Online Appendix

Why Does Education Increase Voting?

Sarah R. Cohodes and James J. Feigenbaum

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Appendix A: Matching Student Data to the Voter Files

This Appendix details our procedures for matching student and parent information to the voter files.

Students

We attempted to match all student records in the SIMS database to the voter files. To increase the likelihood of matching, we included all variations of name and birth dates associated with a student ID in the SIMS database. For example, a student might have one record in the SIMS data with a middle name and one without. The resulting student-level records were then matched with voter records for Massachusetts, using voter files from 2012, 2015, and 2018. We supplemented the Massachusetts voter files with voting records from 2018 for nearby states: Connecticut, Maine, New Hampshire, New York, Rhode Island, and Vermont.[60]

The 2018 voter files also contain a measurement of confidence in voter dates of birth from the vendor. These range from complete date to valid year and month or date to valid year to missing birthdate. These levels of confidence vary by state, as does the presence of date of birth, and thus our matching procedures vary by state. Each of the state voter files is detailed below. The Massachusetts voter file has 4.04 million verified birth dates out of 4.05 million voter records, allowing for the greatest accuracy in the state we are most likely to observe students. Almost all of the records in the Connecticut, New York, and Rhode Island voter files also have verified birth dates, with relatively few missing values for birth dates. In contrast, the New Hampshire voter file is missing roughly 20 percent of voters' birth dates and includes a large number of younger voters who are missing exact birth date. Many birth dates in Maine only include information on year of birth. Finally, the Vermont file has varying levels of birth date information, including some records with complete birth date information and some only containing correct year or correct year and month.

Online Appendix Table A.1 details the rate at which students in the lottery sample, and Massachusetts as a whole, appear in the voter files for any of these states, by the state of the college they attended (or in a line for no college). We count students for each state they are registered in, so a student may appear in more than one state. We see that students are most likely to be registered in Massachusetts, no matter the state of the college that they attend, and that many students who attend college out of state remain registered solely in Massachusetts. College state and state of registration align closely, which is a check that matches outside of Massachusetts are likely good ones.

To begin our matching procedures, we searched for exact matches between the SIMS and voter information on first name, last name, and date of birth in the Massachusetts voter records. Students matched in this way were declared as matches and set aside. We then employed fuzzy matching techniques to account for minor discrepancies in identifying information between the two data sources for the remaining students. We make use of two string distance metrics. The first is Jaro-Winkler Distance (JWD) which ranges from 0 to 1, with 0 meaning an exact match, measures edits to convert one string to another with more weight (penalty) for discrepancies early in the string. The second is Cosine String Distance which yields the distance between q-gram profiles of strings; for example, cosine distance with $q = 4$ depends on how many 4-letter sequences two strings share.

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[60]The New England states have a tuition-compact where regional students do not have to pay full out-of-state tuition rates at public colleges and universities. For details, see: `https://nebhe.org/tuitionbreak/.`

Cosine distances with larger values of q are particularly good at matching students with hyphenated last names which are often transposed in different sources. We also use Soundex encoding. Based on careful review of the voter files and the student data, we developed several variants of fuzzy matching:

1. Require exact matches on first name and last name; require two of birth day, birth month, and birth year to match; require birth year to be off by no more than two years; require middle initial to match; if a middle name is reported in both sources (relatively rare), require middle name to be within 0.1 in JWD.

2. Require exact matches on first name and date of birth; require last names to be within 0.2 in JWD or 0.2 in cosine distance with $q = 1$; require last names to be within 0.5 in cosine distance with $q = 3$.

3. Require exact matches on last name and date of birth; require first names to be within 0.2 in JWD or 0.2 in cosine distance with $q = 1$; require first names to be less than 1 in cosine distance with $q = 4$ or agree on soundex code or within 0.2 in JWD.

4. Require exact matches on birthdate; require first name to be within 0.2 in JWD; require last name to be within 0.2 in JWD; require last names to be less than 1 in cosine distance with $q = 4$ or the sum of JWD in first and last name to be less than 0.15; require gender to match.

5. Require exact matches in last name and date of birth; require first name to match middle name from SIMS to voter file or from voter file to SIMS; require first letter of first name to match first letter of middle name (in both directions). This captures students reversing first and middle names between SIMS and the voter file.

6. Require exact matches in first and last name; require year of birth to match; require day of birth to match month of birth (in both directions). This captures students reversing their day and month of birth.

We then supplemented the Massachusetts records with voter files from neighboring states. We attempt to match all students, including those matched above to the Massachusetts voter file, to recover voting history for students who move out of state whether or not they have previously registered to vote in Massachusetts. Due to the state-level variance in the date of birth confidence levels (especially out of Massachusetts) and to ensure that we are matching a student record to the correct voter record, we employ four rounds of matching with different stipulations. In the first round of matching, students are matched with voter records based on exact matches in first name, last name, and birth date. Again, these matches are set aside before we employ fuzzy matching (with more restrictions than in our matching within Massachusetts because we know, in general, that the students in our sample are mostly likely to be in MA). In the second round, we focus on records in the voter file with only a valid year and month or day of birth. We match exactly on first name, last name, and gender, require middle initial to match, and require birth year and birth month to match, and if a middle name is reported in both sources (relatively rare), require middle name to be within 0.1 in JWD. In the third round, we focus on records in the voter file with only a valid year. We match exactly on first name, last name, and gender, require middle initial to match, and require birth year to match, and if a middle name is reported in both sources (relatively rare), require middle name to be within 0.1 in JWD. In the fourth round, we focus on records in the voter

file with a missing birth date and students in SIMS who are the only student with their exact first and last name in SIMS. We match exactly on first name, last name, and gender, require middle initial to match, and if a middle name is reported in both sources (relatively rare), require middle name to be within 0.1 in JWD.

Parents

Some charter schools that provided us with the charter lottery data also provided us with parent information for the students. We include charter school lotteries where over 90 percent of the student entries included parent information. This includes the following charter school lotteries: Academy of the Pacific Rim (2011, 2012, 2013); Boston Collegiate (2009); Boston Preparatory (2005, 2007, 2010, 2012, 2013); City on a Hill (2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012); Codman Academy (2008, 2010, 2011); and Roxbury Prep (2002, 2003, 2004, 2005, 2009, 2011). This resulted in a sample of 8,302 parents, representing 6,388 students (since students can have two parent/guardians in the lottery records). Restricting this to students who met sample criteria (baseline covariates present and Boston residents at baseline) reduced the sample to 5,845 students with 7,635 parents.

To match the parent records with their respective voter records, we employed a similar technique as described for the student matching. In this case, parent information from the charter school lotteries is sparse. To address this, we only matched parents with Massachusetts voter records for individuals residing in a Boston zip code to reduce the likelihood of a false match; we further require parents to be between 14 and 60 years old when their charter lottery child was born to filter out implausible matches. We use Jaro-Winkler distance matching to create a measurement of similarity between parent names and voter names. To allow for normal variation in name formats (hyphenated names, multiple last names, misspellings, etc.), we consider records with both first and last names with JWD scores of 0.1 or lower as an accurate match. This produces 18,258 potential-parent-voter records for analysis, since many parents are matched to multiple voter records. Because we do not have an additional piece of information, like date of birth, for parents, we cannot distinguish which voter record is the correct one when a parent name matches to multiple voter records. We thus retain all potential methods and estimate several models that account for parent matches in different ways, as discussed in the main text.

Table A.1: Presence in State Voter Files

College State	N	Massachusetts	Connecticut	Maine	New Hampshire	New York	Rhode Island	Vermont
(A) Charter applicants								
Massachusetts	5,802	0.828	0.001	0.001	0.002	0.004	0.003	0.000
Connecticut	52	0.654	0.173	0.000	0.000	0.000	0.000	0.000
Maine	26	0.731	0.000	0.192	0.000	0.000	0.000	0.000
New Hampshire	298	0.758	0.000	0.000	0.081	0.000	0.000	0.000
New York	185	0.811	0.000	0.011	0.000	0.146	0.006	0.000
Rhode Island	169	0.799	0.000	0.000	0.000	0.000	0.157	0.000
Vermont	46	0.696	0.000	0.000	0.000	0.022	0.000	0.000
Other States	543	0.643	0.002	0.002	0.000	0.002	0.006	0.002
No College	2,967	0.632	0.001	0.001	0.000	0.002	0.006	0.000
All	9,562	0.752	0.002	0.002	0.003	0.005	0.006	0.000
(B) Massachusetts								
Massachusetts	446,397	0.809	0.004	0.003	0.004	0.006	0.004	0.002
Connecticut	7,925	0.788	0.149	0.001	0.003	0.015	0.004	0.001
Maine	4,721	0.709	0.005	0.227	0.004	0.007	0.002	0.001
New Hampshire	31,589	0.748	0.003	0.004	0.091	0.003	0.003	0.002
New York	28,059	0.810	0.007	0.004	0.004	0.125	0.003	0.002
Rhode Island	29,186	0.802	0.005	0.002	0.003	0.007	0.075	0.001
Vermont	12,438	0.830	0.006	0.008	0.006	0.016	0.003	0.093
Other States	70,101	0.666	0.004	0.003	0.003	0.014	0.004	0.001
No College	223,094	0.542	0.002	0.002	0.002	0.004	0.008	0.001
All	789,592	0.716	0.005	0.004	0.006	0.009	0.007	0.002

Notes: This table shows the rates in which students appear in voter files for Massachusetts and six nearby states, by state of college attended. The charter applicants are restricted to students who applied for a Boston charter school lottery. The Massachusetts panel shows all 9th grade students in Massachusetts.

Appendix B: Charter Lottery Details

Table B.1: Lottery Records: Sample Restrictions

	All Years (1)	2006 (2)	2007 (3)	2008 (4)	2009 (5)	2010 (6)	2011 (7)	2012 (8)	2013 (9)	2014 (10)	2015 (11)	2016 (12)	2017 (13)
Total number of records	23,200	545	435	898	980	1,206	1,599	1,830	2,085	2,438	3,017	3,420	4,747
Excluding disqualified	23,107	545	435	898	979	1,206	1,597	1,828	2,072	2,433	2,993	3,397	4,724
Excluding late applications	22,900	535	431	888	976	1,206	1,597	1,808	2,070	2,433	2,993	3,307	4,656
Excluding out-of-area	22,659	535	431	888	976	1,203	1,596	1,808	2,052	2,389	2,948	3,286	4,547
Excluding siblings	21,597	515	422	863	955	1,182	1,538	1,706	1,940	2,215	2,795	3,115	4,351
Excluding unmatched	21,464	510	419	857	948	1,172	1,531	1,694	1,924	2,203	2,778	3,097	4,331
Excluding repeat applications	21,457	510	419	857	948	1,172	1,531	1,694	1,924	2,203	2,777	3,095	4,327
Reshaping to student-level	12,814	438	419	626	669	851	1,077	1,091	1,197	1,258	1,573	1,685	1,892
Has baseline demographics	11,388	324	342	559	606	746	986	958	1,057	1,141	1,420	1,515	1,734
In Boston at baseline	10,527	295	328	534	565	687	934	878	986	1,033	1,319	1,400	1,568
At least 18 by 2016 election	9,562	295	328	534	565	686	933	878	986	1,032	1,318	1,383	624

Notes: This table shows sample restrictions for the lottery records. Disqualified records are duplicate applications to the same lottery and applications to the wrong grade.

Table B.2: Lottery Records: Participation by Schools and Cohorts

	Middle Schools				Combined Schools (5-12 or 6-12)		
	Brooke Roslindale (5) (1)	Excel East Boston (5) (2)	Mission Hill (6) (3)	Academy of the Pacific Rim (5/6) (4)	Boston Collegiate (5) (5)	Boston Prep (6) (6)	Match MS (6) (7)
2002	No records	No records	Yes	No records	Yes	Not open	Not open
2003			Yes*		Yes		
2004		Not open	Yes*		Yes	Incomplete records	
2005			Yes		Yes	Yes	
2006	Yes		Yes	Yes	Yes	Yes	
2007	Yes		Yes	Yes	Yes	Yes	
2008	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2009	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2010	Not entry grade	Too young	Yes	Too young	Too young	Too young	Yes
N	569	261	1,816	1,511	1,889	2,153	1,423

High Schools

	Boston Green Academy (9) (8)	City on a Hill (9) (9)	City on a Hill II (9) (10)	Codman Academy (9) (11)	Match HS (9) (12)
2002	Not open	Yes	Not open	No records	Yes
2003		No records		Incomplete records	Yes
2004		Yes		Yes	Yes
2005		Yes		Incomplete Records	Yes
2006		Yes		No records	Yes
2007		Yes		Yes	Yes
2008		Yes		Yes	Yes
2009		Yes		Yes	Yes
2010		Yes		Yes	Yes
2011	Yes	Yes		Yes	Yes
2012	Yes	Yes		Yes	Not entry grade
2013	Yes	Yes	Yes	Yes	
N	2,924	11,947	2,796	5,828	7,008

Notes: This table shows lottery information by school and application year. The entry grade is listed in parentheses after the school name. Some schools have since added grades or changed entry grades outside of the sample period. Brooke, APR, and Match changed their entry grade during the sample period. Mission Hill refers to the original campus of the Roxbury Prep Uncommon Schools network, which was called Roxbury Prep at the time.

* Indicates that there is no initial offer information.

** Indicates that the waitlist was exhausted.

Table B.3: Covariate Balance

	Non-offered Mean (1)	Initial Offer Differential (2)	Waitlist Offer Differential (3)
Female	0.527	-0.000 (0.012)	0.001 (0.012)
Asian	0.032	-0.003 (0.004)	0.002 (0.004)
Black	0.564	0.007 (0.012)	-0.003 (0.012)
Latinx	0.273	-0.006 (0.011)	0.003 (0.011)
Other race	0.024	0.003 (0.004)	-0.007+ (0.004)
White	0.107	-0.000 (0.007)	0.005 (0.007)
Special education	0.196	0.002 (0.010)	-0.013 (0.010)
English learner	0.076	-0.009 (0.007)	0.012+ (0.007)
Free/reduced price lunch	0.732	0.004 (0.010)	-0.003 (0.011)
Baseline MCAS ELA	-0.404	-0.036 (0.025)	0.033 (0.025)
Baseline MCAS Math	-0.371	-0.038 (0.023)	0.036 (0.024)
p-value		0.718	0.407

Notes: This table shows means and offer differentials for baseline characteristics. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools at the time of application in the projected high school classes of 2006 to 2017 who are at least 18 by the 2016 general election. Column 1 shows the proportion of non-offered students with a given characteristic. Columns 2 and 3 report coefficients from regressions of the student characteristic on initial and waitlist offer dummies, including controls for risk sets, application grade, an (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001). The p-values are from tests of the hypothesis that all coefficients on each offer are zero. $N = 9{,}562$.

Table B.4: The Impact of Charter School Attendance on Predicted Voting

	Ever Registered (1)	Ever Voted (2)	First Possible Presidential Election (3))
All	-0.003	-0.005	-0.004
	(0.003)	(0.004)	(0.003)
CCM	0.763	0.509	0.383
N	8,551	8,551	8,551
Girls	-0.002	-0.002	-0.002
	(0.004)	(0.006)	(0.005)
CCM	0.797	0.576	0.439
N	4,455	4,455	4,455
Boys	-0.005	-0.008	-0.006
	(0.004)	(0.006)	(0.005)
CCM	0.726	0.437	0.324
N	4,096	4,096	4,096
p-value	0.552	0.512	0.519

Notes: Each coefficient labeled All, Girls, or Boys is the 2SLS instrumental variables estimate of attending a Boston charter with a lottery at any period of time before the outcome listed in the row heading occurred for the full sample, girls, or boys. Indicator variables for a lottery offer on the day of the lottery (initial offer) and lottery offer off of the waitlist (waitlist offer) are the instruments for charter attendance. The control complier mean is labeled CCM. All regressions control for lottery risk sets and a vector of demographic characteristics including indicators for race, birth year, and baseline special education, English learner, and free or reduced price lunch status, all interacted with gender. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools at the time of application in the projected high school classes of 2006 to 2017 who are at least 18 by the 2016 general election. Predicted voting likelihoods are calculated in the non-charter BPS sample using demographics and baseline test scores, with predicted values applied to the charter lottery population. Since the prediction uses test scores, the sample is further limited to students with baseline test scores. The p-value from a test of equality of the girl and boy coefficients is listed in the final row of the table. Robust standard errors are in parentheses (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table B.5: Match Rate to SIMS

Projected HS Class	Non-offered Mean (1)	Initial Offer Differential (2)	Waitlist Offer Differential (3)	Number of Applications (4)
2006	0.986	-0.008	0.008	515
		(0.012)	(0.009)	
2007	0.997	-0.011	-0.033	422
		(0.017)	(0.038)	
2008	0.996	-0.015	0.008	863
		(0.011)	(0.009)	
2009	0.994	-0.001	-0.002	955
		(0.008)	(0.008)	
2010	0.994	-0.001	-0.001	1,182
		(0.009)	(0.009)	
2011	0.996	-0.000	0.002	1,538
		(0.005)	(0.007)	
2012	0.992	-0.001	0.000	1,706
		(0.005)	(0.005)	
2013	0.993	-0.004	0.003	1,940
		(0.006)	(0.005)	
2014	0.994	0.000	0.003	2,215
		(0.005)	(0.004)	
2015	0.996	-0.001	-0.001	2,795
		(0.005)	(0.003)	
2016	0.994	-0.001	0.001	3,115
		(0.004)	(0.004)	
2017	0.995	-0.003	0.002	4,351
		(0.003)	(0.003)	
All cohorts	0.995	-0.003*	0.000	21,597
		(0.002)	(0.001)	

Notes: This table shows the match between lottery records and the SIMS data by projected high school class. The sample excludes disqualified, late, out-of-area, and sibling applications. It includes students who are under the age of 18 at the time of the 2016 election since birth date is only available for students who match to the SIMS data. Individuals can be in the sample multiple times if they apply to multiple schools. Columns 2 and 3 report coefficients from regressions of the student characteristic on initial and waitlist offer dummies, including controls for risk sets (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table B.6: Attrition

	Fraction of Non-Offered With Outcome (1)	Initial Offer Differential (2)	Waitlist Offer Differential (3)
Has ELA score (2 years after lottery)	0.803	0.006 (0.009)	0.015 (0.010)
Has math score (2 years after lottery)	0.785	0.008 (0.009)	0.012 (0.010)
Present in 12th grade in data	0.754	-0.004 (0.011)	-0.009 (0.011)
Sent to NSC	0.972	0.001 (0.004)	0.001 (0.004)

Notes: This table shows follow-up rates for MCAS scores two years after charter application, presence in the data in 12th grade, and an indicator for being sent to the NSC to be matched to college outcome data for Boston charter school applicants. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools at the time of application in the projected high school classes of 2006 to 2017 who are at least 18 by the 2016 general election. Column 1 shows the proportion of non-offered students with a given outcome. Columns 2 and 3 report coefficients from regressions of the student characteristic on initial and waitlist offer dummies, including controls for risk sets (+ $p<0.10$ * $p<0.05$ ** $p<0.01$ ***$p<0.001$). $N = 9{,}562$.

Table B.7: The Impact of Charter School Offers on Charter Attendance

	Non-offered Mean (1)	Initial Offer (2)	Waitlist Offer (3)
(A) Ever attend charter			
All	0.072	0.460*** (0.011)	0.301*** (0.011)
Girls	0.072	0.440*** (0.015)	0.304*** (0.015)
Boys	0.073	0.483*** (0.016)	0.299*** (0.016)
(B) Years attended charter			
All	0.557	1.555*** (0.055)	1.008*** (0.052)
Girls	0.549	1.572*** (0.074)	1.055*** (0.071)
Boys	0.566	1.534*** (0.083)	0.957*** (0.076)

Notes: This table shows the impact of a charter school offer on charter school attendance for the full sample, girls, and boys. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools at the time of application in the projected high school classes of 2006 to 2017 who are at least 18 by the 2016 general election. Column 1 shows the proportion of non-offered students with a given characteristic. Columns 2 and 3 report coefficients from regressions of charter attendance on initial and waitlist offer dummies, including controls for demographic characteristics and risk sets. Robust standard errors are in parentheses (+ $p<0.10$ * $p<0.05$ ** $p<0.01$ ***$p<0.001$). $N = 9,562$.
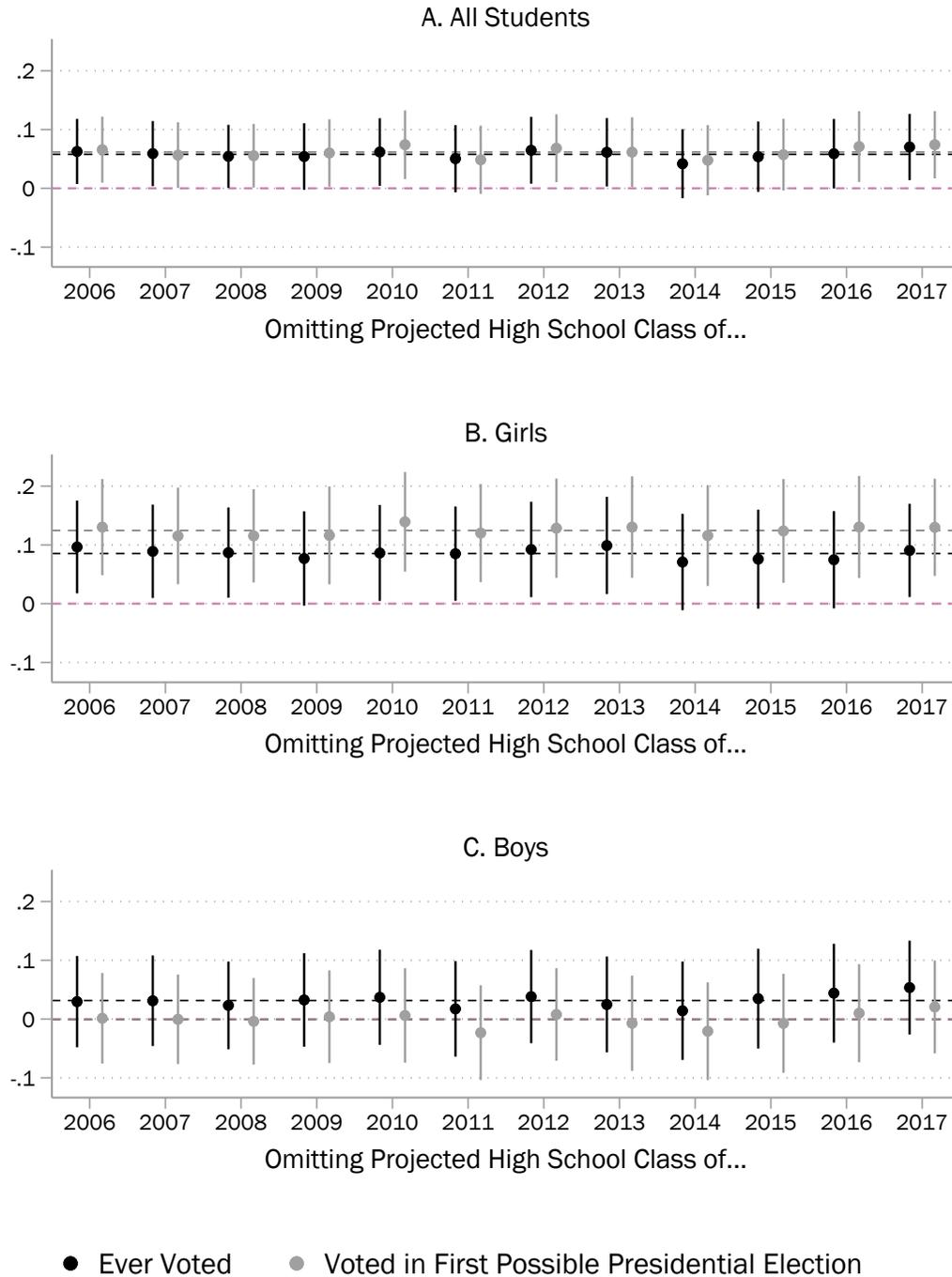
Table B.8: Charter School Mission Statements, by Civics-Orientation

School (1)	Mission Statement (2)	Civics? (Reason) (3)
Academy of the Pacific Rim	For 24 years, APR has been committed to serving students of Boston such that they achieve their full intellectual and social potential, and we now have over 600 alumni. Our work is grounded in the vision that graduates of APR have a focused mind and a big heart. They are ready for post-secondary education because they have mastered college and career ready academic and social skills, including the knowledge and dispositions to joyfully pursue future opportunities based on their passions and participate in and transform civic life.	Yes (civic life)
Boston Collegiate	The mission of Boston Collegiate Charter School is simple yet ambitious: to prepare each student for college.	No
Boston Green Academy	Boston Green Academy welcomes diverse students of all abilities, educates and empowers them to succeed in college and career, and prepares them to lead in the sustainability of our community and world.	Yes (community)
Boston Preparatory	At Boston Prep, we are dedicated to attaining our mission of preparing students to succeed in college and embody lifelong ethical growth. We have carefully designed the Boston Prep program with intention and purpose to provide our students the greatest chance of future success.	No
Brooke Roslindale	Engage together, grow together, achieve together.	No
City on a Hill	City on a Hill graduates responsible, resourceful, and respectful democratic citizens prepared for college and to advance community, culture, and commerce, and to compete in the 21st century. We do so by emphasizing academic achievement, citizenship, teacher leadership, and public accountability.	Yes (community and citizenship)
Codman Academy	Our mission is to provide an outstanding, transformative education to prepare students for success in college, further education and beyond.	No
Excel Academy	Excel Academy's mission is to prepare students to succeed in high school and college, apply their learning to solve relevant problems, and engage productively in their communities.	Yes (community)
MATCH	Success in college and beyond for every student.	No
Mission Hill	Roxbury Prep schools are aligned around the "3 C's" — Curriculum, Character, and Community — that have laid the foundation for Roxbury Prep since its opening.	Yes (community)

Notes: This table lists charter school mission statements and their categorization as civic-oriented, or not. Mission statements were collected from charter school websites in March 2021. For charter schools without explicit mission statements on their website, the main descriptive text about the school was used instead. The mission statements for City on a Hill and MATCH refer to both their campuses, respectively.

Appendix C: Robustness Checks

Figure C.1: Voting Impacts Omitting Cohorts

A. All Students

Omitting Projected High School Class of...

B. Girls

Omitting Projected High School Class of...

C. Boys

Omitting Projected High School Class of...

● Ever Voted   ● Voted in First Possible Presidential Election

Notes: This figure shows 2SLS impacts (dots) and a 95% confidence interval (lines) for estimates of charter school attendance on voting, omitting each projected high school cohort in turn. A red dashed line indicates 0. Dashed black and grey lines indicate the impact estimates without omissions.

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Figure C.2: Voting Impacts Omitting Schools
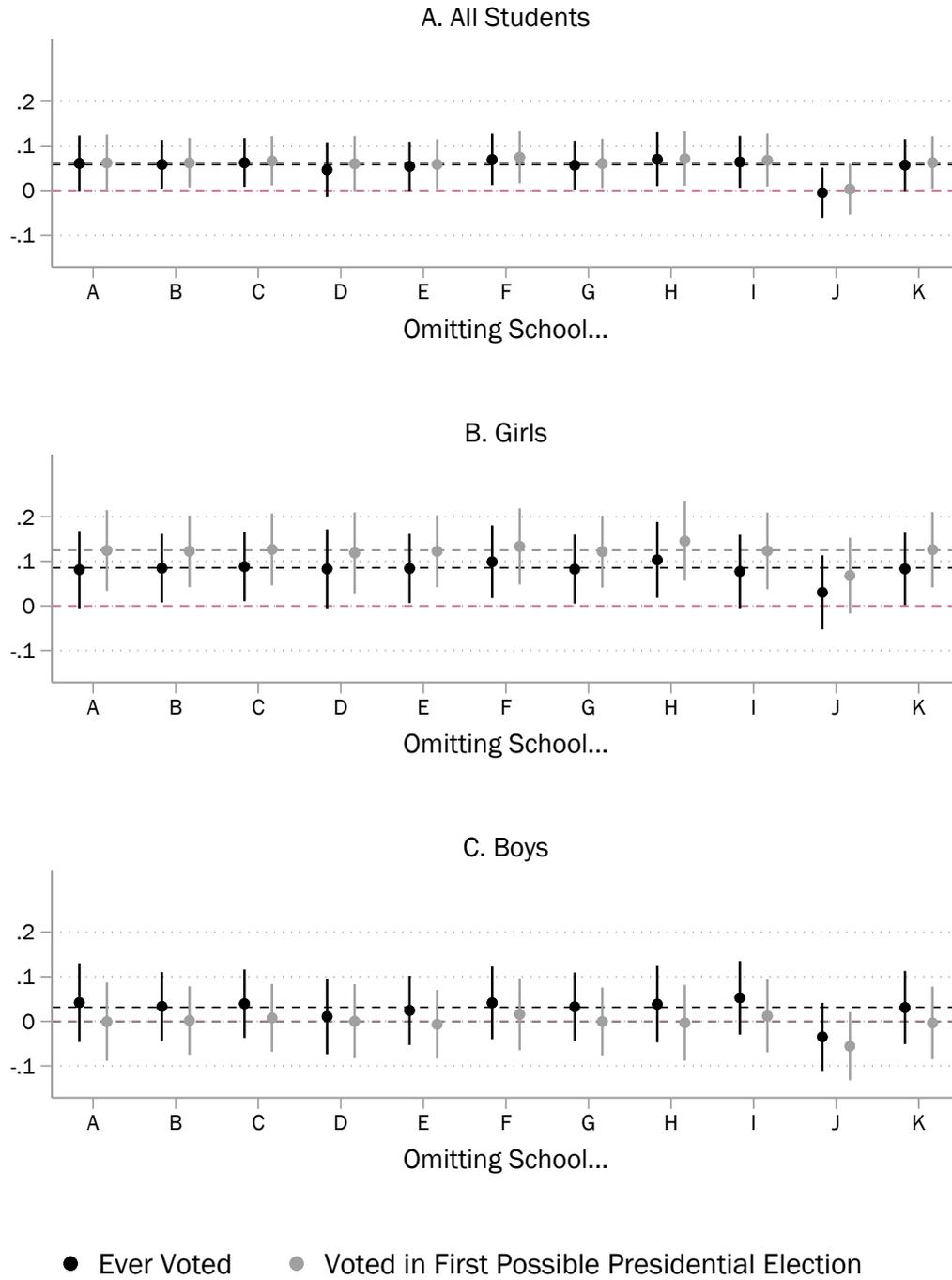
A. All Students

B. Girls

C. Boys

● Ever Voted   ● Voted in First Possible Presidential Election

Notes: This figure shows 2SLS impacts (dots) and a 95% confidence interval (lines) for estimates of charter school attendance on voting, omitting each applicants to each school in the sample in turn (in random order). A red dashed line indicates 0. Dashed black and grey lines indicate the impact estimates without omissions.

Table C.1: Alternative Specifications: Comparison to Angrist et al. (2016)

	10th Grade Math (1)	Took Any AP (2)	Above 3 Any AP (3)	Took SAT (4)	SAT Score (1600) (5)	Enroll 4-Year College (6)	Enroll 2-Year College (7)	Voted in 1st Possible Presidential (8)
Main specification	0.437***	0.112***	0.035*	0.052+	39.793***	0.074**	-0.044*	0.062*
	(0.055)	(0.026)	(0.017)	(0.029)	(11.597)	(0.028)	(0.022)	(0.028)
+ Omitting new schools	0.395***	0.147***	0.037	0.093*	36.375*	0.085*	-0.071*	0.055
	(0.070)	(0.039)	(0.027)	(0.041)	(14.315)	(0.036)	(0.029)	(0.037)
+ Omitting new cohorts	0.413***	0.223***	0.067	0.058	54.159*	0.080	-0.110*	0.051
	(0.108)	(0.059)	(0.042)	(0.065)	(21.833)	(0.063)	(0.056)	(0.054)
+ Adding 10th grade year dummies	0.442***	0.236***	0.070	0.040	65.565**	0.162*	-0.105+	0.113+
	(0.101)	(0.064)	(0.046)	(0.061)	(21.102)	(0.065)	(0.060)	(0.060)
+ Changing endogenous variable	0.453***	0.241***	0.071	0.043	68.565**	0.165*	-0.107+	0.116+
	(0.102)	(0.066)	(0.047)	(0.063)	(21.739)	(0.066)	(0.061)	(0.062)
Angrist, et al. (2016)	0.489***	0.298***	0.122*	0.084	78.1**	0.183*	-0.108+	–
	(0.146)	(0.062)	(0.051)	(0.063)	(23.9)	(0.073)	(0.61)	

Notes: The first row of the table repeats the main specification reported in the other tables, see Tables 2 and 4 for details (N = 9562). Each subsequent row shows an alternative specification. The row labeled "+ Omitting new schools" excludes charter schools added to the sample in addition to the schools in Angrist et al. (2016) (N = 8186). The row labeled "+ Omitting new cohorts" excludes projected high school classes added to the sample in addition to the classes in Angrist et al. (2016) (N = 3855). The row labeled "Adding 10th grade year dummies" adds a year fixed effect based on 10th grade year, which conditions on presence in the data in 10th grade, as in Angrist et al. (2016), in addition to the above changes (N = 3194). The row labeled "Changing endogenous variable" switches the endogenous variables to one that only counts charter attendance in 9th or 10th grade, as in Angrist et al. (2016), in addition to the above changes (N = 3,205). The final row reprints the corresponding estimates from Angrist et al. (2016) (N = 3,194). Sample sizes are from the voting outcomes and differ for other outcomes. Robust standard errors are in parentheses (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table C.2: Alternative Specifications

| | All Students | | | Girls | | | Boys | | |
	Ever Registered (1)	Ever Voted (2)	First Pres. (3)	Ever Registered (4)	Ever Voted (5)	First Pres. (6)	Ever Registered (7)	Ever Voted (8)	First Pres. (9)
Main specification	-0.027	0.058*	0.062*	-0.041	0.085*	0.125**	-0.008	0.032	-0.001
	(0.024)	(0.028)	(0.028)	(0.034)	(0.039)	(0.041)	(0.035)	(0.039)	(0.039)
Excluding 2008	-0.027	0.062*	0.054+	-0.039	0.108**	0.103*	-0.013	0.018	0.005
	(0.025)	(0.029)	(0.029)	(0.036)	(0.042)	(0.042)	(0.036)	(0.039)	(0.039)
Excluding 2012	-0.033	0.055	0.065+	-0.068	0.095+	0.154**	0.007	0.014	-0.030
	(0.033)	(0.035)	(0.035)	(0.045)	(0.050)	(0.052)	(0.047)	(0.049)	(0.049)
Excluding 2016	-0.010	0.052	0.074+	-0.006	0.040	0.130*	-0.005	0.079	0.029
	(0.033)	(0.043)	(0.045)	(0.043)	(0.057)	(0.062)	(0.051)	(0.064)	(0.064)
No covariates	-0.025	0.058*	0.062*	-0.041	0.086*	0.124**	-0.004	0.032	0.001
	(0.024)	(0.028)	(0.028)	(0.034)	(0.040)	(0.041)	(0.035)	(0.039)	(0.039)
Add baseline tests	-0.026	0.071*	0.079**	-0.023	0.118**	0.164***	-0.026	0.024	-0.006
	(0.026)	(0.030)	(0.030)	(0.036)	(0.043)	(0.044)	(0.038)	(0.042)	(0.042)
Alternative endogenous	-0.026	0.057*	0.061*	-0.041	0.084*	0.123**	-0.008	0.031	-0.001
	(0.024)	(0.027)	(0.028)	(0.033)	(0.039)	(0.041)	(0.035)	(0.039)	(0.038)
Initial offer only	-0.022	0.042	0.050	-0.073	0.037	0.075	0.028	0.047	0.025
	(0.032)	(0.036)	(0.036)	(0.045)	(0.052)	(0.054)	(0.045)	(0.049)	(0.048)

Notes: The first row of the table repeats the main specification reported in the other tables. Each subsequent row shows an alternative specification. The row labeled "Excluding 2008" excludes students whose first opportunity to vote in a presidential election was on November 4th, 2008 (N = 8186). The row labeled "Excluding 2012" excludes students whose first opportunity to vote in a presidential election was on November 6th, 2012 (N = 6271). The row labeled "Excluding 2016" excludes students whose first opportunity to vote in a presidential election was on November 8th, 2016 (N = 4667). The row labeled "No covariates" removes baseline demographic characteristics from the main specification (N = 9562). The row labeled "Add baseline tests" adds baseline test scores to the main specification, which also restricts the sample to those students with reported baseline test scores (N = 8179). The row labeled "Alternative endogenous" uses charter attendance in the first two years after the lottery as the endogenous variable rather than any attendance before the outcome (N = 9562). The row labeled "Initial offer only" uses the offer on the day of charter school lottery as the only instrument (N = 9562). Sample sizes are for the full sample. Robust standard errors are in parentheses (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table C.3: The Impact of Charter School Attendance on Voting, Sample Restrictions

	Expected to Vote in MA			Not Expected to Vote in MA		
	Ever Registered (1)	Ever Voted (2)	Voted in First Possible Presidential (3)	Ever Registered (4)	Ever Voted (5)	Voted in First Possible Presidential (6)
(A) 12th grade status	In MA 12th grade			Not in MA 12th grade		
2SLS	-0.008	0.085**	0.078*	-0.053	0.001	0.013
	(0.025)	(0.030)	(0.031)	(0.073)	(0.074)	(0.070)
CCM	0.796	0.460	0.371	0.693	0.355	0.281
N	7,127	7,127	7,127	2,435	2,435	2,435
(B) College location	Not out-of-state college			Out-of-state college		
2SLS	-0.019	0.073*	0.075*	-0.022	-0.027	0.008
	(0.026)	(0.030)	(0.030)	(0.063)	(0.076)	(0.073)
CCM	0.778	0.439	0.352	0.778	0.490	0.365
N	8,456	8,456	8,456	1,106	1,106	1,106
(C) 12th grade and college	Not OOS College + MA 12th grade			OOS college or not MA 12th		
2SLS	-0.001	0.102**	0.096**	-0.042	-0.002	0.013
	(0.026)	(0.032)	(0.033)	(0.053)	(0.055)	(0.053)
CCM	0.792	0.456	0.364	0.732	0.402	0.318
N	6,359	6,359	6,359	3,203	3,203	3,203
(D) Predicted likelihood of MA college	High predicted MA college			Low predicted MA college		
2SLS	-0.025	0.091+	0.148**	-0.022	0.050	0.030
	(0.041)	(0.048)	(0.050)	(0.033)	(0.037)	(0.037)
CCM	0.773	0.416	0.290	0.770	0.440	0.369
N	3,709	3,709	3,709	4,842	4,842	4,842

Notes: This table varies the sample of students in the regressions, all other notes are the same as in Table 4. Predicted likelihood of attending an MA college is calculated in the non-charter BPS sample, with predicted values applied to the charter lottery population. Robust standard errors are in parentheses (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table C.4: The Impact of Charter School Attendance on Voting First Possible Presidential Election, Sample Restrictions, by Gender

	Expected to Vote in MA			Not Expected to Vote in MA		
	All (1)	Girls (2)	Boys (3)	All (4)	Girls (5)	Boys (6)
(A) 12th grade status	In MA 12th grade			Not in MA 12th grade		
2SLS	0.078*	0.128**	0.027	0.013	0.117	-0.069
	(0.031)	(0.044)	(0.043)	(0.070)	(0.108)	(0.093)
CCM	0.371	0.354	0.386	0.281	0.284	0.276
N	7,127	3,844	3,283	2,435	1,139	1,296
(B) College location	Not out-of-state college			Out-of-state college		
2SLS	0.075*	0.145**	0.006	0.008	0.028	0.009
	(0.030)	(0.045)	(0.041)	(0.073)	(0.090)	(0.121)
CCM	0.352	0.345	0.357	0.365	0.338	0.388
N	8,456	4,352	4,104	1,106	631	475
(C) 12th grade and college	Not OOS College + MA 12th grade			OOS college or not MA 12th		
2SLS	0.096**	0.148**	0.042	0.013	0.059	-0.030
	(0.033)	(0.049)	(0.045)	(0.053)	(0.065)	(0.058)
CCM	0.364	0.361	0.364	0.318	0.319	0.342
N	6,359	3,390	2,969	3,203	2,068	2,241
(D) Predicted likelihood of MA college	High predicted MA college			Low predicted MA college		
2SLS	0.148**	0.212***	0.019	0.030	0.116^{+}	-0.024
	(0.050)	(0.063)	(0.081)	(0.037)	(0.060)	(0.047)
CCM	0.290	0.267	0.336	0.369	0.353	0.377
N	3,709	2,407	1,302	4,842	2,048	2,794

Notes: This table varies the sample of students in the regressions, all other notes are the same as in Table 4. Predicted likelihood of attending an MA college is calculated in the non-charter BPS sample, with predicted values applied to the charter lottery population. Robust standard errors are in parentheses (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).
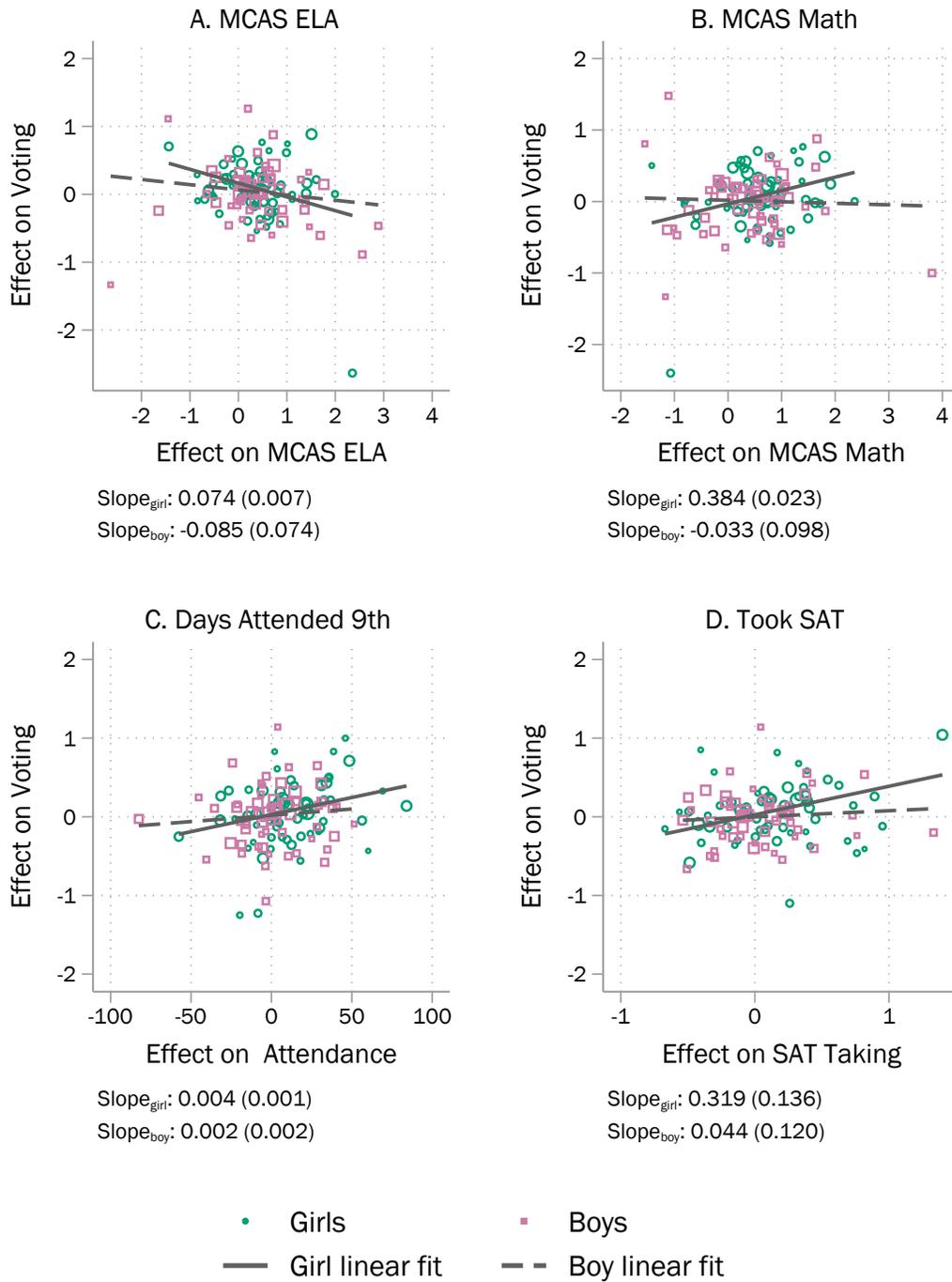
Table C.5: The Impact of Charter School Attendance on Voting, with Imputations for Out-of-State College Attendees

	Ever Voted			First Presidential		
	All (1)	Girls (2)	Boys (3)	All (4)	Girls (5)	Boys (6)
(A) Main specification, missing voting = 0						
2SLS	0.058*	0.085*	0.032	0.062*	0.125**	-0.001
	(0.028)	(0.039)	(0.039)	(0.028)	(0.041)	(0.039)
CCM	0.443	0.472	0.411	0.354	0.340	0.367
(B) Out-of-state college attendees imputed with 0						
2SLS	0.054$^+$	0.089*	0.018	0.058*	0.121**	-0.007
	(0.028)	(0.040)	(0.039)	(0.028)	(0.041)	(0.038)
CCM	0.393	0.411	0.371	0.314	0.298	0.328
(C) Out-of-state college attendees imputed with predicted						
2SLS	0.073**	0.101**	0.046	0.074**	0.130***	0.017
	(0.027)	(0.038)	(0.038)	(0.027)	(0.039)	(0.037)
CCM	0.450	0.491	0.407	0.361	0.363	0.358
(D) Out-of-nearby-states college attendees imputed with predicted						
2SLS	0.067*	0.083*	0.053	0.069*	0.118**	0.020
	(0.027)	(0.038)	(0.039)	(0.028)	(0.040)	(0.038)
CCM	0.452	0.499	0.402	0.365	0.369	0.358

Notes: This table varies shows various imputations for out-of-state college attendees for all students, girls, and boys. In the main specification, individuals missing voting information are assumed to be non-registrants or non-voters. In the imputed specifications, out-of-state college attendees have various values imputed for their registration and voting statuses, as indicated in the headers. Predicted status is based on the regression adjusted registration/voting rates of Boston charter lottery applicant college attendees, who did not receive an offer and did not attend a charter school, separately for 2- and 4-year institutions. All other notes and sample sizes are the same as in Table 4. N (All) = 9,562, N (Girls) = 4,983, and N (Boys) = 4,579. Robust standard errors are in parentheses ($+$ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).
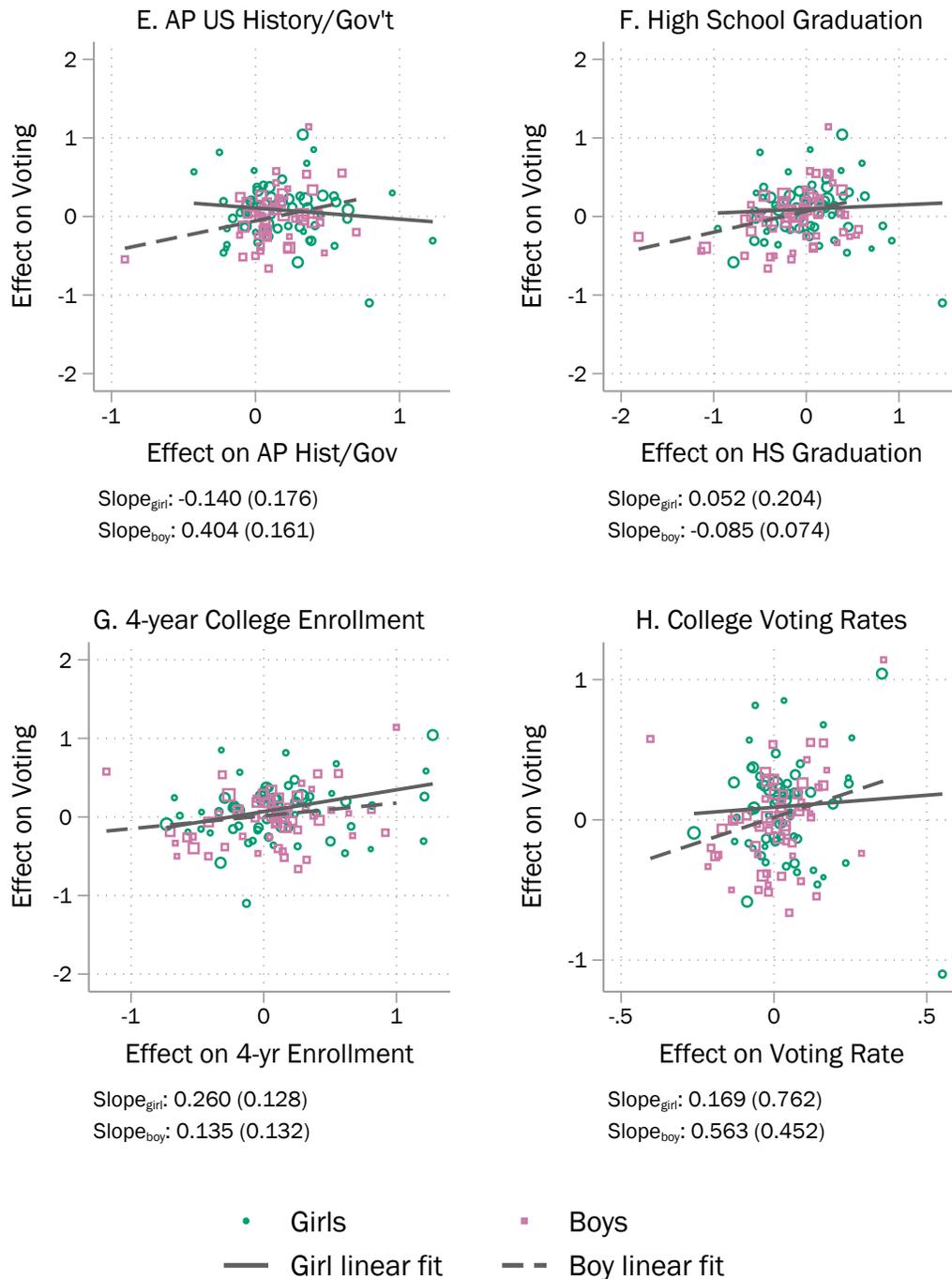
Appendix D: Additional Results

Figure D.1a: Comparisons of Lottery Effects on Voting and Education Outcomes, by Gender

A. MCAS ELA

Slope_girl: 0.074 (0.007)
Slope_boy: -0.085 (0.074)

B. MCAS Math

Slope_girl: 0.384 (0.023)
Slope_boy: -0.033 (0.098)

C. Days Attended 9th

Slope_girl: 0.004 (0.001)
Slope_boy: 0.002 (0.002)

D. Took SAT

Slope_girl: 0.319 (0.136)
Slope_boy: 0.044 (0.120)

• Girls   ▪ Boys
— Girl linear fit   – – Boy linear fit

Notes: This figure plots the effect of receiving a charter school offer on education outcomes vs. the effect on voting, for each risk set by gender. The sample includes students present in the data with both of the outcomes in the graph for the projected classes of 2006 to 2017, who were at least 18 by the 2016 general election. Marker sizes (squares for girls, circles for boys are proportional to the number of students in the risk set. Degenerate lotteries and risk sets with fewer than 15 students are excluded. A single outlier that is outside the bounds of the graph is excluded from the graph but included in the slope calculations. Lines show weighted linear fits by school level (solid for girls, dashed for boys) with weights proportional to the size of the risk set. Slope coefficients and standard errors from these regressions are printed on each panel.

Figure D.1b: Comparisons of Lottery Effects on Voting and Education Outcomes, by Gender (Continued)

E. AP US History/Gov't

Slope$_{girl}$: -0.140 (0.176)
Slope$_{boy}$: 0.404 (0.161)

F. High School Graduation

Slope$_{girl}$: 0.052 (0.204)
Slope$_{boy}$: -0.085 (0.074)

G. 4-year College Enrollment

Slope$_{girl}$: 0.260 (0.128)
Slope$_{boy}$: 0.135 (0.132)

H. College Voting Rates

Slope$_{girl}$: 0.169 (0.762)
Slope$_{boy}$: 0.563 (0.452)

- Girls   · Boys
— Girl linear fit   -- Boy linear fit

Notes: This figure plots the effect of receiving a charter school offer on education outcomes vs. the effect on voting, for each risk set by gender. The sample includes students present in the data with both of the outcomes in the graph, for the projected classes of 2006 to 2017, who were at least 18 by the 2016 general election. Marker sizes (squares for girls, circles for boys are proportional to the number of students in the risk set. Degenerate lotteries and risk sets with fewer than 15 students are excluded. A single outlier that is outside the bounds of the graph is excluded from the graph but included in the slope calculations. Lines show weighted linear fits by school level (solid for girls, dashed for boys) with weights proportional to the size of the risk set. Slope coefficients and standard errors from these regressions are printed on each panel.

Table D.1: The Impact of Charter School Attendance on College Enrollment by College Location

	Within 6 months			Within 18 months		
	Any (1)	4 year (2)	2 year (3)	Any (4)	4 year (5)	2 year (6)
(A) All Institutions						
All	-0.009	0.030	-0.038*	0.040	0.072**	-0.044*
	(0.028)	(0.027)	(0.016)	(0.028)	(0.028)	(0.022)
CCM	0.478	0.376	0.101	0.571	0.418	0.195
Girls	-0.028	0.006	-0.033	0.043	0.073+	-0.040
	(0.041)	(0.040)	(0.023)	(0.039)	(0.040)	(0.031)
CCM	0.566	0.466	0.099	0.635	0.478	0.205
Boys	0.010	0.054	-0.043+	0.038	0.071+	-0.047
	(0.039)	(0.037)	(0.023)	(0.040)	(0.039)	(0.031)
CCM	0.386	0.283	0.103	0.504	0.356	0.184
p-value	0.504	0.378	0.749	0.940	0.976	0.872
(B) In Massachusetts						
All	-0.029	0.009	-0.037*	0.010	0.033	-0.047*
	(0.028)	(0.026)	(0.016)	(0.029)	(0.029)	(0.022)
CCM	0.389	0.294	0.095	0.486	0.348	0.191
Girls	-0.023	0.012	-0.036	0.024	0.047	-0.047
	(0.041)	(0.039)	(0.022)	(0.041)	(0.042)	(0.031)
CCM	0.435	0.341	0.095	0.526	0.385	0.200
Boys	-0.035	0.004	-0.037+	-0.004	0.018	-0.047
	(0.037)	(0.034)	(0.022)	(0.040)	(0.038)	(0.030)
CCM	0.340	0.245	0.094	0.443	0.311	0.179
p-value	0.828	0.871	0.980	0.629	0.603	0.994
(C) Out of state						
All	0.019	0.021	-0.001	0.034+	0.039*	0.004
	(0.016)	(0.016)	(0.004)	(0.018)	(0.017)	(0.005)
CCM	0.091	0.082	0.006	0.098	0.070	0.005
Girls	-0.007	-0.006	0.004	0.011	0.026	0.007
	(0.024)	(0.024)	(0.006)	(0.026)	(0.026)	(0.008)
CCM	0.135	0.124	0.004	0.135	0.093	0.005
Boys	0.046*	0.050*	-0.006	0.059*	0.054*	-0.000
	(0.021)	(0.020)	(0.006)	(0.024)	(0.023)	(0.008)
CCM	0.045	0.038	0.009	0.060	0.045	0.005
p-value	0.102	0.072	0.248	0.174	0.423	0.503

Notes: The notes for this table are the same as in Table 3 but for an expanded set of college outcomes. N (All) = 9,562, N (Girls) = 4,983, and N (Boys) = 4,579. The p-value from a test of equality of the girl and boy coefficients is listed in the final row of each panel. Robust standard errors are in parentheses (+ $p<0.10$ * $p<0.05$ ** $p<0.01$ ***$p<0.001$).

Table D.2: The Impact of Charter School Attendance on Days Attended

	9th Grade (1)	10th Grade (2)	11th Grade (3)	12th Grade (4)	All High School (5)
(A) Days Attended					
All	4.567*	0.541	3.655+	3.760+	12.053*
	(1.952)	(1.833)	(2.073)	(2.032)	(4.724)
CCM	163.5	164.0	156.3	153.6	657.0
N	8,259	7,701	7,144	7,127	6,349
Girls	9.027***	2.978	7.495**	6.624*	21.871***
	(2.725)	(2.473)	(2.728)	(2.727)	(6.219)
CCM	160.8	162.4	154.6	151.6	648.9
N	4,302	4,062	3,805	3,844	3,452
Boys	-0.159	-1.650	-0.594	0.903	1.550
	(2.794)	(2.719)	(3.168)	(3.021)	(7.175)
CCM	166.4	165.7	158.4	155.5	665.7
N	3,957	3,639	3,339	3,283	2,897
p-value	0.019	0.208	0.053	0.160	0.032
(B) Attendance Rate					
All	-0.040***	-0.030**	-0.007	0.001	-0.015*
	(0.012)	(0.011)	(0.012)	(0.011)	(0.006)
CCM	0.892	0.894	0.855	0.844	0.904
N	8,259	7,701	7,144	7,127	6,349
Girls	-0.021	-0.021	0.011	0.013	-0.006
	(0.017)	(0.014)	(0.016)	(0.015)	(0.008)
CCM	0.881	0.887	0.847	0.836	0.894
N	4,302	4,062	3,805	3,844	3,452
Boys	-0.060***	-0.039*	-0.027	-0.009	-0.024**
	(0.017)	(0.016)	(0.018)	(0.017)	(0.009)
CCM	0.902	0.902	0.865	0.852	0.915
N	3,957	3,639	3,339	3,283	2,897
p-value	0.102	0.381	0.117	0.339	0.137
(C) Present in Data					
All ($N = 9,562$)	0.031+	0.001	-0.024	-0.027	-0.007
	(0.019)	(0.023)	(0.025)	(0.025)	(0.027)
CCM	0.889	0.843	0.807	0.813	0.719
Girls ($N = 4,983$)	0.050+	0.043	-0.008	0.020	0.023
	(0.027)	(0.031)	(0.035)	(0.034)	(0.037)
CCM	0.867	0.816	0.811	0.794	0.725
Boys ($N = 4,579$)	0.011	-0.046	-0.043	-0.079*	-0.040
	(0.027)	(0.033)	(0.036)	(0.037)	(0.040)
CCM	0.915	0.872	0.804	0.833	0.715
p-value	0.313	0.051	0.490	0.050	0.241

Notes: The notes for this table are the same as in Table 3 but for an expanded set of attendance outcomes. The p-value from a test of equality of the girl and boy coefficients is listed in the final row of each panel. Robust standard errors are in parentheses (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table D.3: The Impact of Charter School Attendance on Voting, by Subgroups

	High Scorers (1)	Low Scorers (2)	Special Education (3)	English Learner (4)	Not Special Needs (5)	Free/ Reduced Lunch (6)	Not F/R Lunch (7)	Black (8)	Latinx (9)	White Asian, and Other Race (10)
Ever Registered (2SLS)	-0.006	-0.036	-0.079	-0.040	-0.022	-0.036	-0.010	-0.015	0.021	-0.155*
	(0.036)	(0.036)	(0.054)	(0.135)	(0.028)	(0.029)	(0.044)	(0.030)	(0.050)	(0.067)
CCM	0.767	0.775	0.879	0.695	0.773	0.775	0.808	0.788	0.721	0.890
Ever Voted (2SLS)	0.082$^+$	0.046	0.065	0.098	0.058$^+$	0.065*	0.034	0.022	0.117*	0.025
	(0.043)	(0.040)	(0.063)	(0.122)	(0.032)	(0.033)	(0.052)	(0.035)	(0.058)	(0.077)
CCM	0.419	0.445	0.467	0.214	0.452	0.431	0.479	0.487	0.377	0.481
1st Presidential (2SLS)	0.120**	0.037	0.071	0.076	0.062$^+$	0.081*	0.013	0.047	0.073	0.076
	(0.044)	(0.040)	(0.063)	(0.120)	(0.033)	(0.033)	(0.054)	(0.036)	(0.058)	(0.077)
CCM	0.306	0.367	0.369	0.229	0.357	0.330	0.417	0.371	0.345	0.360
N	4,394	4,157	1,890	793	7,090	7,056	2,506	5,592	2,542	1,428

Notes: This table shows 2SLS estimates for subgroups of students from regressions limited to the sample listed in the header. Students categorized as are neither special education nor English learner students. White, Asian and other race students are combined into a single category due to small sample sizes in these groups. All other notes are the same as in Table 4. Robust standard errors are in parentheses ($+$ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table D.4: The Impact of Charter School Attendance on Voting, Different Cohorts

	Ever Registered (1)	Ever Voted (2)	Voted in First Possible Presidential (3)
(A) Turn 18 Close to Presidential Election			
All	-0.052	0.044	0.063
	(0.036)	(0.040)	(0.041)
CCM	0.761	0.421	0.337
N	5,475	5,475	5,475
Girls	-0.042	0.094^+	0.172^{**}
	(0.050)	(0.056)	(0.059)
CCM	0.775	0.437	0.281
N	2,883	2,883	2,883
Boys	-0.061	-0.008	-0.054
	(0.054)	(0.058)	(0.057)
CCM	0.744	0.403	0.398
N	2,592	2,592	2,592
(B)Turn 18 Farther from Presidential Election			
All	0.007	0.077^*	0.066^+
	(0.032)	(0.039)	(0.039)
CCM	0.799	0.466	0.373
N	4,087	4,087	4,087
Girls	-0.037	0.087	0.071
	(0.045)	(0.056)	(0.057)
CCM	0.834	0.507	0.411
N	2,100	2,100	2,100
Boys	0.057	0.072	0.066
	(0.046)	(0.054)	(0.053)
CCM	0.761	0.421	0.328
N	1,987	1,987	1,987

Notes: Each coefficient labeled All, Girls, or Boys is the 2SLS instrumental variables estimate of attending a Boston charter with a lottery at any period of time before the outcome listed in the row heading occurred for the full sample, girls, or boys. Indicator variables for a lottery offer on the day of the lottery (initial offer) and lottery offer off of the waitlist (waitlist offer) are the instruments for charter attendance. The control complier mean is labeled CCM. All regressions control for lottery risk sets and a vector of demographic characteristics including indicators for race, birth year, and baseline special education, English learner, and free or reduced price lunch status, all interacted with gender. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools at the time of application in the projected high school classes of 2006 to 2017 who are at least 18 by the 2016 general election. Robust standard errors are in parentheses (+ $p<0.10$ * $p<0.05$ ** $p<0.01$ ***$p<0.001$). Panel A limits the sample to students who turn 18 within two years prior to their first possible presidential vote. Panel B limits the sample to students who are not in Panel A.

Table D.5: The Impact of Charter School Attendance on Additional Outcomes, for Girls and Boys

| | MCAS | | Progress through High School | | | | College | | |
	Score Advanced Math (1)	Score Advanced ELA (2)	On Time 10th (3)	On Time 11th (4)	On Time 12th (5)	Repeat 12th Grade (6)	College Quality (7)	College Persistence (8)	Solo College Attendee (9)
All	0.081***	0.142***	-0.028	-0.064*	-0.064*	0.014	3488.637**	0.075**	0.061*
	(0.017)	(0.024)	(0.026)	(0.027)	(0.027)	(0.020)	(1062.888)	(0.028)	(0.024)
CCM	0.051	0.150	0.759	0.728	0.721	0.093	38158.482	0.442	0.205
N	7,618	7,530	9,562	9,562	9,562	6,499	9,562	9,562	9,562
Girls	0.078**	0.139***	0.014	-0.020	-0.025	0.034	3603.951*	0.071+	0.089**
	(0.027)	(0.035)	(0.035)	(0.037)	(0.037)	(0.027)	(1562.414)	(0.040)	(0.034)
CCM	0.089	0.163	0.746	0.730	0.729	0.057	40140.813	0.506	0.199
N	4,015	3,950	4,983	4,983	4,983	3,596	4,983	4,983	4,983
Boys	0.082***	0.147***	-0.074*	-0.109**	-0.105**	-0.009	3437.467*	0.080*	0.032
	(0.019)	(0.033)	(0.038)	(0.040)	(0.040)	(0.032)	(1429.039)	(0.039)	(0.033)
CCM	0.010	0.134	0.775	0.726	0.714	0.136	36007.942	0.375	0.211
N	3,603	3,580	4,579	4,579	4,579	2,903	4,579	4,579	4,579
p-value	0.888	0.870	0.088	0.103	0.144	0.296	0.937	0.869	0.235

Notes: Each coefficient labeled All, Girls, or Boys is the 2SLS instrumental variables estimate of attending a Boston charter with a lottery at any period of time before the outcome listed in the row heading occurred for the full sample, girls, or boys. Indicator variables for a lottery offer on the day of the lottery (initial offer) and lottery offer off of the waitlist (waitlist offer) are the instruments for charter attendance. The control complier mean is labeled CCM. All regressions control for lottery risk sets and a vector of demographic characteristics including indicators for race, birth year, and baseline special education, English learner, and free or reduced price lunch status, all interacted with gender. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools at the time of application in the projected high school classes of 2006 to 2017 who are at least 18 by the 2016 general election. MCAS scores are for the exam two years after the charter school lottery. The estimates reported here are for the first attempt at the MCAS. Solo college attendee means that the student is the only person from their gender and high school attending their college. The p-value from a test of equality of the girl and boy coefficients is listed in the final row of the table. Robust standard errors are in parentheses (+ $p<0.10$ * $p<0.05$ ** $p<0.01$ ***$p<0.001$).

Appendix E: Parents

Table E.1: Covariate Balance, Lotteries with Parent Information, Student Characteristics

	Non-offered Mean (1)	Initial Offer Differential (2)	Waitlist Offer Differential (3)
Female	0.501	0.000	-0.015
		(0.016)	(0.017)
Asian	0.024	0.008	0.001
		(0.005)	(0.005)
Black	0.495	-0.002	0.009
		(0.016)	(0.017)
Latinx	0.359	-0.010	-0.009
		(0.015)	(0.016)
Other race	0.049	0.006	-0.003
		(0.008)	(0.007)
White	0.073	-0.001	0.002
		(0.008)	(0.008)
Special education	0.215	0.012	-0.029*
		(0.013)	(0.013)
English learner	0.230	0.004	-0.004
		(0.013)	(0.013)
Free/reduced price lunch	0.786	-0.009	0.012
		(0.013)	(0.013)
Baseline MCAS ELA	-0.576	0.017	0.032
		(0.035)	(0.035)
Baseline MCAS Math	-0.517	-0.005	0.026
		(0.033)	(0.034)
	p-value	0.813	0.589

Notes: This table shows means and offer differentials for student and parent characteristics in the parent lottery sample. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools who applied to charter schools in 2008 to 2016 who applied to lotteries with parent name information. Student characteristics are from the SIMS data and the data is limited to one observation per student (n = 5,783). Column 1 shows the proportion of non-offered students with a given characteristic. Columns 2 and 3 report coefficients from regressions of the student characteristic on initial and waitlist offer dummies, including controls for risk sets (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).

Table E.2: Covariate Balance, Lotteries with Parent Information, Parent Characteristics

	Non-offered Mean (1)	Initial Offer Differential (2)	Waitlist Offer Differential (3)
(A) Has parent name			
Parent name present in lottery records	0.985	0.005	0.003
		(0.003)	(0.003)
(B) Parent name characteristics			
Length of first name	6.076	-0.016	-0.007
		(0.045)	(0.048)
Length of last name	6.496	0.016	0.033
		(0.060)	(0.061)
Commonality of name	217.576	0.640	-0.810
		(16.485)	(16.983)
Not common name	0.833	-0.002	0.002
		(0.011)	(0.011)
p-value		0.987	0.970
(C) Linked to voting data			
Linked to one voting record	0.495	-0.015	0.010
		(0.015)	(0.015)
Linked to multiple voting records	0.213	-0.001	0.010
		(0.012)	(0.012)
Linked to no voting records	0.277	0.021	-0.017
		(0.013)	(0.014)

Notes: This table shows means and offer differentials for student and parent characteristics. The sample is restricted to students enrolled Boston Public Schools or Boston charter schools who applied to charter schools in 2008 to 2016 who applied to lotteries with parent name information. Parent name characteristics (Panel B) are derived from parent names and thus are conditional on existence of a parent name. There are multiple observations per student if a student has two parent names associated with their information (Panel A: N = 7,635, Panels B and C: N = 7,537); in this case, standard errors are clusted by student. Column 1 shows the proportion of non-offered students with a given characteristic. Columns 2 and 3 report coefficients from regressions of the student characteristic on initial and waitlist offer dummies, including controls for risk sets (+ p<0.10 * p<0.05 ** p<0.01 ***p<0.001).