approach for eliminating the third sub-treatment is to calculate an average over STEM- and HSS-above cutoffs. In this appendix, we delve into the validity of our approach. We first use potential outcomes notation to derive what the approach recovers. We then show that results are robust to including an additional adjustment.

A11.1 Theory

To understand the treatment effect that our approach recovers, denote i's treatment status as T_i, and let T_i take on four values: SA, SB, HA, and HB, where the first letter indicates whether i is assigned to STEM (S) or HSS (H), and the second letter indicates whether i scores above (A) or below (B) a cutoff. Also, let $\mathrm{Y}_i(\cdot)$ be i's potential outcome function, with $\mathrm{Y}_i = \mathrm{Y}_i(\mathrm{T}_i)$ being i's realized outcome.

We observe four types of cutoffs: STEM-above vs. HSS-below (SH), HSS-above vs. STEM-below (HS), STEM-above vs. STEM-below (SS), and HSS-above vs. HSS-below (HH). Importantly, we observe the four cutoff types for different sets of students. Since membership in a set depends on a student's preference ranking over tracks, we name the sets Prefer STEM (PS), Prefer HSS (PH), Strongly Prefer STEM (SPS), and Strongly Prefer HSS (SPH), respectively.[70]

The RD design lets us estimate treatment effects for each cutoff type. The treatment effects are always "at the RD threshold"—i.e., conditioned on the running variable being equal to 0. To simplify notation, we omit the conditioning.

For STEM-above vs. HSS-below and HSS-above vs. STEM-below cutoffs, we estimate the effect of being on the STEM side of a cutoff. The specific estimands are:

- STEM-above vs. HSS-below: $\mathrm{E}[\mathrm{Y}_i(\mathrm{SA}) - \mathrm{Y}_i(\mathrm{HB}) | i \in \mathrm{PS}] =$

$$\mathrm{E}[\mathrm{Y}_i(\mathrm{SB}) - \mathrm{Y}_i(\mathrm{HB}) | i \in \mathrm{PS}] + \mathrm{E}[\mathrm{Y}_i(\mathrm{SA}) - \mathrm{Y}_i(\mathrm{SB}) | i \in \mathrm{PS}]. \tag{2}$$

- HSS-above vs. STEM-below: $\mathrm{E}[\mathrm{Y}_i(\mathrm{SB}) - \mathrm{Y}_i(\mathrm{HA}) | i \in \mathrm{PH}] =$

$$\mathrm{E}[\mathrm{Y}_i(\mathrm{SB}) - \mathrm{Y}_i(\mathrm{HB}) | i \in \mathrm{PH}] - \mathrm{E}[\mathrm{Y}_i(\mathrm{HA}) - \mathrm{Y}_i(\mathrm{HB}) | i \in \mathrm{PH}]. \tag{3}$$

These estimands are, respectively: (i) the average effect of being assigned to STEM vs. HSS while scoring below a cutoff plus the average effect of scoring above vs. below a cutoff while being assigned to STEM for students in Prefer STEM, and (ii) the average effect of being assigned to STEM vs. HSS while scoring below a cutoff minus the average effect of scoring above vs. below a cutoff while being assigned to HSS for students in Prefer HSS.

70. The "strongly" modifier for SPS and SPH is because students likely have a strong preference for a curriculum if they rank it multiple times in succession.

We also estimate the average of (2) and (3). Here, the estimand is:

$$\begin{aligned}&\frac{\mathrm{E}[\mathrm{Y}_i(\mathrm{SA})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PS}]+\mathrm{E}[\mathrm{Y}_i(\mathrm{SB})-\mathrm{Y}_i(\mathrm{HA})|i\in\mathrm{PH}]}{2}\\=&\frac{\mathrm{E}[\mathrm{Y}_i(\mathrm{SB})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PS}]+\mathrm{E}[\mathrm{Y}_i(\mathrm{SB})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PH}]}{2}\\+&\frac{\mathrm{E}[\mathrm{Y}_i(\mathrm{SA})-\mathrm{Y}_i(\mathrm{SB})|i\in\mathrm{PS}]-\mathrm{E}[\mathrm{Y}_i(\mathrm{HA})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PH}]}{2}.\end{aligned}\tag{4}$$

The first term after the equality is the average effect of being assigned to STEM vs. HSS while scoring below a cutoff, averaged over students in Prefer STEM and Prefer HSS. The second term is half the difference in (a) the average effect of scoring above vs. below a cutoff while being assigned to STEM for students in Prefer STEM and (b) the average effect of scoring above vs. below a cutoff while being assigned to HSS for students in Prefer HSS.

Finally, for STEM-above vs. STEM-below and HSS-above vs. HSS-below cutoffs, we can estimate the effect of being on the higher-scoring side of a cutoff. The specific estimands are:

- STEM-above vs. STEM-below:

$$\mathrm{E}[\mathrm{Y}_i(\mathrm{SA})-\mathrm{Y}_i(\mathrm{SB})|i\in\mathrm{SPS}].\tag{5}$$

- HSS-above vs. HSS-below:

$$\mathrm{E}[\mathrm{Y}_i(\mathrm{HA})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{SPH}].\tag{6}$$

The interpretations are: (i) the average effect of scoring above vs. below a cutoff while being assigned to STEM for students in Strongly Prefer STEM, and (ii) the average effect of scoring above vs. below a cutoff while being assigned to HSS for students in Strongly Prefer HSS.

In the formulas for (2)-(4), the first terms are of interest, while the second terms are not. We cannot estimate the second terms, as we do not observe same-curriculum cutoffs for the Prefer STEM or Prefer HSS sets. As such, in the main paper, we do not attempt to isolate the first terms and instead simply estimate (2)-(4). That said, we do observe same-curriculum cutoffs for groups that are similar to Prefer STEM and Prefer HSS, namely Strongly Prefer STEM and Strongly Prefer HSS. In the next subsection, we estimate (5) and (6) in order to gain insight into the magnitudes of the second terms. In addition, we adjust our main approach to estimate an approximate version of the first term in (4). Specifically, we estimate the left-hand side of (4) minus half the difference in (5) and (6):

$$\begin{aligned}&\frac{\mathrm{E}[\mathrm{Y}_i(\mathrm{SA})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PS}]+\mathrm{E}[\mathrm{Y}_i(\mathrm{SB})-\mathrm{Y}_i(\mathrm{HA})|i\in\mathrm{PH}]}{2}\\-&\frac{\mathrm{E}[\mathrm{Y}_i(\mathrm{SA})-\mathrm{Y}_i(\mathrm{SB})|i\in\mathrm{SPS}]-\mathrm{E}[\mathrm{Y}_i(\mathrm{HA})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{SPH}]}{2}\\\approx&\frac{\mathrm{E}[\mathrm{Y}_i(\mathrm{SB})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PS}]+\mathrm{E}[\mathrm{Y}_i(\mathrm{SB})-\mathrm{Y}_i(\mathrm{HB})|i\in\mathrm{PH}]}{2}.\end{aligned}\tag{7}$$

The amount of insight provided by estimating (5) and (6) and the quality of the approximation in (7) depend on the extent to which effects for Strongly Prefer STEM and Strongly Prefer HSS are a good stand-in for those for Prefer STEM and Prefer HSS.

A11.2 Methods and results

As with the across-curriculum cutoffs analyzed in the main paper, we consider up to two same-curriculum cutoffs per student. These are: the lowest (highest) cutoff such that if the student had scored higher (lower), the student would switch into a different track with the same curriculum as the student's assigned track. For these cutoffs, we define the running variable as simply the centered transition score: $r_i = t_i - c_j$. We then stack the same-curriculum cutoffs on top of the across-curriculum cutoffs and estimate an extended version of (1). The extension is that f_j now takes on four values: $f_j \in \{SH, HS, SS, HH\}$. Since the equation is fully interacted with cutoff type, β_{SH} and β_{HS} are unchanged. Meanwhile, since $r_i = t_i - c_j$ for SS and HH, β_{SS} and β_{HH} are, respectively, the effects of scoring above same-curriculum STEM and HSS cutoffs (i.e., regression-equation versions of (5) and (6)). For (7), we estimate:

$$\beta_{\text{adj}} = \frac{\beta_{SH} + \beta_{HS}}{2} - \frac{\beta_{SS} - \beta_{HH}}{2}.$$

As with β in the main text, we estimate β_{adj} by plugging in estimates of β_{f_j}, and we calculate standard errors using the Delta Method.

Results are in Tables A69-A71. In the tables, each row corresponds to a different outcome, and rows are included for all of the paper's main outcomes. The columns under the "STEM" and "HSS" headings are for the estimates of β_{SS} and β_{HH}, those under "Main approach" are for β and match the values from elsewhere in the paper, and those under "Adjusted approach" are for β_{adj}. The column titled "In C.I." under "Adjusted approach" indicates whether the estimate of β_{adj} falls within the 95% confidence interval for β for the given outcome.

In terms of takeaways, the tables show that the effect of scoring above vs. below a cutoff likely exerts little distortion on our findings. The estimates of β_{SS} and β_{HH} are generally small, and the estimates of β_{adj} tend to be similar to those of β. For only two of the 89 outcomes is the estimate of β_{adj} outside the confidence interval for β, and even for those outcomes the differences in coefficient estimates are modest.

As mentioned, the analysis in this section faces a limitation in that same- and across-curriculum cutoffs are observed for different sets of students. Nonetheless, the fact that the effect of scoring above a cutoff is usually small for both observable groups (SPS and SPH) suggests that it is probably also small for the groups of interest (PS and PH). In turn, it seems reasonable to conclude that the second terms in (2)-(4) are usually small and that what we estimate elsewhere in the paper is close to the first terms. Moreover, when scoring above a cutoff has no impact, the first terms have a broader interpretation. They are not just the average effect of STEM vs. HSS assignment while scoring below a cutoff (i.e., at the cutoff, but on the lower-scoring side); instead, they are the average effect while scoring either above or below.

Table A69: Adjusting for the effect of scoring above a cutoff

Outcome	The effect of scoring above a same-curriculum cutoff						The effect of being on the STEM side of an across-curriculum cutoff						
	STEM			HSS			Main approach			Adjusted approach			
	Coef. est.	Std. error	N	Coef. est.	Std. error	N	Coef. est.	Std. error	N	Coef. est.	Std. error	N	In C.I.
Panel A: High school enrollment and graduation													
Years of enrollment	0.00	0.00	75,321	0.01	0.01	25,969	0.00	0.01	55,221	0.00	0.01	156,511	Y
Years of STEM enrollment	0.00	0.01	75,321	-0.01	0.01	25,969	3.08	0.02	55,221	3.07	0.02	156,511	Y
Years of HSS enrollment	0.00	0.00	75,321	0.02	0.02	25,969	-3.09	0.02	55,221	-3.07	0.02	156,511	Y
Years of Other enrollment	0.01	0.00	75,321	-0.01	0.01	25,969	0.01	0.01	55,221	0.01	0.01	156,511	Y
Graduate	0.00	0.00	75,321	0.00	0.00	25,969	0.00	0.00	55,221	0.00	0.00	156,511	Y
Graduate in STEM	0.00	0.00	75,321	0.00	0.00	25,969	0.69	0.01	55,221	0.69	0.01	156,511	Y
Graduate in HSS	0.00	0.00	75,321	0.00	0.01	25,969	-0.70	0.01	55,221	-0.70	0.01	156,511	Y
Graduate in Other	0.00	0.00	75,321	0.00	0.00	25,969	0.01	0.00	55,221	0.01	0.00	156,511	Y
Panel B: College outcomes													
College plans at the end of high school: any college	-0.03	0.01	4,570	0.05	0.02	1,558	0.01	0.02	3,987	0.05	0.02	10,115	N
College plans at the end of high school: STEM	-0.01	0.02	4,570	-0.01	0.04	1,558	0.23	0.04	3,987	0.23	0.04	10,115	Y
College plans at the end of high school: HLSS	0.01	0.02	4,570	0.01	0.04	1,558	-0.22	0.03	3,987	-0.22	0.04	10,115	Y
College enrollment one year after high school: any college	0.00	0.01	3,763	0.00	0.03	1,280	-0.04	0.03	3,327	-0.03	0.03	8,370	Y
College enrollment one year after high school: STEM	0.00	0.02	3,763	0.02	0.03	1,280	0.25	0.04	3,327	0.25	0.04	8,370	Y
College enrollment one year after high school: HLSS	0.00	0.01	3,763	0.05	0.04	1,280	-0.26	0.03	3,327	-0.24	0.04	8,370	Y
Panel C: Desired careers one year after high school													
Technology or engineering	0.04	0.04	1,098	-0.10	0.05	381	0.25	0.05	1,159	0.18	0.06	2,638	Y
Medicine	-0.05	0.03	1,098	-0.04	0.05	381	-0.04	0.04	1,159	-0.04	0.06	2,638	Y
Business or economics	0.05	0.04	1,098	0.00	0.08	381	-0.04	0.06	1,159	-0.07	0.08	2,638	Y
Art, education, law, or social services	0.00	0.02	1,098	0.10	0.07	381	-0.14	0.05	1,159	-0.10	0.06	2,638	Y
Other/unsure	-0.05	0.03	1,098	0.04	0.05	381	-0.03	0.04	1,159	0.02	0.05	2,638	Y
Panel D: Baccalaureate performance													
Take the exam	-0.01	0.00	98,802	0.00	0.00	34,736	-0.01	0.00	73,470	-0.01	0.00	207,008	Y
Pass the exam	-0.02	0.00	98,802	0.00	0.00	34,736	-0.04	0.00	73,470	-0.03	0.00	207,008	N
Exam score	0.01	0.01	94,078	0.02	0.01	33,679	-0.35	0.01	69,938	-0.35	0.02	197,695	Y
Pass in STEM	-0.02	0.01	98,802	0.00	0.00	34,736	0.62	0.01	73,470	0.63	0.01	207,008	Y
Pass in HSS	0.00	0.00	98,802	0.00	0.00	34,736	-0.70	0.01	73,470	-0.70	0.01	207,008	Y
Pass in Other	0.00	0.00	98,802	0.00	0.00	34,736	0.04	0.00	73,470	0.04	0.00	207,008	Y
Panel E: Confidence in and preferences for high school subjects													
Beliefs about own high school STEM abilities at the end of high school	-0.11	0.05	4,570	0.00	0.08	1,558	0.87	0.08	3,987	0.93	0.09	10,115	Y
Beliefs about own high school HSS abilities at the end of high school	0.01	0.05	4,570	-0.11	0.05	1,558	-0.40	0.06	3,987	-0.46	0.07	10,115	Y
Beliefs about own high school STEM abilities one year after high school	0.01	0.06	1,098	0.06	0.17	381	0.74	0.12	1,159	0.77	0.15	2,638	Y
Beliefs about own high school HSS abilities one year after high school	0.02	0.07	1,098	-0.05	0.09	381	-0.51	0.09	1,159	-0.54	0.11	2,638	Y
Preferences for STEM high school subjects one year after high school	-0.03	0.09	1,098	0.18	0.20	381	1.01	0.15	1,159	1.11	0.19	2,638	Y
Preferences for HSS high school subjects one year after high school	-0.02	0.09	1,098	-0.03	0.10	381	-0.55	0.08	1,159	-0.56	0.11	2,638	Y

The table presents results for β_{SS} ("STEM" columns), β_{HH} ("HSS" columns), β ("Main approach" columns), and β_{adj} ("Adjusted approach" columns). Rows correspond to different outcomes. The outcomes included are all those from the main paper for which we show robustness and heterogeneity. For each outcome, results are obtained from a single regression that stacks same- and across-curriculum cutoffs, uses a 1.25 point bandwidth, and clusters standard errors by student and cutoff. The number of student-cutoff observations in these regressions is displayed in the column titled "N" under the "Adjusted approach" heading. The other "N" columns reveal the number of student-cutoffs for the cutoffs that contribute to the estimation of the parameter associated with the given heading. "In C.I." indicates whether the estimate of β_{adj} is in the 95% confidence interval for β. See the text of Appendix A11 for additional methodological details.

Table A70: Adjusting for the effect of scoring above a cutoff, cont.

Outcome	The effect of scoring above a same-curriculum cutoff						The effect of being on the STEM side of an across-curriculum cutoff						
	STEM			HSS			Main approach			Adjusted approach			
	Coef. est.	Std. error	N	Coef. est.	Std. error	N	Coef. est.	Std. error	N	Coef. est.	Std. error	N	In C.I.
Panel F: Confidence in and preferences for college subjects													
Beliefs about own college STEM abilities one year after high school	-0.01	0.09	1,098	0.13	0.17	381	0.66	0.15	1,159	0.73	0.18	2,638	Y
Beliefs about own college non-STEM abilities one year after high school	-0.01	0.11	1,098	0.22	0.15	381	-0.34	0.14	1,159	-0.22	0.17	2,638	Y
Preferences for STEM college subjects one year after high school	0.02	0.09	1,098	0.13	0.20	381	0.78	0.15	1,159	0.83	0.19	2,638	Y
Preferences for non-STEM college subjects one year after high school	-0.03	0.10	1,098	0.23	0.16	381	-0.45	0.15	1,159	-0.32	0.18	2,638	Y
Panel G: O*NET outcomes 1.5 years after high school													
Share of STEM-related job tasks that enjoy	-0.03	0.02	1,326	-0.02	0.03	452	0.10	0.02	1,199	0.10	0.03	2,977	Y
Share of HSS-related job tasks that enjoy	0.02	0.02	1,326	0.02	0.04	452	-0.09	0.04	1,199	-0.09	0.05	2,977	Y
Share of Other job tasks that enjoy	-0.01	0.02	1,326	0.03	0.04	452	0.01	0.03	1,199	0.03	0.04	2,977	Y
Dif. in the share of STEM- v. HSS-related job tasks that enjoy	-0.04	0.03	1,326	-0.04	0.05	452	0.19	0.05	1,199	0.19	0.05	2,977	Y
Share of O*NET-recommended jobs that are STEM-related	-0.02	0.03	1,326	0.02	0.04	452	0.10	0.03	1,199	0.12	0.04	2,977	Y
Share of O*NET-recommended jobs that are HSS-related	0.02	0.03	1,326	-0.06	0.05	452	-0.10	0.05	1,199	-0.14	0.06	2,977	Y
Share of O*NET-recommended jobs that are Other	-0.01	0.03	1,326	0.03	0.05	452	-0.01	0.04	1,199	0.01	0.05	2,977	Y
Panel H: Career choices and beliefs 1.5 years after high school													
Would choose to be a technology or engineering worker	0.00	0.04	1,326	-0.05	0.07	452	0.15	0.05	1,199	0.12	0.06	2,977	Y
Difference in beliefs about pay	0.05	0.07	1,326	0.05	0.11	452	-0.01	0.10	1,199	-0.01	0.12	2,977	Y
Difference in beliefs about enjoying the work content	-0.01	0.13	1,326	-0.31	0.25	452	0.74	0.21	1,199	0.59	0.26	2,977	Y
Difference in beliefs about coworkers and work conditions	-0.01	0.12	1,326	-0.21	0.21	452	0.25	0.19	1,199	0.15	0.22	2,977	Y
Difference in beliefs about own preparation	0.04	0.14	1,326	-0.39	0.23	452	0.90	0.23	1,199	0.68	0.28	2,977	Y
Difference in beliefs about approval of friends and family	-0.05	0.10	1,326	-0.13	0.20	452	0.30	0.12	1,199	0.26	0.17	2,977	Y
Panel I: Wellbeing, high school satisfaction, and high school curricular fit at the end of high school													
Wellbeing	0.02	0.04	4,570	0.01	0.05	1,558	0.13	0.05	3,987	0.13	0.06	10,115	Y
Liked the high school experience	0.03	0.05	4,570	0.04	0.08	1,558	0.11	0.07	3,987	0.12	0.08	10,115	Y
Liked the high school curriculum	0.00	0.06	4,570	0.03	0.07	1,558	0.00	0.07	3,987	0.02	0.08	10,115	Y
Liked the high school peers	0.04	0.06	4,570	0.08	0.10	1,558	0.23	0.07	3,987	0.25	0.09	10,115	Y
Liked the high school teachers	-0.02	0.05	4,570	0.01	0.06	1,558	-0.02	0.07	3,987	-0.01	0.08	10,115	Y
The high school curriculum was a good fit for my abilities	0.00	0.04	4,570	-0.07	0.06	1,558	0.00	0.05	3,987	-0.03	0.06	10,115	Y
Panel J: Wellbeing, high school satisfaction, and high school curricular fit 1-1.5 years after high school													
Wellbeing	-0.01	0.05	1,326	-0.04	0.09	452	-0.03	0.07	1,199	-0.05	0.08	2,977	Y
Liked the high school experience	0.13	0.09	1,098	-0.27	0.14	381	0.22	0.11	1,159	0.02	0.14	2,638	Y
Liked the high school curriculum	0.09	0.08	1,098	-0.23	0.15	381	0.00	0.14	1,159	-0.16	0.16	2,638	Y
Liked the high school peers	0.12	0.12	1,098	-0.27	0.15	381	0.29	0.14	1,159	0.09	0.17	2,638	Y
Liked the high school teachers	0.11	0.08	1,098	-0.34	0.11	381	0.13	0.13	1,159	-0.10	0.15	2,638	Y
The high school curriculum was a good fit for my abilities	0.19	0.08	1,098	-0.06	0.21	381	-0.12	0.12	1,159	-0.25	0.16	2,638	Y

The table is a continuation of Table A69.

Table A71: Adjusting for the effect of scoring above a cutoff, cont.

Outcome	The effect of scoring above a same-curriculum cutoff						The effect of being on the STEM side of an across-curriculum cutoff						
	STEM			HSS			Main approach			Adjusted approach			
	Coef. est.	Std. error	N	Coef. est.	Std. error	N	Coef. est.	Std. error	N	Coef. est.	Std. error	N	In C.I.
Panel K: Regret over high school application choices one year after high school													
Am happy with the high school application choices that I made	-0.09	0.09	1,098	0.34	0.16	381	0.05	0.13	1,159	0.26	0.16	2,638	Y
If could do over, would make no change	0.03	0.04	1,098	-0.01	0.07	381	0.05	0.04	1,159	0.03	0.06	2,638	Y
If could do over, would rank STEM tracks higher	-0.02	0.03	1,098	0.05	0.04	381	-0.03	0.03	1,159	0.00	0.04	2,638	Y
If could do over, would rank HSS tracks higher	-0.02	0.03	1,098	-0.02	0.05	381	-0.02	0.03	1,159	-0.02	0.04	2,638	Y
If could do over, would rank Other tracks higher	0.00	0.01	1,098	-0.02	0.02	381	0.00	0.01	1,159	-0.01	0.02	2,638	Y
Panel L: College satisfaction, curricular fit, and regret one year after high school													
Like the college experience	-0.01	0.10	1,098	0.02	0.19	381	-0.44	0.14	1,159	-0.43	0.18	2,638	Y
Like the college curriculum	-0.07	0.12	1,098	0.13	0.14	381	-0.23	0.13	1,159	-0.13	0.16	2,638	Y
Like the college peers	0.12	0.10	1,098	0.26	0.17	381	-0.40	0.17	1,159	-0.33	0.19	2,638	Y
Like the college instructors	0.02	0.10	1,098	0.26	0.15	381	-0.35	0.13	1,159	-0.23	0.16	2,638	Y
The college curriculum is a good fit for my abilities	0.06	0.11	1,098	0.14	0.19	381	0.08	0.16	1,159	0.12	0.19	2,638	Y
Am happy with the college application choices that I made	0.03	0.11	1,098	0.40	0.22	381	0.12	0.18	1,159	0.31	0.22	2,638	Y
Panel M: Social and civic outcomes: male students													
Traditionalist expectations	0.00	0.03	2,044	0.14	0.07	401	0.12	0.05	1,396	0.19	0.06	3,841	Y
Right-wing political views	-0.07	0.03	2,044	0.04	0.08	401	0.14	0.05	1,396	0.20	0.07	3,841	Y
Trust	-0.02	0.05	2,044	-0.12	0.14	401	-0.01	0.08	1,396	-0.06	0.11	3,841	Y
Turn out to vote in the Fall 2024 elections	0.06	0.02	582	0.20	0.11	67	0.00	0.08	373	0.07	0.10	1,022	Y
Good friends	0.02	0.18	2,044	-0.12	0.55	401	-0.07	0.32	1,396	-0.14	0.44	3,841	Y
Very close friends	0.09	0.10	2,044	0.20	0.26	401	0.00	0.17	1,396	0.06	0.23	3,841	Y
Good female vs. male friends	0.16	0.14	2,044	0.80	0.40	401	-0.71	0.28	1,396	-0.39	0.36	3,841	Y
Verbal development	0.04	0.03	2,044	-0.06	0.07	401	-0.25	0.06	1,396	-0.30	0.07	3,841	Y
Empathy	0.01	0.07	2,044	0.02	0.12	401	-0.15	0.09	1,396	-0.14	0.12	3,841	Y
Panel N: Social and civic outcomes: female students													
Traditionalist expectations	-0.01	0.03	2,477	0.02	0.03	1,126	0.03	0.03	2,510	0.05	0.04	6,113	Y
Right-wing political views	0.00	0.03	2,477	-0.04	0.03	1,126	-0.01	0.04	2,510	-0.03	0.04	6,113	Y
Trust	-0.01	0.05	2,477	-0.04	0.05	1,126	0.03	0.07	2,510	0.01	0.08	6,113	Y
Turn out to vote in the Fall 2024 elections	0.01	0.03	665	-0.03	0.04	339	0.05	0.04	728	0.03	0.05	1,732	Y
Good friends	-0.05	0.17	2,477	-0.32	0.19	1,126	-0.04	0.24	2,510	-0.18	0.27	6,113	Y
Very close friends	-0.02	0.09	2,477	-0.12	0.11	1,126	-0.06	0.11	2,510	-0.11	0.13	6,113	Y
Good female vs. male friends	0.27	0.15	2,477	0.14	0.21	1,126	-0.49	0.19	2,510	-0.56	0.23	6,113	Y
Verbal development	-0.03	0.03	2,477	0.02	0.04	1,126	-0.26	0.05	2,510	-0.24	0.05	6,113	Y
Empathy	0.07	0.06	2,477	0.00	0.06	1,126	-0.08	0.07	2,510	-0.12	0.08	6,113	Y

The table is a continuation of Table A69.

A12 Adjusting for the influence of peer composition

Appendix A11 showed that the effects reported in this paper are not due to the third sub-treatment discussed in Section 5.2: whether a student scores above or below a cutoff. Thus, the effects reflect the first two sub-treatments: the difference in curriculum between STEM and HSS tracks and/or the difference in horizontal dimensions of peer composition, such as relative academic strength and share female.

This appendix attempts to disentangle the influence of the curriculum and peer composition sub-treatments. It uses two strategies. First, we fit a modified version of Equation (1) that adds controls for three variables related to the peer composition in students' assigned tracks: average transition score, the average difference in math vs. language transition exam scores, and share female.[71] Intuitively, to the extent that peer composition matters, the measured effects of STEM assignment should diminish once we adjust for the fact that STEM and HSS tracks differ in peer composition. Thus, we can assess the importance of the curriculum sub-treatment by seeing how estimates of β from the modified version of (1) compare with those from the main version.

The second approach is similar, but conducts analysis at the cutoff level. In a first step, we run cutoff-specific RD regressions that use as left-hand-side variables both the paper's outcomes of interest and the three track attributes mentioned in the previous paragraph.[72] Then, for each outcome, we regress the cutoff-specific effects for the outcome on the cutoff-specific effects for the three track attributes, weighting by the number of students in a cutoff's RD sample. The intercept in this regression is the predicted effect of STEM assignment for cutoffs with no change in peer composition across the RD threshold. Thus, for this approach, we can gauge the importance of the curriculum sub-treatment by comparing the intercept estimates with the estimates of β from (1).[73] A noteworthy feature of the second approach is that it does not use all the observations in our main RD sample. In particular, when estimating the cutoff-specific effects, we restrict attention to cutoffs with at least three students on both the STEM and HSS sides. For consistency, we re-run our main approach on this restricted sample.

Tables A72-A74 contain the results. Each row represents a different outcome, and rows are included for all the outcomes in Tables A69-A71. The columns under the heading "Full sample–Main approach" relate to β from (1) and match the values from elsewhere in the paper. The columns under "Full sample–Track-level covariates" are for β in the modified version of (1) that adds controls for attributes of students' assigned tracks. The columns under "Restricted sample–Main approach" are for β from (1) estimated on the restricted sample. Meanwhile, "Restricted sample–Cutoff-level variation" is for the cutoff-level approach. In order to have a large enough number of cutoffs to confidently fit a cutoff-level regression, we implement the cutoff-level approach only for outcomes that are derived from the administrative data or the end-of-high-school survey. We do not implement it for outcomes that come from just a follow-up survey. Finally, the columns titled "Full sample–In C.I." and "Restricted sample–In C.I." indicate whether the coefficient estimates

71. These are the attributes examined in Section 5.3. As seen there, average transition score is related to STEM assignment conditional on cutoff type (though not when averaging over STEM- and HSS-above cutoffs). Thus, we include it even though it is a vertical dimension of peer quality; results are similar if we drop it.

72. For convenience, we run these regressions separately by cutoff. However, they can be represented in a single equation as a version of Equation (1) that is fully interacted with specific cutoffs, not just cutoff types.

73. A key difference between the two approaches is that the first uses all the available variation to measure the relationship between an outcome and peer composition, while the second uses only the jumps at the cutoffs; i.e., the second compares the size of the change in an outcome across an RD threshold with the size of the change in peer composition, while the first simply traces how students' values of the outcome vary with their values of peer composition. Much of the variation in the first approach is due to the jumps at the cutoffs, but not all.

from “Track-level covariates” and “Cutoff-level variation” fall within the 95% confidence intervals for β in our main approach (under the full and restricted samples, respectively).

The tables reveal that adjusting for peer composition does not strongly alter our results. For only 5 of the 89 outcomes is the coefficient estimate from “Track-level covariates” outside the “Full sample–Main approach” confidence interval for β. For only 18 of the 44 outcomes available for “Cutoff-level variation” is the estimate from this strategy outside the “Restricted sample–Main approach” confidence interval. Further, the differences in estimates tend to be modest. The main exception is that the estimate for “Good female vs. male friends” is smaller under “Track-level covariates” than under “Full sample–Main approach”, both for boys and girls.

In short, the results in this appendix complement the finding that a limited share of students cite peers as an influence on their decision-making. Overall, the evidence suggests that the curriculum channel—and not peer exposure—drives the effects of assignment to STEM vs. HSS for the outcomes that we study.

Table A72: Adjusting for the influence of peer composition

Outcome	Full sample							Restricted sample					
	Main approach		Track-level covariates			Cutoffs	Student-cutoffs	Main approach		Cutoff-level variation		Cutoffs	Student-cutoffs
	Coef. est.	Std. error	Coef. est.	Std. error	In C.I.			Coef. est.	Std. error	Coef. est.	In C.I.		
Panel A: High school enrollment and graduation													
Years of enrollment	0.00	0.01	0.01	0.01	Y	1,411	55,221	0.00	0.01	-0.02	N	954	52,077
Years of STEM enrollment	3.08	0.02	3.06	0.02	Y	1,411	55,221	3.07	0.02	3.07	Y	954	52,077
Years of HSS enrollment	-3.09	0.02	-3.06	0.02	Y	1,411	55,221	-3.08	0.02	-3.07	Y	954	52,077
Years of Other enrollment	0.01	0.01	0.01	0.01	Y	1,411	55,221	0.01	0.01	-0.02	N	954	52,077
Graduate	0.00	0.00	0.00	0.00	N	1,411	55,221	0.00	0.00	-0.01	N	954	52,077
Graduate in STEM	0.69	0.01	0.69	0.01	Y	1,411	55,221	0.69	0.01	0.69	Y	954	52,077
Graduate in HSS	-0.70	0.01	-0.69	0.01	Y	1,411	55,221	-0.70	0.01	-0.70	Y	954	52,077
Graduate in Other	0.01	0.00	0.01	0.00	Y	1,411	55,221	0.01	0.00	0.00	N	954	52,077
Panel B: College outcomes													
College plans at the end of high school: any college	0.01	0.02	0.00	0.02	Y	293	3,987	0.02	0.02	-0.01	Y	113	2,852
College plans at the end of high school: STEM	0.23	0.04	0.19	0.04	Y	293	3,987	0.26	0.04	0.25	Y	113	2,852
College plans at the end of high school: HLSS	-0.22	0.03	-0.20	0.03	Y	293	3,987	-0.24	0.04	-0.16	N	113	2,852
College enrollment one year after high school: any college	-0.04	0.03	-0.05	0.03	Y	280	3,327	-0.01	0.03	0.00	Y	95	2,238
College enrollment one year after high school: STEM	0.25	0.04	0.19	0.04	Y	280	3,327	0.28	0.04	0.27	Y	95	2,238
College enrollment one year after high school: HLSS	-0.26	0.03	-0.22	0.04	Y	280	3,327	-0.28	0.04	-0.31	Y	95	2,238
Panel C: Desired careers one year after high school													
Technology or engineering	0.25	0.05	0.13	0.06	N	190	1,159	-	-	-	-	-	-
Medicine	-0.04	0.04	0.02	0.05	Y	190	1,159	-	-	-	-	-	-
Business or economics	-0.04	0.06	-0.02	0.06	Y	190	1,159	-	-	-	-	-	-
Art, education, law, or social services	-0.14	0.05	-0.09	0.05	Y	190	1,159	-	-	-	-	-	-
Other/unsure	-0.03	0.04	-0.04	0.05	Y	190	1,159	-	-	-	-	-	-
Panel D: Baccalaureate performance													
Take the exam	-0.01	0.00	0.00	0.00	N	1,904	73,470	-0.01	0.00	-0.02	N	1,284	69,349
Pass the exam	-0.04	0.00	-0.02	0.00	N	1,904	73,470	-0.03	0.00	-0.05	N	1,284	69,349
Exam score	-0.35	0.01	-0.24	0.02	N	1,855	69,938	-0.34	0.01	-0.31	N	1,225	65,547
Pass in STEM	0.62	0.01	0.62	0.01	Y	1,904	73,470	0.62	0.01	0.59	N	1,284	69,349
Pass in HSS	-0.70	0.01	-0.69	0.01	Y	1,904	73,470	-0.70	0.01	-0.69	Y	1,284	69,349
Pass in Other	0.04	0.00	0.05	0.00	Y	1,904	73,470	0.04	0.00	0.05	Y	1,284	69,349
Panel E: Confidence in and preferences for high school subjects													
Beliefs about own high school STEM abilities at the end of high school	0.87	0.08	0.81	0.08	Y	293	3,987	0.88	0.09	0.75	Y	113	2,852
Beliefs about own high school HSS abilities at the end of high school	-0.40	0.06	-0.34	0.06	Y	293	3,987	-0.42	0.06	-0.31	Y	113	2,852
Beliefs about own high school STEM abilities one year after high school	0.74	0.12	0.75	0.13	Y	190	1,159	-	-	-	-	-	-
Beliefs about own high school HSS abilities one year after high school	-0.51	0.09	-0.41	0.10	Y	190	1,159	-	-	-	-	-	-
Preferences for STEM high school subjects one year after high school	1.01	0.15	1.01	0.17	Y	190	1,159	-	-	-	-	-	-
Preferences for HSS high school subjects one year after high school	-0.55	0.08	-0.44	0.09	Y	190	1,159	-	-	-	-	-	-

The table presents results for two strategies that adjust for the influence of peer composition: "Track-level covariates" and "Cutoff-level variation". See the text of Appendix A12 for an explanation of these strategies. The cutoff-specific RDs for "Cutoff-level variation" use a 1.25 point bandwidth. "Main approach" is Equation (1), fit on either the paper's full sample or the sample used for "Cutoff-level variation". "Cutoffs" and "Student-cutoffs" are the number of cutoffs and observations for the listed samples. "In C.I." indicates whether the coefficient estimate from "Track-level covariates" ("Cutoff-level variation") is in the main-approach 95% confidence interval for β from the full (restricted) sample. Rows correspond to different outcomes and are included for all the outcomes in Tables A69-A71.

Table A73: Adjusting for the influence of peer composition, cont.

Outcome	Full sample							Restricted sample					
	Main approach		Track-level covariates			Cutoffs	Student-cutoffs	Main approach		Cutoff-level variation		Cutoffs	Student-cutoffs
	Coef. est.	Std. error	Coef. est.	Std. error	In C.I.			Coef. est.	Std. error	Coef. est.	In C.I.		
Panel F: Confidence in and preferences for college subjects													
Beliefs about own college STEM abilities one year after high school	0.66	0.15	0.60	0.17	Y	190	1,159	-	-	-	-	-	-
Beliefs about own college non-STEM abilities one year after high school	-0.34	0.14	-0.24	0.16	Y	190	1,159	-	-	-	-	-	-
Preferences for STEM college subjects one year after high school	0.78	0.15	0.74	0.17	Y	190	1,159	-	-	-	-	-	-
Preferences for non-STEM college subjects one year after high school	-0.45	0.15	-0.31	0.17	Y	190	1,159	-	-	-	-	-	-
Panel G: O*NET outcomes 1.5 years after high school													
Share of STEM-related job tasks that enjoy	0.10	0.02	0.08	0.03	Y	198	1,199	-	-	-	-	-	-
Share of HSS-related job tasks that enjoy	-0.09	0.04	-0.09	0.04	Y	198	1,199	-	-	-	-	-	-
Share of Other job tasks that enjoy	0.01	0.03	0.01	0.03	Y	198	1,199	-	-	-	-	-	-
Dif. in the share of STEM- v. HSS-related job tasks that enjoy	0.19	0.05	0.17	0.05	Y	198	1,199	-	-	-	-	-	-
Share of O*NET-recommended jobs that are STEM-related	0.10	0.03	0.13	0.04	Y	198	1,199	-	-	-	-	-	-
Share of O*NET-recommended jobs that are HSS-related	-0.10	0.05	-0.09	0.05	Y	198	1,199	-	-	-	-	-	-
Share of O*NET-recommended jobs that are Other	-0.01	0.04	-0.04	0.05	Y	198	1,199	-	-	-	-	-	-
Panel H: Career choices and beliefs 1.5 years after high school													
Would choose to be a technology or engineering worker	0.15	0.05	0.08	0.06	Y	198	1,199	-	-	-	-	-	-
Difference in beliefs about pay	-0.01	0.10	0.03	0.11	Y	198	1,199	-	-	-	-	-	-
Difference in beliefs about enjoying the work content	0.74	0.21	0.48	0.24	Y	198	1,199	-	-	-	-	-	-
Difference in beliefs about coworkers and work conditions	0.25	0.19	0.14	0.20	Y	198	1,199	-	-	-	-	-	-
Difference in beliefs about own preparation	0.90	0.23	0.63	0.27	Y	198	1,199	-	-	-	-	-	-
Difference in beliefs about approval of friends and family	0.30	0.12	0.17	0.13	Y	198	1,199	-	-	-	-	-	-
Panel I: Wellbeing, high school satisfaction, and high school curricular fit at the end of high school													
Wellbeing	0.13	0.05	0.15	0.05	Y	293	3,987	0.13	0.06	0.20	Y	113	2,852
Liked the high school experience	0.11	0.07	0.16	0.07	Y	293	3,987	0.12	0.08	0.19	Y	113	2,852
Liked the high school curriculum	0.00	0.07	0.07	0.07	Y	293	3,987	-0.06	0.07	0.02	Y	113	2,852
Liked the high school peers	0.23	0.07	0.19	0.08	Y	293	3,987	0.28	0.08	0.12	N	113	2,852
Liked the high school teachers	-0.02	0.07	0.04	0.07	Y	293	3,987	-0.03	0.07	0.11	Y	113	2,852
The high school curriculum was a good fit for my abilities	0.00	0.05	0.06	0.06	Y	293	3,987	-0.01	0.06	-0.09	Y	113	2,852
Panel J: Wellbeing, high school satisfaction, and high school curricular fit 1-1.5 years after high school													
Wellbeing	-0.03	0.07	-0.09	0.07	Y	198	1,199	-	-	-	-	-	-
Liked the high school experience	0.22	0.11	0.14	0.13	Y	190	1,159	-	-	-	-	-	-
Liked the high school curriculum	0.00	0.14	-0.03	0.15	Y	190	1,159	-	-	-	-	-	-
Liked the high school peers	0.29	0.14	0.25	0.15	Y	190	1,159	-	-	-	-	-	-
Liked the high school teachers	0.13	0.13	0.21	0.13	Y	190	1,159	-	-	-	-	-	-
The high school curriculum was a good fit for my abilities	-0.12	0.12	-0.28	0.13	Y	190	1,159	-	-	-	-	-	-

The table is a continuation of Table A72.

Table A74: Adjusting for the influence of peer composition, cont.

Outcome	Full sample							Restricted sample					
	Main approach		Track-level covariates			Cutoffs	Student-cutoffs	Main approach		Cutoff-level variation		Cutoffs	Student-cutoffs
	Coef. est.	Std. error	Coef. est.	Std. error	In C.I.			Coef. est.	Std. error	Coef. est.	In C.I.		
Panel K: Regret over high school application choices one year after high school													
Am happy with the high school application choices that I made	0.05	0.13	0.09	0.13	Y	190	1,159	-	-	-	-	-	-
If could do over, would make no change	0.05	0.04	0.03	0.04	Y	190	1,159	-	-	-	-	-	-
If could do over, would rank STEM tracks higher	-0.03	0.03	-0.04	0.04	Y	190	1,159	-	-	-	-	-	-
If could do over, would rank HSS tracks higher	-0.02	0.03	0.01	0.03	Y	190	1,159	-	-	-	-	-	-
If could do over, would rank Other tracks higher	0.00	0.01	0.00	0.01	Y	190	1,159	-	-	-	-	-	-
Panel L: College satisfaction, curricular fit, and regret one year after high school													
Like the college experience	-0.44	0.14	-0.37	0.16	Y	190	1,159	-	-	-	-	-	-
Like the college curriculum	-0.23	0.13	-0.20	0.15	Y	190	1,159	-	-	-	-	-	-
Like the college peers	-0.40	0.17	-0.36	0.19	Y	190	1,159	-	-	-	-	-	-
Like the college instructors	-0.35	0.13	-0.34	0.17	Y	190	1,159	-	-	-	-	-	-
The college curriculum is a good fit for my abilities	0.08	0.16	0.13	0.17	Y	190	1,159	-	-	-	-	-	-
Am happy with the college application choices that I made	0.12	0.18	0.15	0.21	Y	190	1,159	-	-	-	-	-	-
Panel M: Social and civic outcomes: male students													
Traditionalist expectations	0.12	0.05	0.12	0.05	Y	206	1,396	0.13	0.06	0.40	N	45	627
Right-wing political views	0.14	0.05	0.18	0.06	Y	206	1,396	0.08	0.06	0.27	N	45	627
Trust	-0.01	0.08	0.07	0.10	Y	206	1,396	-0.09	0.12	0.02	Y	45	627
Turn out to vote in the Fall 2024 elections	0.00	0.08	-0.03	0.09	Y	101	373	-	-	-	-	-	-
Good friends	-0.07	0.32	-0.09	0.36	Y	206	1,396	-0.18	0.42	0.80	N	45	627
Very close friends	0.00	0.17	0.16	0.19	Y	206	1,396	-0.04	0.24	0.35	Y	45	627
Good female vs. male friends	-0.71	0.28	-0.21	0.32	Y	206	1,396	-0.59	0.36	-1.27	Y	45	627
Verbal development	-0.25	0.06	-0.17	0.06	Y	206	1,396	-0.25	0.08	-0.39	Y	45	627
Empathy	-0.15	0.09	-0.15	0.11	Y	206	1,396	-0.22	0.12	-0.12	Y	45	627
Panel N: Social and civic outcomes: female students													
Traditionalist expectations	0.03	0.03	0.05	0.03	Y	253	2,510	0.03	0.04	0.03	Y	70	1,486
Right-wing political views	-0.01	0.04	0.00	0.04	Y	253	2,510	-0.03	0.04	0.01	Y	70	1,486
Trust	0.03	0.07	0.02	0.07	Y	253	2,510	0.00	0.08	-0.27	N	70	1,486
Turn out to vote in the Fall 2024 elections	0.05	0.04	0.03	0.04	Y	143	728	-	-	-	-	-	-
Good friends	-0.04	0.24	-0.05	0.24	Y	253	2,510	0.09	0.28	-0.90	N	70	1,486
Very close friends	-0.06	0.11	0.00	0.12	Y	253	2,510	0.04	0.13	-0.87	N	70	1,486
Good female vs. male friends	-0.49	0.19	-0.27	0.20	Y	253	2,510	-0.54	0.23	-1.72	N	70	1,486
Verbal development	-0.26	0.05	-0.25	0.05	Y	253	2,510	-0.25	0.05	-0.14	N	70	1,486
Empathy	-0.08	0.07	-0.04	0.07	Y	253	2,510	-0.09	0.08	-0.09	Y	70	1,486

The table is a continuation of Table A72.