Can High School Counselors Help the Economics Pipeline? Online Appendix

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Table A1: Balance Tests – Participating vs Non-Participating Treatment Schools

	N. Enrolled Students	HH Income zip code	Distance to TAMU	N. Applied to TAMU	N. Women Applied to TAMU	N. URM Applied to TAMU	Math SAT Score	% Top Performer
Participating Schools	2,335.35	54,989.66	138.02	93.51	45.92	31.89	614.19	0.24
	(929.55)	(19,282.37)	(84.28)	(72.41)	(33.18)	(19.89)	(51.04)	(0.19)
Non-Participating Schools	2,630.13	55,502.74	112.53	91.87	46.17	27.04	620.16	0.26
	(676.97)	(17,138.94)	(61.36)	(67.37)	(31.87)	(22.79)	(39.72)	(0.17)
$H_0 : C = T$ (p-value)	0.155	0.907	0.175	0.922	0.973	0.309	0.601	0.666

Note: The table displays 2019 averages for schools in the treatment group that did (N=23) and did not (N=97) attend the workshop. Standard deviations are in parentheses. HH Income refers to the average household income in the zip code where the high school is located. % Top Performer refers to the percentage of students who scored in the top 25th percentile in the Math SAT, i.e., scored 690 or higher. For each variable, p-values disclosed in the last row are generated by tests of equality of means.

Table A2: LATE Estimates: Economics listed as Major of Choice – Applications

	All	Men	Women	URM	All Top	Top Men	Top Women	Top URM
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year 2020 x Workshop	0.015	-0.010	0.040	0.031	0.123	0.111	0.140	0.202
	(0.030)	(0.049)	(0.030)	(0.043)	(0.068)	(0.084)	(0.077)	(0.097)
Year 2020	0.003	0.004	0.002	0.001	-0.005	-0.004	-0.007	-0.015
	(0.004)	(0.007)	(0.004)	(0.006)	(0.007)	(0.011)	(0.010)	(0.015)
Workshop	-0.000	0.005	-0.005	-0.009	-0.007	-0.000	-0.017	-0.023
	(0.006)	(0.011)	(0.005)	(0.008)	(0.009)	(0.013)	(0.010)	(0.019)
Observations	42,442	20,941	21,501	13,299	14,107	8,413	5,694	2,174
Control Mean	0.060	0.086	0.035	0.049	0.080	0.091	0.063	0.071
School-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Student-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	234	232	231	234	231	223	219	222

Note: Local Average Treatment Effect Model (LATE), estimated via an an 2SLS regression, where actual participation in the Counselor Workshop is instrumented by the initial assignment of schools to the treatment. Robust standard errors, clustered at the school-level in parentheses. The dependent variable is a indicator variable equal to one if the student applied to TAMU and listed economics as their first or second major choice. It is equal to zero if the student applied to TAMU and did not list economics as their first or second major of choice. "Year 2020" is equal to 1 if the student applied to enroll at TAMU the year following the intervention; it is equal to 0 if the student applied to join TAMU the year before the intervention. "Workshop" is equal to 1 if the student's school was invited to participate in the Counselor Workshop. In each column, the "Control Mean" is the average percentage of applicants in the Control schools who listed economics as one of their two majors of choice. School-level controls are: total number of students in 2019, and average household income in the school's zip code. Student-level controls are: gender, URM status and an indicator for having a top SAT Math test score (in the 25th top percentile). For students who did not take the SAT test, the top student dummy is created based on their aggregate ACT score being in the top 25th percentile.

Table A3: Number of Applicants to TAMU Regardless of Major (School level analysis)

	All	Men	Women	URM	All Top	Top Men	Top Women	Top URM
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year 2020 x Workshop	0.487	-0.278	0.764	-1.648	0.405	0.409	-0.004	-0.554
	(2.684)	(1.663)	(1.593)	(1.307)	(1.434)	(1.006)	(0.804)	(0.393)
Year 2020	-2.070	-1.781	-0.289	-0.711	-1.605	-1.342	-0.263	-0.263
	(2.012)	(1.191)	(1.193)	(0.892)	(1.026)	(0.659)	(0.603)	(0.266)
Observations	469	469	469	469	469	469	469	469
Control Mean	95.026	46.816	48.211	30.368	30.763	18.289	12.474	4.947
School-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Ordinary Least Squares (OLS) regressions, employing school-level data. Robust standard errors in parentheses. In columns 1 to 4, the dependent variable is the total number of TAMU applicants from each high school, regardless of major, i.e., the total number of all applicants (column 1), male applicants (column 2), female applicants (column 3) and URM applicants (column 4). In columns 5 to 8, the dependent variable is the total number of high achieving applicants, according to standardized tests (the 25th top percentile SAT Math test score or, if missing, composite ACT test score), for each category. "Year 2020" is equal to 1 for applications for enrollment the year following the intervention; it is equal to 0 for applications for enrollment the year before the intervention. "Workshop" is equal to 1 if the school was invited to participate in the Counselor Workshop. In each column, the "Control Mean" is the average number of applicants to TAMU in the Control schools the year prior to the intervention.

Table A4: Economics listed as major of choice – Admissions

	All	Men	Women	URM	All Top	Top Men	Top Women	Top URM
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year 2020 x Workshop	0.004	-0.007	0.014	0.004	0.026	0.016	0.034	0.060
	(0.008)	(0.012)	(0.009)	(0.013)	(0.012)	(0.017)	(0.016)	(0.027)
Year 2020	0.004	0.011	-0.001	0.004	-0.004	0.003	-0.008	-0.017
	(0.006)	(0.010)	(0.007)	(0.010)	(0.009)	(0.013)	(0.013)	(0.021)
Observations	23,370	11,553	11,817	6,316	12,031	6,936	5,095	1,870
Control Mean	0.056	0.070	0.041	0.046	0.070	0.077	0.061	0.075
School-FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Student-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	234	232	231	234	230	222	219	219

Note: Linear Probability Model (LPM). Robust standard errors, clustered at the school-level, in parentheses. The dependent variable is a dummy variable equal to one if the student was admitted to TAMU and listed economics as their first or second major choice. It is equal to zero if the student was admitted but did not list economics as their first or second major of choice. "Year 2020" is equal to 1 if the student applied to enroll at TAMU the year following the intervention; it is equal to 0 if the student applied to join TAMU the year before the intervention. "Workshop" is equal to 1 if the student's school was invited to participate in the Counselor Workshop. In each column, the "Control Mean" is the average percentage of admitted students in the Control schools who listed economics as one of their two majors of choice. Student-level controls are: gender, URM status and a dummy for having a top SAT Math test score (in the 25th top percentile). For students who did not take the SAT test, the top student dummy is created based on their aggregate ACT score being in the top 25th percentile.

Table A5: LATE Estimates: Economics listed as Major of Choice – Admissions

	All	Men	Women	URM	All Top	Top Men	Top Women	Top URM
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year 2020 x Workshop	0.017	-0.026	0.059	0.013	0.119	0.096	0.146	0.243
	(0.039)	(0.060)	(0.046)	(0.064)	(0.072)	(0.089)	(0.084)	(0.113)
Year 2020	0.006	0.012	0.001	0.007	-0.002	0.001	-0.006	-0.019
	(0.006)	(0.009)	(0.007)	(0.009)	(0.009)	(0.012)	(0.011)	(0.018)
Workshop	0.002	0.011	-0.007	-0.007	-0.004	0.006	-0.018	-0.036
	(0.007)	(0.012)	(0.007)	(0.010)	(0.010)	(0.014)	(0.011)	(0.020)
Observations	23,370	11,553	11,817	6,316	12,031	6,936	5,095	1,870
Control Mean	0.056	0.070	0.041	0.046	0.070	0.077	0.061	0.075
School-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Student-level Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	234	232	231	234	230	222	219	219

Note: Local Average Treatment Effect Model (LATE), estimated via an an 2SLS regression, where actual participation in the Counselor Workshop is instrumented by the initial assignment of schools to the treatment. Robust standard errors, clustered at the school-level in parentheses. The dependent variable is an indicator variable equal to one if the student was admitted to TAMU and listed economics as their first or second major choice. It is equal to zero if the student applied to TAMU and did not list economics as their first or second major of choice. "Year 2020" is equal to 1 if the student applied to enroll at TAMU the year following the intervention; it is equal to 0 if the student applied to join TAMU the year before the intervention. "Workshop" is equal to 1 if the student's school was invited to participate in the Counselor Workshop. In each column, the "Control Mean" is the average percentage of admitted students in the Control schools who listed economics as one of their two majors of choice. School-level controls are: total number of students in 2019, and average household income in the school's zip code. Student-level controls are: gender, URM status and an indicator for having a top SAT Math test score (in the 25th top percentile). For students who did not take the SAT test, the top student dummy is created based on their aggregate ACT score being in the top 25th percentile.

Figure 1: Map of Sampled Schools
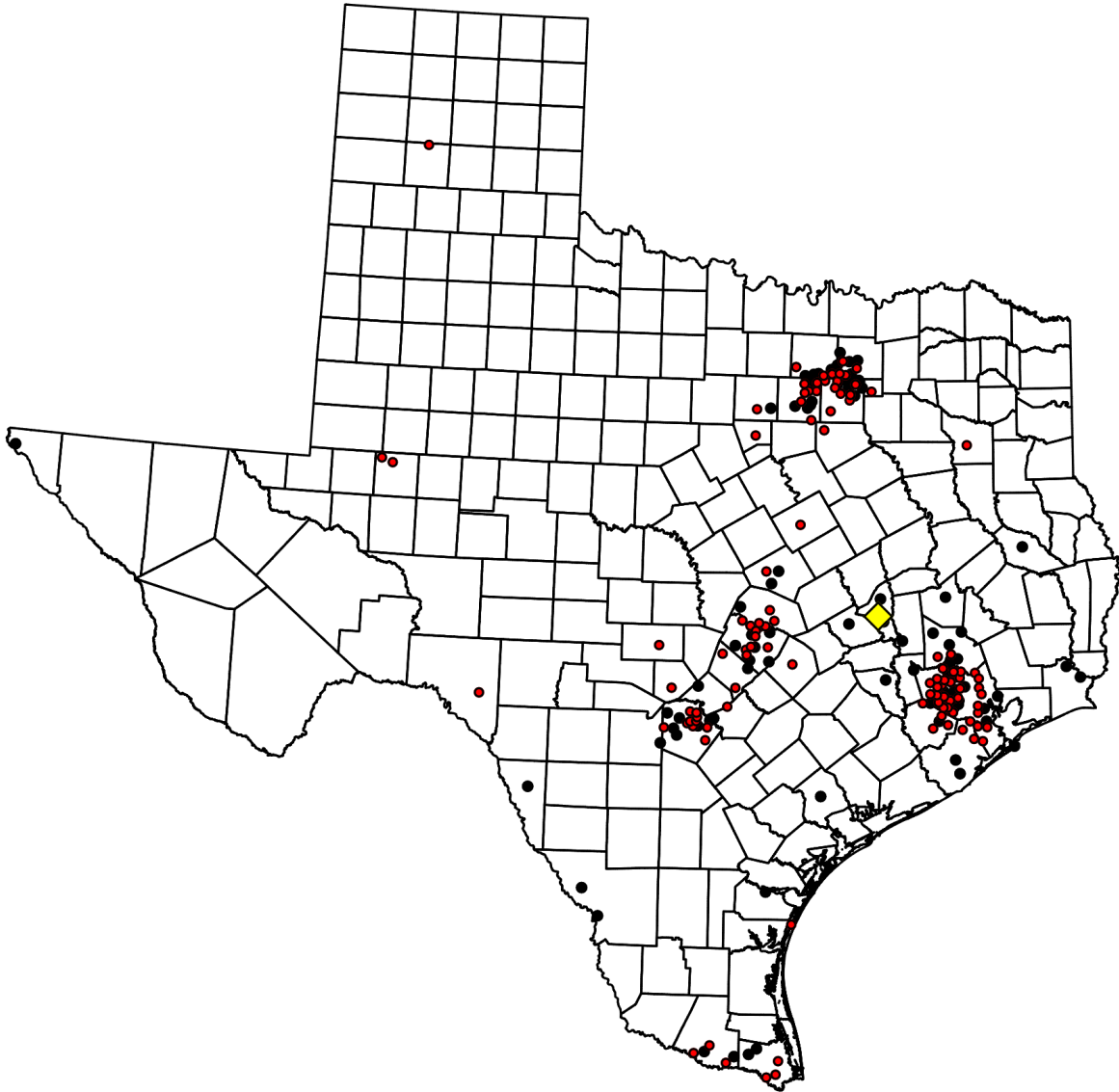
Note: The study involves 234 Texas high schools, which are high feeder schools for Texas A&M University. Randomly selected treatment schools are noted with a red dot. Control schools are noted with a black dot, and Texas A& M University is marked by the yellow diamond.

Figure 2: Poster given to high school counselors