DO CIVIC RETURNS TO HIGHER EDUCATION DIFFER ACROSS SUBPOPULATIONS? AN ANALYSIS USING PROPENSITY FORESTS

PAPER TABLES AND FIGURES

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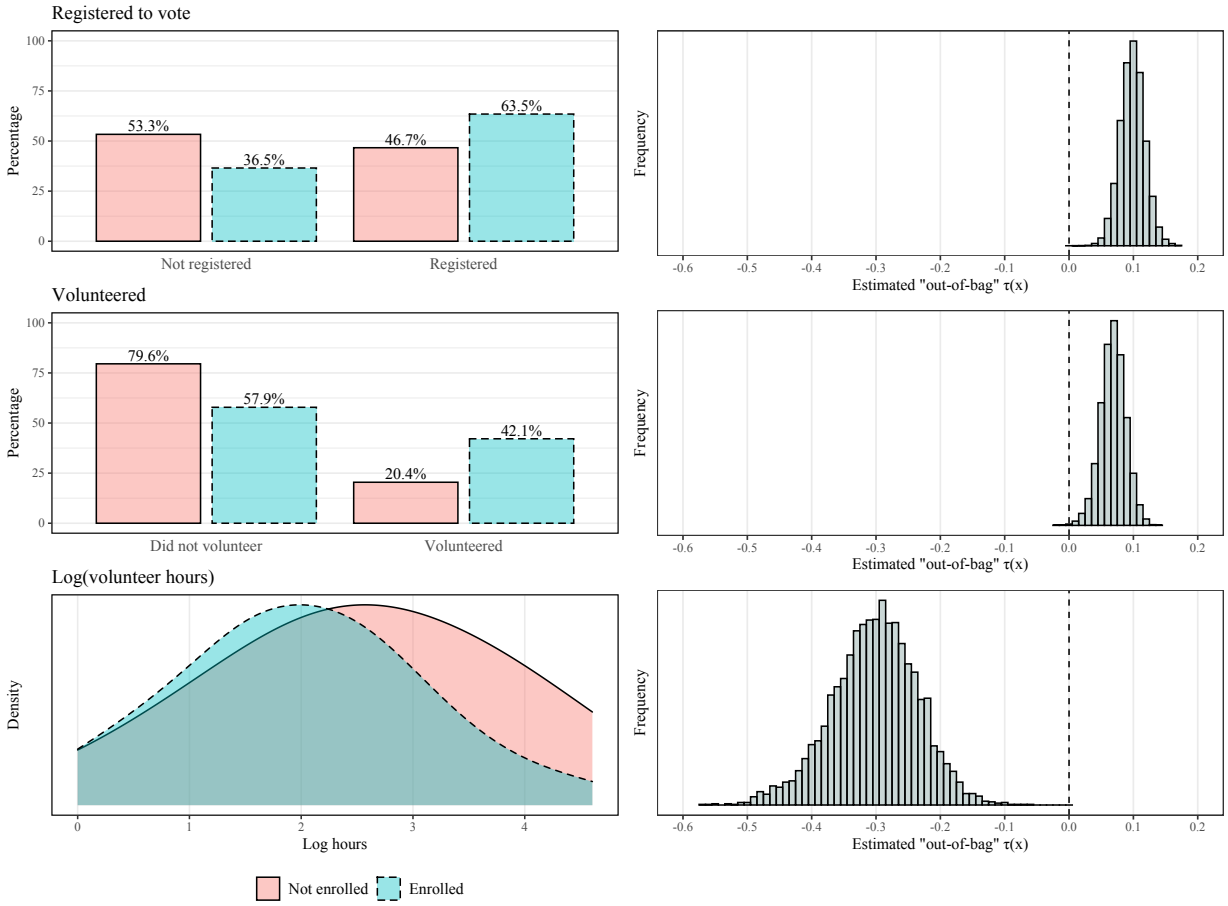
Figure 1: Variation in civic participation as seen in the data (left) and as a function of college participation (right).

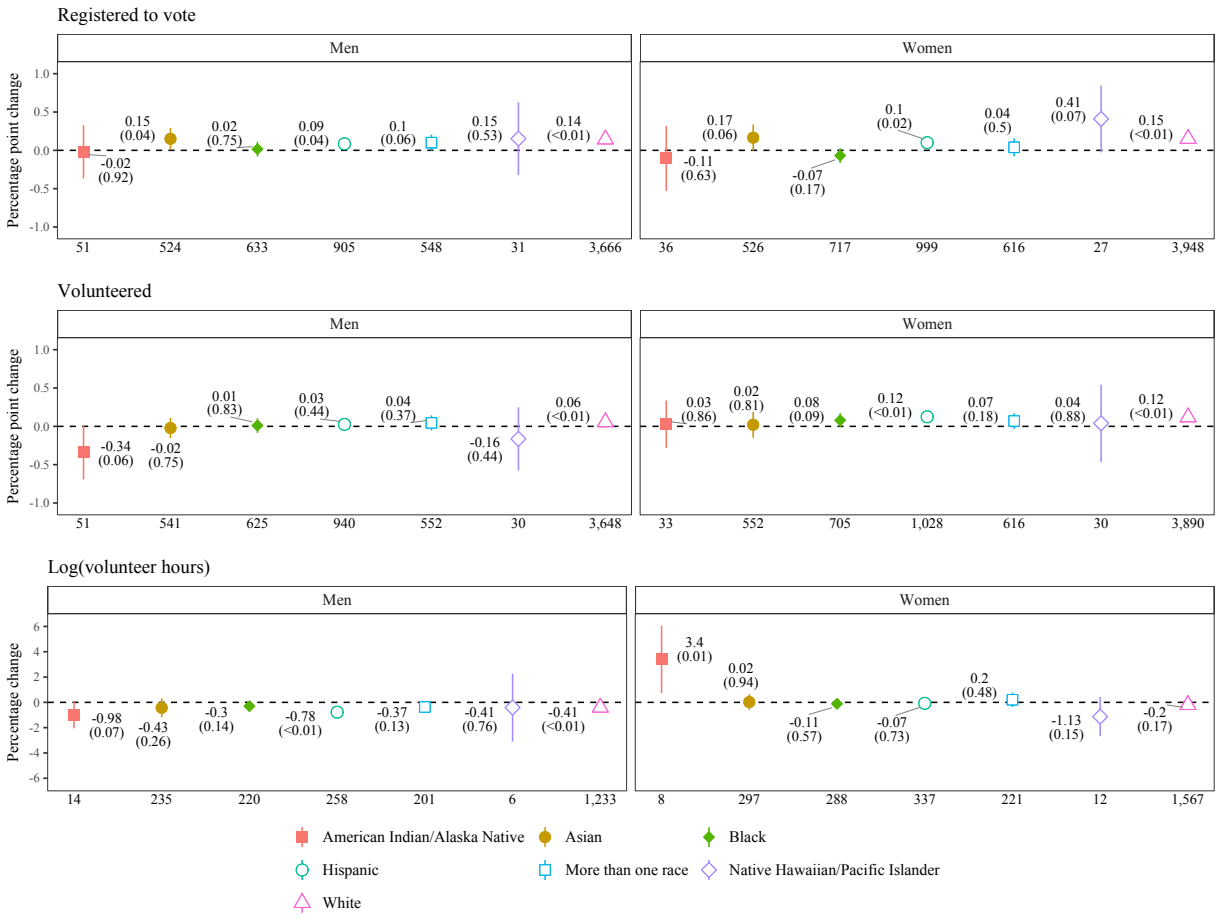


Note. All values represent unweighted averages by subgroup. Percentages show in left-hand side facets are relative within enrollment condition. Histograms on the right-hand side show observation-level variation in the $\tau(x)$ estimates produced by the propensity forest models.

Figure 2: Estimated returns of college enrollment on voting and volunteering behavior by gender, race / ethnicity, and poverty status

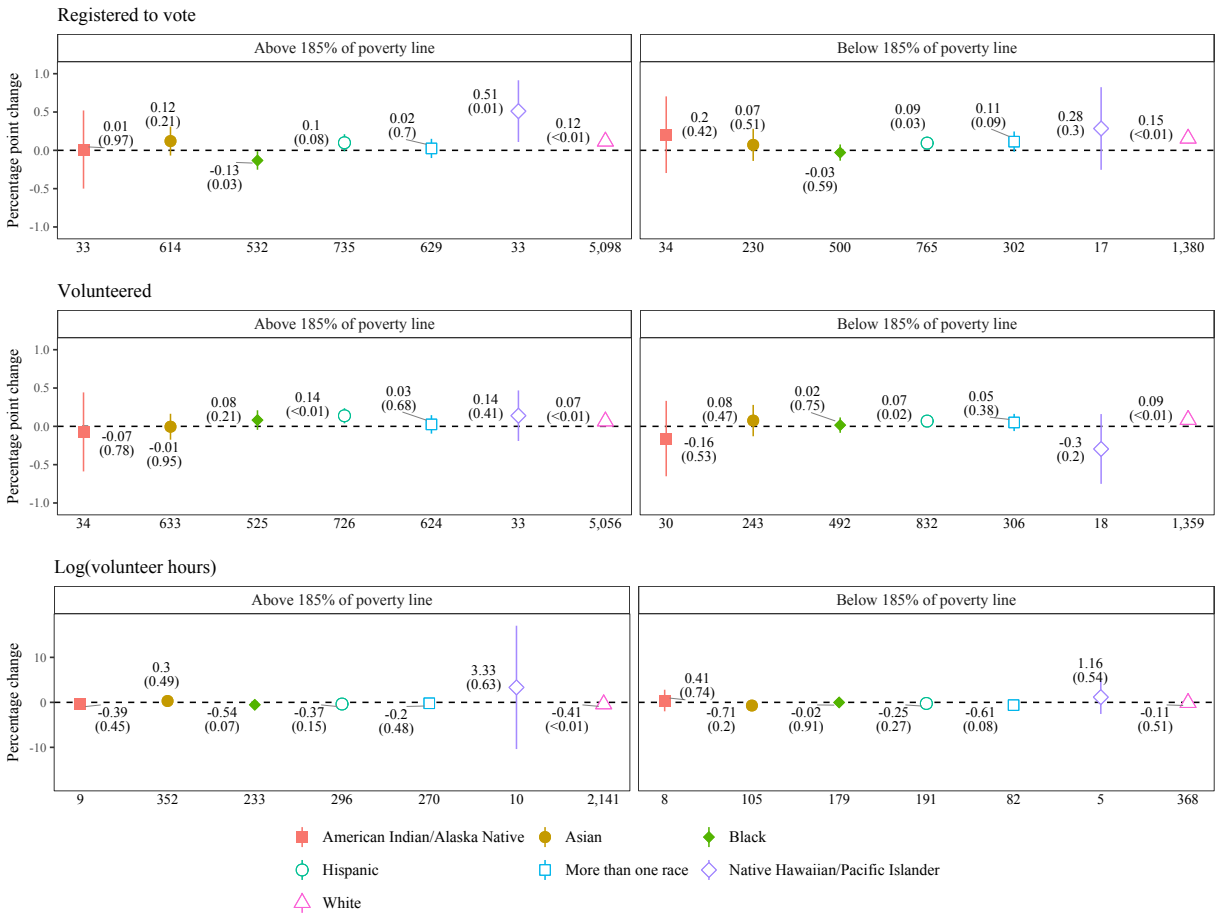
Note. Center points represent the average estimate for each subgroup, with vertical lines plotting the 95% confidence interval. Each point is labeled with its estimate as well as the p-value from the test of its difference from zero. Sample sizes for each subgroup are shown along the x-axis under the group estimate.

Figure 3: Estimated returns of college enrollment on voting and volunteering behavior: race/ethnicity by gender



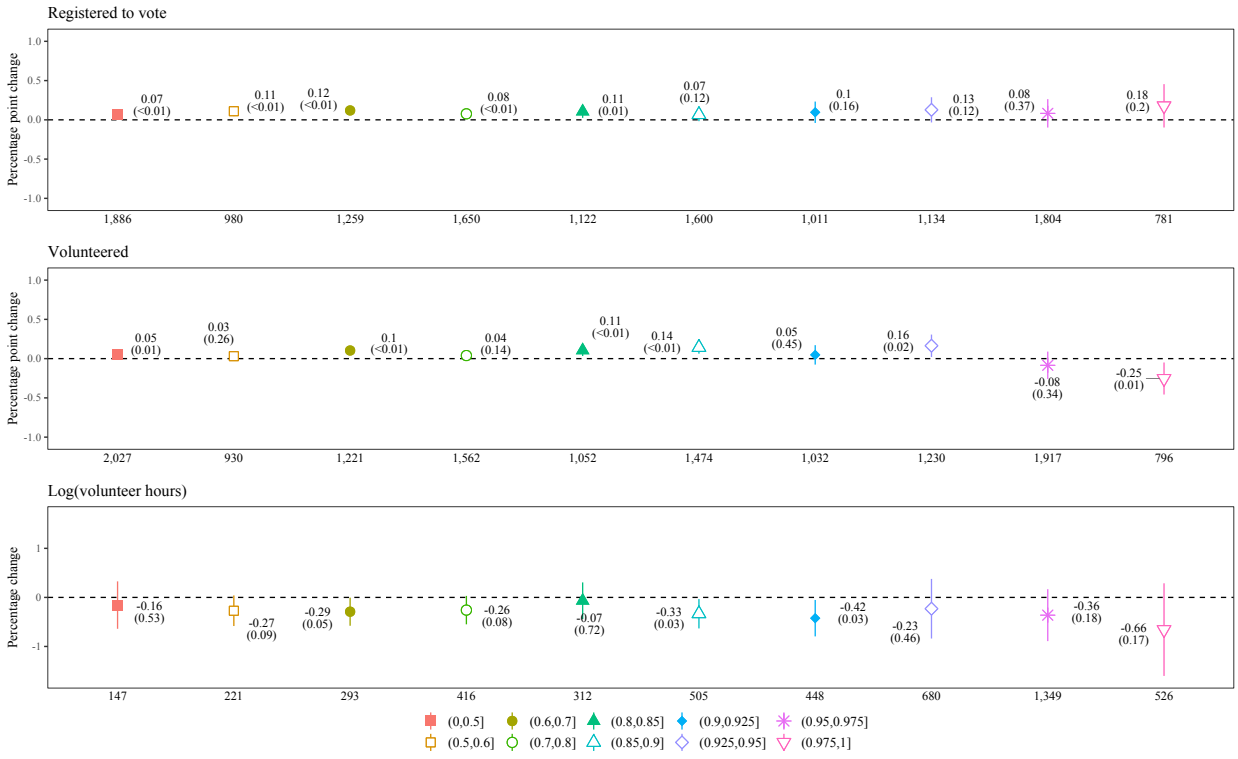
Note. Center points represent the average estimate for each subgroup, with vertical lines plotting the 95% confidence interval. Each point is labeled with its estimate as well as the *p*-value from the test of its difference from zero. Sample sizes for each subgroup are shown along the *x*-axis under the group estimate.

Figure 4: Estimated returns of college enrollment on voting and volunteering behavior: race/ethnicity by poverty status



Note. Center points represent the average estimate for each subgroup, with vertical lines plotting the 95% confidence interval. Each point is labeled with its estimate as well as the *p*-value from the test of its difference from zero. Sample sizes for each subgroup are shown along the *x*-axis under the group estimate.

Figure 5: Estimated returns of college enrollment on voting and volunteering behavior by propensity of enrollment



Note. Center points represent the average estimate for each subgroup, with vertical lines plotting the 95% confidence interval. Each point is labeled with its estimate as well as the *p*-value from the test of its difference from zero. Sample sizes for each subgroup are shown along the *x*-axis under the group estimate.

Table A.1: Predictor names and descriptions

Predictor name	Predictor description
X1SEX	Student's sex
X1RACE	Student's race/ethnicity-composite
X1DUALLANG	Student dual-first language indicator
X1STDOB	Student's date of birth (YYYYMM)
X1TXMTH	Mathematics theta score
X1MACC	Mathematics assessment accommodations
X1PARRESP	Whether parent questionnaire respondent is Parent 1
X1P1RELATION	Parent 1: relationship to 9th grader
X1PAR1EDU	Parent 1: highest level of education
X1PAR1EMP	Parent 1: employment status
X1PAR1OCC2	Parent 1: current/most recent occupation: 2-digit ONET code
X1PAR1RACE	Parent 1: race/ethnicity
X1P2RELATION	Parent 2: spouse's relationship to 9th grader
X1PAR2EDU	Parent 2: highest level of education
X1PAR2EMP	Parent 2: employment status
X1PAR2OCC2	Parent 2: current/most recent occupation: 2-digit ONET code
X1PAR2RACE	Parent 2: race/ethnicity
X1PAREDU	Parents'/guardians' highest level of education
X1HHNUMBER	Number of 2009 household members
X1FAMINCOME	Total family income from all sources 2008
X1POVERTY	Poverty indicator (relative to 100% of Census poverty threshold)
X1POVERTY130	Poverty indicator (relative to 130% of Census poverty threshold)
X1POVERTY185	Poverty indicator (relative to 185% of Census poverty threshold)
X1SES	Socio-economic status composite
X1MTHID	Scale of student's mathematics identity
X1MTHUTI	Scale of student's mathematics utility
X1MTHEFF	Scale of student's mathematics self-efficacy
X1MTHINT	Scale of student's interest in fall 2009 math course
X1SCIID	Scale of student's science identity
X1SCIUTI	Scale of student's science utility
X1SCIEFF	Scale of student's science self-efficacy
X1SCIINT	Scale of student's interest in fall 2009 science course
X1SCHOOLBEL	Scale of student's sense of school belonging
X1SCHOOLENG	Scale of student's school engagement
X1STU30OCC2	Student occupation at age 30: 2-digit ONET code
X1STUEDEXPCT	How far in school 9th grader thinks he/she will get
X1PAREDEXPCT	How far in school parent thinks 9th grader will go
X1IEPFLAG	Individualized Education Plan
X1PQLANG	Parent questionnaire language (English v. Spanish)
X1TMRACE	Math teacher's race/ethnicity-composite
X1TMCERT	Math teacher's math teaching certification
X1TMCOMM	Scale of math teacher's perceptions of math professional learning community
X1TMEFF	Scale of math teacher's self-efficacy
X1TMEXP	Scale of math teacher's perceptions of math teachers' expectations
X1TMPRINC	Scale of math teacher's perceptions of principal support
X1TMRESP	Scale of math teacher's perceptions of collective responsibility
X1TSRACE	Science teacher race/ethnicity-composite

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...table A.1 continued

Predictor name	Predictor description
X1TSCERT	Science teacher's science teaching certification
X1TSCOMM	Scale of science teacher's perceptions of science professional learning community
X1TSEFF	Scale of science teacher's self-efficacy
X1TSEXP	Scale of science teacher's perceptions of science teachers expectations
X1TSPRINC	Scale of science teacher's perceptions of principal support
X1TSRESP	Scale of science teacher's perceptions of collective responsibility
X1CONTROL	School control
X1LOCALE	School locale (urbanicity)
X1REGION	School geographic region
X1SCHOOLCLI	Scale of administrator's assessment of school climate
X1COUPERTEA	Scale of counselor's perceptions of teacher expectations
X1COUPERCOU	Scale of counselor's perceptions of counselor expectations
X1COUPERPRI	Scale of counselor's perceptions of principal's expectations
X2ENROLSTAT	Student enrollment status
X2EVERDROP	Ever dropout
X2DROPSTAT	F1 dropout status
X2SAMEPAR1	Same parent 1 as in the base year
X2SAMEPAR2	Same parent 2 as in the base year
X2NUMHS	Number of high schools attended
X2TXMTH	Mathematics theta score
X2MACC	Mathematics assessment accommodations
X2P1RELATION	Parent 1: relationship to sample member
X2PAR1EDU	Parent 1: highest level of education
X2PAR1EMP	Parent 1: employment status
X2PAR1OCC2	Parent 1: current/most recent occupation: 2-digit ONET code
X2PAR1RACE	Parent 1: race/ethnicity
X2P2RELATION	Parent 2: spouse's relationship to sample member
X2PAR2EDU	Parent 2: highest level of education
X2PAR2EMP	Parent 2: employment status
X2PAR2OCC2	Parent 2: current/most recent occupation: 2-digit ONET code
X2PAR2RACE	Parent 2: race/ethnicity
X2PAREDU	Parents'/guardians' highest level of education
X2HHNUMBER	Number of 2012 household members
X2POVERTY	Poverty indicator (relative to 100% of Census poverty threshold)
X2POVERTY130	Poverty indicator (relative to 130% of Census poverty threshold)
X2POVERTY185	Poverty indicator (relative to 185% of Census poverty threshold)
X2SES	Socio-economic status composite
X2REPEATG11	Percent of 11th graders repeating 11th grade-categorical
X2RETURNG11	Percent of 11th graders returning to school-categorical
X2BEHAVEIN	Scale of school motivation
X2MEFFORT	Scale of math class effort
X2SEFFORT	Scale of science class effort
X2PROBLEM	Scale of problems at high school
X2MTHID	Scale of student's mathematics identity
X2MTHUTI	Scale of student's mathematics utility
X2MTHEFF	Scale of student's mathematics self-efficacy
X2MTHINT	Scale of student's interest in fall 2009 math course
X2SCIID	Scale of student's science identity
X2SCIUTI	Scale of student's science utility

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...table A.1 continued

Predictor name	Predictor description
X2SCIEFF	Scale of student's science self-efficacy
X2SCIINT	Scale of student's interest in fall 2009 science course
X2STU30OCC2	Student occupation at age 30: 2-digit ONET code
X2STUEDEXPCT	How far in school sample member thinks he/she will get
X2PAREDEXPCT	How far in school parent thinks sample member will go
X2S2SSPR12	Teenager taking science/computer science/tech class(es) in spring 2012
X2REQLEVEL	Highest level of education student indicates will meet minimum requirements
X2S2EARNNOHS	Earnings without HS diploma standardized by year
X2S2EARNHS	Earnings with HS diploma standardized by year
X2S2EARNOCC	Earnings with occupational training diploma standardized by year
X2S2EARN2YPUB	Earnings with two year college degree standardized by year
X2S2EARN4Y	Earnings with four year college degree standardized by year
X2PQLANG	Parent questionnaire language (English v. Spanish)
X2CONTROL	School control
X2LOCALE	School locale (urbanicity)
X2REGION	School geographic region
X2SCHOOLCLI	Scale of administrator's assessment of school climate

Note. Predictor names and labels come directly from the HSLS 2009 variable list file found at the National Center for Education Statistics website: https://nces.ed.gov/surveys/hsls09/hsls09_data.asp.

Table A.2: Predictors used across models

	Registered to vote	Volunteered	Log(volunteer hours)
X1SEX*	O	O	O
X1RACE*	O	O	O
X1DUALLANG*	·	·	·
X1STDOB	X	·	X
X1TXMTH	X	X	X
X1MACC*	·	·	·
X1PARRESP*	·	·	·
X1P1RELATION*	·	·	·
X1PAR1EDU	·	·	·
X1PAR1EMP	·	·	·
X1PAR1OCC2	·	·	·
X1PAR1RACE*	X	·	·
X1P2RELATION*	·	·	·
X1PAR2EDU	·	·	·
X1PAR2EMP	·	·	·
X1PAR2OCC2	·	·	·
X1PAR2RACE*	·	·	·
X1PAREDU	·	·	·
X1HHNUMBER	·	·	·
X1FAMINCOME	·	·	·
X1POVERTY*	·	·	·
X1POVERTY130*	·	·	·
X1POVERTY185*	O	O	O
X1SES	X	X	X
X1MTHID	·	·	·
X1MTHUTI	·	X	·
X1MTHEFF	·	X	X
X1MTHINT	X	X	X
X1SCIID	·	·	·
X1SCIUTI	·	X	X
X1SCIEFF	·	X	·
X1SCIINT	X	·	X
X1SCHOOLBEL	X	X	X
X1SCHOOLENG	X	X	X
X1STU30OCC2	·	·	·
X1STUEDEXPCT	·	X	X
X1PAREDEXPCT	·	·	X
X1IEPFLAG*	·	·	·
X1PQLANG*	·	·	·
X1TMRACE*	·	·	·
X1TMCERT*	·	·	·
X1TMCOMM	X	X	·
X1TMEFF	X	X	X
X1TMEXP	X	X	·
X1TMPRINC	X	X	X
X1TMRESP	·	·	·
X1TSRACE*	·	·	·
X1TSCERT*	·	·	·

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...table A.2 continued

	Registered to vote	Volunteered	Log(volunteer hours)
X1TSCOMM	X	X	·
X1TSEFF	·	X	X
X1TSEXP	X	·	X
X1TSPRINC	X	·	·
X1TSRESP	X	·	X
X1CONTROL*	·	·	·
X1LOCALE*	·	·	·
X1REGION*	·	·	·
X1SCHOOLCLI	X	X	X
X1COUPERTEA	X	·	X
X1COUPERCOU	X	·	·
X1COUPERPRI	X	X	·
X2ENROLSTAT*	·	·	·
X2EVERDROP*	·	·	·
X2DROPSTAT*	·	X	·
X2SAMEPAR1*	·	·	·
X2SAMEPAR2*	·	·	·
X2NUMHS	·	X	X
X2TXMTH	X	X	X
X2MACC*	·	·	·
X2P1RELATION*	·	·	·
X2PAR1EDU	·	·	·
X2PAR1EMP	·	·	·
X2PAR1OCC2	·	·	·
X2PAR1RACE*	·	·	·
X2P2RELATION*	·	·	·
X2PAR2EDU	·	·	·
X2PAR2EMP	·	·	·
X2PAR2OCC2	·	·	·
X2PAR2RACE*	·	·	·
X2PAREDU	·	·	·
X2HHNUMBER	·	·	·
X2POVERTY*	·	·	·
X2POVERTY130*	·	·	·
X2POVERTY185*	·	·	·
X2SES	X	X	X
X2REPEATG11	·	·	·
X2RETURNG11	·	·	·
X2BEHAVEIN	X	X	X
X2MEFFORT	X	X	X
X2SEFFORT	·	·	·
X2PROBLEM	X	X	X
X2MTHID	·	·	·
X2MTHUTI	X	·	·
X2MTHEFF	X	·	X
X2MTHINT	X	·	·
X2SCIID	·	X	·
X2SCIUTI	·	·	·
X2SCIEFF	·	X	X
X2SCIINT	·	·	·

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...table A.2 continued

	Registered to vote	Volunteered	Log(volunteer hours)
X2STU30OCC2	·	·	·
X2STUEDEXPCT	·	X	X
X2PAREDEXPCT	·	X	X
X2S2SSPR12*	·	·	·
X2REQLEVEL	·	·	X
X2S2EARNNOHS	·	·	·
X2S2EARNHS	·	·	·
X2S2EARNOCC	·	·	·
X2S2EARN2YPUB	·	·	·
X2S2EARN4Y	·	·	·
X2PQLANG*	·	·	·
X2CONTROL*	·	·	·
X2LOCALE*	·	·	·
X2REGION*	·	·	·
X2SCHOOLCLI	·	X	X

Note. Initial propensity forest models for each outcome included all predictors listed in the table. Factor predictors, which were converted to sets of binary indicators, are marked with an asterisk. *O*s represent subgroup predictors; *X*s are the most important predictors (exclusive of subgroup predictors) from each initial estimation. Results presented in the paper come from propensity forest estimations using only these two sets of predictors for each outcome.

Table A.3: Comparison of model samples with full HSLS sample

	Full HSLS		Outcomes		
	(1)	(2)	Registered to vote	Volunteer	Log(volunteer hours)
Enrollment					
Non-enroll	18.21	24.7	23.63	23.78	13.15
Enroll	55.54	75.3	76.37	76.22	86.85
Missing	26.24				
Gender					
Male	50.94	50.96	48.07	48.24	44.25
Female	49.03	49.04	51.93	51.76	55.75
Missing	0.03				
Race/Ethnicity					
American Indian/Alaska Native	0.7	0.73	0.66	0.63	0.45
Asian	8.31	8.68	7.94	8.25	10.86
Black	10.42	10.89	10.21	10.04	10.37
Hispanic	16.16	16.88	14.39	14.86	12.15
More than one race	8.26	8.63	8.8	8.82	8.62
Native Hawaiian/Pacific Islander	0.47	0.49	0.44	0.45	0.37
White	51.41	53.7	57.56	56.93	57.18
Missing	4.28				
Poverty status					
Above 185% of poverty line	47.55	66.78	58.02	57.63	67.61
Below 185% of poverty line	23.65	33.22	24.4	24.77	19.15
Missing	28.8		17.58	17.6	13.23
N	23503		13227	13241	4897

Note. All values are percentages. Column (1) includes missing values in the full HSLS sample as their own category. Column (2) recomputes the percentages after dropping missing categorical values. Percentages in the outcome columns represent the analytic samples used to fit each model

Table A.4: Average treatment effect estimates across subgroups

	Registered to vote		Volunteer		Log(volunteer hours)	
	ATE	*N*	ATE	*N*	ATE	*N*
Overall	**0.099**	**13227**	**0.072**	**13241**	**-0.307**	**4897**
	(0.0124)		**(0.0108)**		**(0.0598)**	
Single group						
Gender						
Men	0.106	6358	0.036	6387	-0.459	2167
	(0.0169)		(0.0152)		(0.0785)	
Women	0.099	6869	0.106	6854	-0.103	2730
	(0.0181)		(0.0153)		(0.0921)	
Race/ethnicity						
American Indian/Alaska Native	-0.06	87	-0.197	84	-0.35	22
	(0.1316)		(0.1287)		(0.5383)	
Asian	0.156	1050	-0.002	1093	-0.228	532
	(0.0555)		(0.0533)		(0.2486)	
Black	-0.027	1350	0.049	1330	-0.201	508
	(0.0347)		(0.0338)		(0.1422)	
Hispanic	0.09	1904	0.076	1968	-0.468	595
	(0.0294)		(0.0236)		(0.1427)	
More than one race	0.067	1164	0.053	1168	-0.17	422
	(0.0395)		(0.0359)		(0.1867)	
Native Hawaiian/Pacific Islander	0.283	58	-0.064	60	-0.85	18
	(0.159)		(0.1627)		(0.6324)	
White	0.142	7614	0.088	7538	-0.32	2800
	(0.0168)		(0.0145)		(0.0883)	
Poverty line						
Below 185% of poverty line	0.098	3228	0.066	3280	-0.196	938
	(0.0212)		(0.0179)		(0.1028)	
Above 185% of poverty line	0.086	7674	0.069	7631	-0.341	3311
	(0.0192)		(0.0175)		(0.0915)	
Gender by race/ethnicity						
Men						
American Indian/Alaska Native	-0.019	51	-0.337	51	-0.98	14
	(0.1778)		(0.1805)		(0.548)	
Asian	0.15	524	-0.022	541	-0.427	235
	(0.0727)		(0.0686)		(0.3772)	
Black	0.016	633	0.011	625	-0.305	220
	(0.0492)		(0.049)		(0.2042)	
Hispanic	0.085	905	0.026	940	-0.777	258
	(0.0409)		(0.0335)		(0.1931)	
More than one race	0.1	548	0.045	552	-0.366	201
	(0.0536)		(0.0501)		(0.2429)	
Native Hawaiian/Pacific Islander	0.152	31	-0.164	30	-0.413	6
	(0.2426)		(0.2105)		(1.3713)	
White	0.144	3666	0.055	3648	-0.408	1233
	(0.0228)		(0.0206)		(0.1115)	
Women						
American Indian/Alaska Native	-0.105	36	0.028	33	3.396	8
	(0.2159)		(0.1576)		(1.3578)	

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...table A.4 continued

	Registered to vote		Volunteer		Log(volunteer hours)	
	ATE	*N*	ATE	*N*	ATE	*N*
Asian	0.166	526	0.02	552	0.025	297
	(0.0875)		(0.0863)		(0.3201)	
Black	-0.068	717	0.08	705	-0.115	288
	(0.0493)		(0.0469)		(0.2013)	
Hispanic	0.1	999	0.124	1028	-0.074	337
	(0.0424)		(0.033)		(0.211)	
More than one race	0.04	616	0.069	616	0.204	221
	(0.0592)		(0.0518)		(0.29)	
Native Hawaiian/Pacific Islander	0.41	27	0.04	30	-1.129	12
	(0.2227)		(0.2572)		(0.7904)	
White	0.151	3948	0.119	3890	-0.2	1567
	(0.0248)		(0.0203)		(0.146)	
Poverty status by race/ethnicity						
Below 185% of poverty line						
American Indian/Alaska Native	0.204	34	-0.16	30	0.407	8
	(0.2551)		(0.251)		(1.2234)	
Asian	0.071	230	0.075	243	-0.708	105
	(0.1068)		(0.1044)		(0.5516)	
Black	-0.029	500	0.016	492	-0.023	179
	(0.054)		(0.051)		(0.2084)	
Hispanic	0.094	765	0.069	832	-0.248	191
	(0.0426)		(0.0303)		(0.2261)	
More than one race	0.113	302	0.051	306	-0.612	82
	(0.0677)		(0.0573)		(0.3517)	
Native Hawaiian/Pacific Islander	0.285	17	-0.295	18	1.159	5
	(0.275)		(0.2323)		(1.9073)	
White	0.155	1380	0.086	1359	-0.108	368
	(0.0323)		(0.0277)		(0.1626)	
Above 185% of poverty line						
American Indian/Alaska Native	0.011	33	-0.073	34	-0.39	9
	(0.2601)		(0.263)		(0.5212)	
Asian	0.121	614	-0.005	633	0.299	352
	(0.0964)		(0.0863)		(0.4322)	
Black	-0.132	532	0.082	525	-0.54	233
	(0.0615)		(0.065)		(0.2928)	
Hispanic	0.099	735	0.138	726	-0.373	296
	(0.0568)		(0.0504)		(0.2588)	
More than one race	0.025	629	0.026	624	-0.201	270
	(0.0639)		(0.0615)		(0.2841)	
Native Hawaiian/Pacific Islander	0.512	33	0.139	33	3.327	10
	(0.2054)		(0.1682)		(6.9925)	
White	0.116	5098	0.066	5056	-0.406	2141
	(0.0237)		(0.0213)		(0.1178)	
Propensity of enrollment						
(0,0.5]	0.071	1886	0.054	2027	-0.157	147
	(0.0265)		(0.0214)		(0.2466)	
(0.5,0.6]	0.11	980	0.031	930	-0.272	221
	(0.0317)		(0.0273)		(0.1589)	
(0.6,0.7]	0.12	1259	0.103	1221	-0.291	293

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...table A.4 continued

	Registered to vote		Volunteer		Log(volunteer hours)	
	ATE	*N*	ATE	*N*	ATE	*N*
	(0.0294)		(0.0246)		(0.1463)	
(0.7,0.8]	0.077	1650	0.039	1562	-0.259	416
	(0.0293)		(0.0268)		(0.1478)	
(0.8,0.85]	0.106	1122	0.106	1052	-0.067	312
	(0.0416)		(0.0369)		(0.1903)	
(0.925,0.95]	0.127	1134	0.164	1230	-0.231	680
	(0.0818)		(0.0727)		(0.31)	
(0.95,0.975]	0.083	1804	-0.085	1917	-0.362	1349
	(0.0923)		(0.0888)		(0.27)	
(0.975,1]	0.179	781	-0.253	796	-0.656	526
	(0.1409)		(0.104)		(0.4817)	

Note. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. ATE: Average treatment effect; N is sample size. These estimates are the same as shown in the figures 2-5, with the exception that standard errors (rather than p-values) are shown in parentheses.

Table A.5: Results from outcomes regressed on indicator for college participation

	Registered to vote	Volunteer	Log(volunteer hours)
Model 1			
Enrolled	0.14***	0.12***	-0.43***
	(0.011)	(0.01)	(0.049)
Model 2			
Enrolled *X* Men	0.16***	0.08***	-0.47***
	(0.012)	(0.011)	(0.053)
Enrolled *X* Women	0.11***	0.17***	-0.38***
	(0.011)	(0.011)	(0.051)
Model 3			
Enrolled *X* American Indian/Alaska Native	0.14*	-0.03	-0.18
	(0.067)	(0.066)	(0.317)
Enrolled *X* Asian	0.01	0.19***	-0.3***
	(0.018)	(0.018)	(0.068)
Enrolled *X* Black	0.15***	0.17***	-0.26***
	(0.018)	(0.018)	(0.07)
Enrolled *X* Hispanic	0.09***	0.12***	-0.42***
	(0.016)	(0.015)	(0.066)
Enrolled *X* More than one race	0.13***	0.12***	-0.42***
	(0.019)	(0.018)	(0.074)
Enrolled *X* Native Hawaiian/Pacific Islander	0.07	0.05	-0.39
	(0.079)	(0.074)	(0.305)
Enrolled *X* White	0.16***	0.12***	-0.51***
	(0.012)	(0.011)	(0.052)
Model 4			
Enrolled *X* Above 185% of poverty line	0.16***	0.15***	-0.52***
	(0.012)	(0.012)	(0.053)
Enrolled *X* Below 185% of poverty line	0.15***	0.13***	-0.41***
	(0.014)	(0.013)	(0.06)
Model 5			
Enrolled *X* American Indian/Alaska Native *X* Men	0.18	-0.06	-0.42
	(0.091)	(0.088)	(0.446)
Enrolled *X* Asian *X* Men	0.01	0.14***	-0.32***
	(0.024)	(0.023)	(0.087)
Enrolled *X* Black *X* Men	0.16***	0.12***	-0.31**
	(0.025)	(0.024)	(0.096)
Enrolled *X* Hispanic *X* Men	0.1***	0.08***	-0.52***
	(0.022)	(0.021)	(0.091)
Enrolled *X* More than one race *X* Men	0.15***	0.12***	-0.4***
	(0.026)	(0.025)	(0.098)
Enrolled *X* Native Hawaiian/Pacific Islander *X* Men	0.07	-0.08	-0.47
	(0.105)	(0.104)	(0.545)
Enrolled *X* White *X* Men	0.18***	0.07***	-0.55***
	(0.014)	(0.013)	(0.058)
Enrolled *X* American Indian/Alaska Native *X* Women	0.09	0.02	0.08
	(0.099)	(0.097)	(0.446)
Enrolled *X* Asian *X* Women	0	0.24***	-0.27***
	(0.024)	(0.023)	(0.08)
Enrolled *X* Black *X* Women	0.14***	0.21***	-0.2*
	(0.023)	(0.022)	(0.083)
Enrolled *X* Hispanic *X* Women	0.07***	0.16***	-0.33***
	(0.02)	(0.019)	(0.077)
Enrolled *X* More than one race *X* Women	0.1***	0.13***	-0.42***
	(0.024)	(0.023)	(0.09)
Enrolled *X* Native Hawaiian/Pacific Islander *X* Women	0.07	0.18	-0.33
	(0.117)	(0.104)	(0.365)
Enrolled *X* White *X* Women	0.13***	0.16***	-0.47***
	(0.013)	(0.013)	(0.055)
Model 6			
Enrolled *X* American Indian/Alaska Native *X* Above 185% of poverty line	0.09	-0.03	-0.13
	(0.097)	(0.092)	(0.414)
Enrolled *X* Asian *X* Above 185% of poverty line	0.02	0.22***	-0.34***
	(0.023)	(0.022)	(0.079)

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...table A.5 continued

	Registered to vote	Volunteer	Log(volunteer hours)
Enrolled *X* Black *X* Above 185% of poverty line	0.16***	0.18***	-0.35***
	(0.025)	(0.024)	(0.089)
Enrolled *X* Hispanic *X* Above 185% of poverty line	0.11***	0.17***	-0.51***
	(0.022)	(0.021)	(0.081)
Enrolled *X* More than one race *X* Above 185% of poverty line	0.13***	0.15***	-0.55***
	(0.023)	(0.023)	(0.085)
Enrolled *X* Native Hawaiian/Pacific Islander *X* Above 185% of poverty line	0.05	0.06	-0.7*
	(0.09)	(0.087)	(0.348)
Enrolled *X* White *X* Above 185% of poverty line	0.18***	0.14***	-0.6***
	(0.013)	(0.012)	(0.055)
Enrolled *X* American Indian/Alaska Native *X* Below 185% of poverty line	0.23*	0.1	-0.37
	(0.111)	(0.113)	(0.489)
Enrolled *X* Asian *X* Below 185% of poverty line	0.03	0.25***	-0.38**
	(0.035)	(0.033)	(0.118)
Enrolled *X* Black *X* Below 185% of poverty line	0.15***	0.21***	-0.25*
	(0.028)	(0.028)	(0.107)
Enrolled *X* Hispanic *X* Below 185% of poverty line	0.09***	0.1***	-0.43***
	(0.023)	(0.022)	(0.102)
Enrolled *X* More than one race *X* Below 185% of poverty line	0.19***	0.1**	-0.32*
	(0.036)	(0.034)	(0.149)
Enrolled *X* Native Hawaiian/Pacific Islander *X* Below 185% of poverty line	0.23	-0.05	1.89
	(0.196)	(0.176)	(1.089)
Enrolled *X* White *X* Below 185% of poverty line	0.16***	0.13***	-0.46***
	(0.019)	(0.019)	(0.079)

Note. $^{***}p < 0.001$; $^{**}p < 0.01$; $^{*}p < 0.05$. Primary point estimates from linear probability models (LPM) and ordinary least squares (OLS) regressions are shown, with standard errors in parentheses. All models include indicators for gender, race/ethnicity, and poverty status (under 185% federal poverty line) as well as controls for base year socioeconomic status and region.

Table A.6: Test calibration statistics for each propensity forest fit

Model	Mean forest prediction	Differential forest prediction
Registered to vote	1.016***	0.544
Variable importance subset	(0.1309)	(0.82)
Positive	1.018***	-0.117
	(0.1318)	(0.7064)
50^{th} quantile	1.003***	0.201
	(0.1299)	(0.682)
80^{th} quantile	1.006***	-0.489
	(0.1253)	(0.6871)
90^{th} quantile	1.011***	-0.517
	(0.0976)	(0.5731)
95^{th} quantile	1.003***	0.352
	(0.0965)	(0.4375)
Volunteered	0.993***	1.95**
Variable importance subset	(0.1588)	(0.7093)
Positive	1.011***	1.374*
	(0.1601)	(0.6189)
50^{th} quantile	0.981***	1.995***
	(0.1593)	(0.6028)
80^{th} quantile	0.988***	1.833***
	(0.1591)	(0.59)
90^{th} quantile	0.949***	2.044***
	(0.146)	(0.4725)
95^{th} quantile	0.95***	1.648***
	(0.1432)	(0.3531)
Log(volunteer hours)	0.975***	-3.295
Variable importance subset	(0.1889)	(1.2418)
Positive	0.972***	-2.2
	(0.1902)	(1.0611)
50^{th} quantile	0.98***	-1.044
	(0.2002)	(1.0712)
80^{th} quantile	0.991***	-1.587
	(0.1987)	(0.9502)
90^{th} quantile	0.971***	-1.116
	(0.2134)	(0.8696)
95^{th} quantile	0.889***	-0.78
	(0.2159)	(0.7994)

Note. Bold rows represent propensity forests fit using all variables. Rows under each model represent models run with only most important variables that fall within the cut point (any positive value or at/above quantile level of importance). A significant mean forest prediction estimate of 1 offers evidence that the mean forest prediction is correct; a differential forest prediction estimate of 1 or greater suggests the predictions also capture any underlying heterogeneity. The p-value of the differential forest prediction can be understood as test of underlying heterogeneity against a null hypothesis of no heterogeneity. See `grf::test_calibration()` help file: https://grf-labs.github.io/grf/reference/test_calibration.html