Supplemental Appendix for: Student Loan Debt and Participation in American National Elections

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Appendix A

Shows information on coding and creation for all variables used in the main paper analyses.

Detail on Variable Creation & Coding for the 2016 CES

The data and codebook for the 2016 Cooperative Election Study (CES) is available at the following link (`https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi%3A10.7910/DVN/GDF6Z0`).

The data and codebook for the 2020 Cooperative Election Study (CES) is available at the following link (`https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi%3A10.7910/DVN/E9N6PH`).

These two surveys were combined together in order to form a larger dataset (pooled 2016 and 2020 CES; valid N $\approx$ 100,000) that I use for my main analyses.

On the following pages, I show how each variable (from this pooled 2016 and 2020 CES dataset) that I used in various tables was created and coded, and also show relevant (unweighted) descriptive statistics. The italicized text refers to the CES variable name.

Variable Creation & Coding for the Pooled 2016-2020 CES

On the following pages, I show how each variable used in various tables was created and coded, and also show relevant (unweighted) descriptive statistics. The italicized text refers to the CES variable name.

- Student Loan Debt

  Created from *edloan*

  0 = no; 1 = yes

  Mean = 0.201; Standard Deviation = 0.401; Min = 0; Max = 1

  Valid observations = 104,219

- Validated Voter Turnout

  Created from *CL_E2016GVM* and *CL_2020gvm*

  0 = missing data which means no record of voting; 1 = record of voting

  Mean = 0.597; Standard Deviation = 0.490; Min = 0; Max = 1

  Valid observations = 125,600

- Display Sign

  Created from

  0 = did not do activity; 1 = did activity

  Mean = 0.179; Standard Deviation = 0.384; Min = 0; Max = 1

  Valid observations = 104,450

- Campaign Work

  Created from

  0 = did not do activity; 1 = did activity

  Mean = 0.060; Standard Deviation = 0.237; Min = 0; Max = 1

  Valid observations = 104,450

- Donate Money

  Created from

  0 = did not do activity; 1 = did activity

  Mean = 0.271; Standard Deviation = 0.445; Min = 0; Max = 1

  Valid observations = 104,450

- Age

  Created by subtracting *age* from the number 2020

  Ranges from 18 to 99

  Mean = 48.1; Standard Deviation = 17.2; Min = 18; Max = 99

  Valid observations = 125,600

- Age-squared (intended to capture curvilinear effect of age on turnout)

  Created by multiplying Age × Age (this value then divided by 100)

  Ranges from 3.24 to 98.01

  Mean = 26.134; Standard Deviation = 17.08; Min = 3.240; Max = 98.01

  Valid observations = 125,600

- Female

  Created from *gender*

  0 = male; 1 = female

  Mean = 0.560; Standard Deviation = 0.496; Min = 0; Max = 1

  Valid observations = 125,600

- White

  Created from *race*

  0 = not White; 1 = White, non-Hispanic

  Mean = 0.720; Standard Deviation = 0.449; Min = 0; Max = 1

  Valid observations = 125,600

- Third Generation

  Created from *immstat*

  0 = immigrant citizen/immigrant non-citizen/first generation/second generation; 1 = third generation

  Mean = 0.628; Standard Deviation = 0.483; Min = 0; Max = 1

  Valid observations = 125,299

- Four Year College Degree

  Created from *educ*

  0 = no high school diploma/high school graduate/some college/2-year degree; 1 = 4-year degree/post-graduate degree

  Mean = 0.366; Standard Deviation = 0.482; Min = 0; Max = 1

  Valid observations = 125,600

- Income over $80,000

  Created from *faminc_new*

  0 = less than $10,000 - $79,999/prefer not to say; 1 = $80,000 - $500,000 or more

  Mean = 0.270; Standard Deviation = 0.444; Min = 0; Max = 1

  Valid observations = 125,600

- Currently a Student

  Created from *employ*

  0 = working full-time/working part-time/temporarily laid off/unemployed/permanently disabled/homemaker/retired/other; 1 = student

  Mean = 0.045; Standard Deviation = 0.206; Min = 0; Max = 1

  Valid observations = 125,566

- Married

  Created from *marstat*

  0 = separated/divorced/widowed/single/domestic partnership; 1 = married

  Mean = 0.504; Standard Deviation = 0.500; Min = 0; Max = 1

  Valid observations = 125,513

- Homeowner

  Created from *ownhome*

  0 = rent/other; 1 = own

  Mean = 0.617; Standard Deviation = 0.486; Min = 0; Max = 1

  Valid observations = 125,457

- Live in Residence 5+ Years

  Created from *CC16_361* and *CC20_361*

  0 = less than 1 month - 3 to 4 years; 1 = 5 or more years

  Mean = 0.604; Standard Deviation = 0.489; Min = 0; Max = 1

  Valid observations = 125,422

- Current/Former Military Service

  Created from *milstat_1* & *milstat_3*

  0 = no current nor former military service; 1 = current or former military service

  Mean = 0.119; Standard Deviation = 0.323; Min = 0; Max = 1

  Valid observations = 125,600

- Current/Former Union Membership

  Created from *union*

  0 = never a labor union member; 1 = current or former union member

  Mean = 0.246; Standard Deviation = 0.431; Min = 0; Max = 1

  Valid observations = 125,390

- Weekly Church Attendance

  Created from *pew_churatd*

  0 = never/seldom/a few times a year/once or twice a month/don't know; 1 = once a week/more than once a week

  Mean = 0.245; Standard Deviation = 0.430; Min = 0; Max = 1

  Valid observations = 123,533

- High Political Interest

  Created from *newsint*

  0 = hardly at all/only now and then/some of the time/don't know; 1 = follow what's going on in government and public affairs most of the time

  Mean = 0.498; Standard Deviation = 0.500; Min = 0; Max = 1

  Valid observations = 125,501

- Party/Candidate Contact

  Created from *CC16_425a* and *CC20_431a*

  0 = not contacted; 1 = contacted by a candidate or political campaign organization

  Mean = 0.586; Standard Deviation = 0.493; Min = 0; Max = 1

  Valid observations = 104,317

- Swing State

  Created from *inputstate*

  0 = the other 36 states + DC; 1 = AZ, CO, FL, GA, IA, MI, NV, NH, NC, OH, PA, VA, WA, WI

  Mean = 0.404; Standard Deviation = 0.491; Min = 0; Max = 1

  Valid observations = 125,600

Detail on Variable Creation and Coding for the 2019 ANES Pilot

The data and codebook for the 2019 American National Election Pilot Study (ANES) is available at the following link (`https://electionstudies.org/data-center/2019-pilot-study/`). On the following pages, I show how each variable used in various tables was created and coded, and also show relevant (unweighted) descriptive statistics. The italicized text refers to the ANES variable name.

- Student Loan Debt (asked of 1/2 sample)

  Created from *expcolldebt*

  0 = do not have student loan debt; 1 = have student loan debt

  Mean = 0.165; Standard Deviation = 0.371; Min = 0; Max = 1

  Valid observations = 1,501

- Favor Loan Forgiveness

  Created from *loans*

  0 = oppose a great deal/oppose a moderate amount/oppose a little/neither favor nor oppose; 1 = favor a little/favor a moderate amount/favor a great deal

  Mean = 0.351; Standard Deviation = 0.477; Min = 0; Max =1

  Valid observations = 2,999

- Favor Free College Tuition

  Created from *freecol*

  0 = oppose a great deal/oppose a moderate amount/oppose a little/neither favor nor oppose; 1 = favor a little/favor a moderate amount/favor a great deal

  Mean = 0.372; Standard Deviation = 0.484; Min = 0; Max =1

  Valid observations = 2,999

Appendix B

Table B1

Table B1: Probit Model of Student Loan Debt Electoral Participation, 2016-2020

	DV = Validated Vote		DV = Display Sign		DV = Campaign Work		DV = Donate Money	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Student Loans	0.195***	0.157***	0.135***	0.083***	0.142***	0.091***	0.153***	0.086***
	(0.011)	(0.011)	(0.012)	(0.013)	(0.016)	(0.017)	(0.012)	(0.013)
Age	0.018***	0.015***	-0.001	-0.011***	-0.016***	-0.029***	-0.009***	-0.024***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
Age^2	-0.002	-0.003	0.003	0.006***	0.018***	0.024***	0.021***	0.027***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)
College	0.195***	0.095***	0.157***	0.012	0.425***	0.301***	0.467***	0.294***
	(0.009)	(0.010)	(0.010)	(0.011)	(0.014)	(0.015)	(0.010)	(0.010)
Female	0.000	0.062***	-0.082***	0.012	-0.083***	0.003	-0.155***	-0.034***
	(0.009)	(0.009)	(0.010)	(0.011)	(0.014)	(0.015)	(0.010)	(0.010)
White	0.240***	0.204***	0.177***	0.114***	0.054***	-0.031*	0.148***	0.050***
	(0.010)	(0.010)	(0.012)	(0.012)	(0.016)	(0.017)	(0.011)	(0.012)
Third Gen	0.131***	0.137***	0.016	0.023**	-0.059***	-0.066***	-0.047***	-0.054***
	(0.009)	(0.009)	(0.010)	(0.010)	(0.014)	(0.014)	(0.009)	(0.010)
High Income	0.152***	0.103***	0.109***	0.043***	0.167***	0.110***	0.321***	0.253***
	(0.010)	(0.011)	(0.011)	(0.011)	(0.015)	(0.016)	(0.010)	(0.011)
Current Student	0.256***	0.194***	0.186***	0.085***	0.248***	0.138***	0.238***	0.108***
	(0.026)	(0.027)	(0.031)	(0.032)	(0.038)	(0.040)	(0.029)	(0.032)
Married	0.035***	0.029***	0.060***	0.056***	-0.058***	-0.066***	-0.007	-0.023**
	(0.010)	(0.010)	(0.011)	(0.011)	(0.015)	(0.016)	(0.010)	(0.011)
Children	-0.162***	-0.146***	0.008	0.048***	-0.024	0.025	-0.166***	-0.129***
	(0.011)	(0.011)	(0.013)	(0.013)	(0.017)	(0.018)	(0.012)	(0.013)
Homeowner	0.061***	0.041***	0.205***	0.193***	0.023	0.005	0.043***	0.007
	(0.010)	(0.010)	(0.012)	(0.012)	(0.016)	(0.018)	(0.011)	(0.012)
Stable Resident	0.104***	0.099***	0.033***	0.025**	-0.014	-0.024	-0.056***	-0.076***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.015)	(0.016)	(0.010)	(0.011)
Military Service	0.025*	0.005	0.093***	0.079***	-0.007	-0.021	0.043***	0.024
	(0.014)	(0.014)	(0.015)	(0.015)	(0.021)	(0.022)	(0.014)	(0.015)
Union Affiliation	0.128***	0.085***	0.196***	0.147***	0.220***	0.173***	0.200***	0.135***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.014)	(0.015)	(0.010)	(0.011)
Weekly Church	0.030***	0.019*	0.057***	0.052***	0.056***	0.057***	-0.122***	-0.145***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.015)	(0.016)	(0.011)	(0.011)
Swing State	0.061***	0.023***	0.074***	0.036***	0.056***	0.008	-0.032***	-0.109***
	(0.009)	(0.009)	(0.009)	(0.010)	(0.013)	(0.014)	(0.009)	(0.010)
High Interest		0.322***		0.576***		0.576***		0.806***
		(0.009)		(0.011)		(0.017)		(0.011)
Party Contact		0.370***		0.521***		0.701***		0.826***
		(0.009)		(0.011)		(0.019)		(0.011)
Year = 2020	0.280***	0.236***	0.147***	0.085***	-0.038***	-0.124***	0.209***	0.123***
	(0.008)	(0.009)	(0.009)	(0.010)	(0.013)	(0.014)	(0.009)	(0.009)
Constant	-1.187***	-1.261***	-1.556***	-1.678***	-1.588***	-1.794***	-1.194***	-1.386***
	(0.043)	(0.044)	(0.051)	(0.053)	(0.067)	(0.071)	(0.047)	(0.051)
Observations	102,173	101,988	102,173	101,988	102,173	101,988	102,173	101,988
Pseudo R^2	0.073	0.101	0.032	0.095	0.048	0.124	0.087	0.207

Note: Probit coefficients with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Sources are the 2016 and 2020 CES (pooled).

Table B2

Table B2: Student Loan Debt and Electoral Participation When Controlling for State Fixed Effects Rather Than Just "Swing State" Status, 2016-2020

	DV = Validated Vote		DV = Display Sign		DV = Campaign Work		DV = Donate Money	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Student Loans	0.070***	0.055***	0.032***	0.018***	0.017***	0.010***	0.044***	0.019***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.003)
Age	0.009***	0.007***	-0.001	-0.002***	-0.002***	-0.003***	-0.004***	-0.007***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Age^2	-0.003***	-0.003***	0.001**	0.001**	0.002***	0.002***	0.008***	0.008***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
College	0.065***	0.030***	0.043***	0.007**	0.050***	0.034***	0.147***	0.085***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Female	0.000	0.021***	-0.021***	0.002	-0.009***	0.001	-0.045***	-0.007**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
White	0.081***	0.066***	0.037***	0.021***	0.008***	0.001	0.047***	0.020***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Third Gen	0.045***	0.046***	-0.001	-0.000	-0.006***	-0.006***	-0.013***	-0.013***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
High Income	0.052***	0.034***	0.034***	0.017***	0.020***	0.013***	0.104***	0.074***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Current Student	0.095***	0.071***	0.042***	0.019**	0.028***	0.017***	0.062***	0.021***
	(0.010)	(0.010)	(0.008)	(0.007)	(0.005)	(0.005)	(0.008)	(0.008)
Married	0.010***	0.008**	0.015***	0.013***	-0.006***	-0.007***	-0.001	-0.004
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Children	-0.059***	-0.052***	0.003	0.010***	-0.001	0.003	-0.041***	-0.029***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Homeowner	0.022***	0.015***	0.045***	0.038***	0.002	-0.001	0.010***	-0.003
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Stable Resident	0.037***	0.033***	0.010***	0.006**	-0.001	-0.003	-0.013***	-0.019***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Military Service	0.008*	0.003	0.026***	0.021***	-0.002	-0.004	0.012**	0.004
	(0.005)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.005)
Union Affiliation	0.037***	0.022***	0.054***	0.038***	0.028***	0.021***	0.065***	0.038***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Weekly Church	0.013***	0.009***	0.014***	0.011***	0.007***	0.005***	-0.038***	-0.044***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
High Interest		0.112***		0.132***		0.052***		0.212***
		(0.003)		(0.002)		(0.001)		(0.003)
Party Contact		0.130***		0.115***		0.057***		0.209***
		(0.003)		(0.002)		(0.001)		(0.003)
Year = 2020	0.095***	0.078***	0.038***	0.021***	-0.004**	-0.011***	0.065***	0.035***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.003)	(0.003)
Constant	-0.000	-0.006	0.042***	0.039**	0.054***	0.051***	0.113***	0.107***
	(0.020)	(0.019)	(0.016)	(0.015)	(0.010)	(0.010)	(0.017)	(0.016)
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	102,173	101,988	102,173	101,988	102,173	101,988	102,173	101,988
R^2	0.096	0.129	0.034	0.086	0.023	0.050	0.103	0.216

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Sources are the 2016 and 2020 CES (pooled).

Table B3

Partisanship - constructed from *pid7*.

Table B3: Student Loan Debt and Voter Turnout when Controlling for Partisanship, 2016-2020

	DV = Voter Turnout	DV = Display Sign	DV = Campaign Work	Donate Money
Student Loans	0.051***	0.018***	0.009***	0.012***
	(0.004)	(0.003)	(0.002)	(0.003)
Age	0.008***	-0.002***	-0.002***	-0.007***
	(0.001)	(0.000)	(0.000)	(0.001)
Age^2	-0.004***	0.000	0.002***	0.008***
	(0.001)	(0.000)	(0.000)	(0.000)
Female	0.015***	-0.003	-0.003*	-0.016***
	(0.003)	(0.003)	(0.002)	(0.003)
White	0.077***	0.032***	0.009***	0.038***
	(0.004)	(0.003)	(0.002)	(0.003)
Third Gen	0.043***	0.002	-0.008***	-0.016***
	(0.003)	(0.003)	(0.002)	(0.003)
College	0.025***	0.004	0.032***	0.078***
	(0.003)	(0.003)	(0.002)	(0.003)
High Income	0.028***	0.012***	0.012***	0.074***
	(0.003)	(0.003)	(0.002)	(0.003)
Current Student	0.071***	0.021***	0.016***	0.019**
	(0.010)	(0.008)	(0.005)	(0.008)
Married	0.010***	0.016***	-0.004**	0.004
	(0.003)	(0.003)	(0.002)	(0.003)
Children	-0.052***	0.011***	0.003	-0.028***
	(0.004)	(0.003)	(0.002)	(0.003)
Homeowner	0.014***	0.043***	0.001	0.002
	(0.004)	(0.003)	(0.002)	(0.003)
Stable Resident	0.033***	0.005**	-0.003*	-0.022***
	(0.003)	(0.003)	(0.002)	(0.003)
Military Service	0.007	0.025***	0.001	0.017***
	(0.005)	(0.004)	(0.003)	(0.005)
Union Affiliation	0.024***	0.036***	0.017***	0.029***
	(0.003)	(0.003)	(0.002)	(0.003)
Weekly Church	0.005	0.009***	0.010***	-0.030***
	(0.003)	(0.003)	(0.002)	(0.003)
Swing State	0.008***	0.008***	0.001	-0.030***
	(0.003)	(0.002)	(0.002)	(0.003)
High Interest	0.093***	0.117***	0.046***	0.193***
	(0.003)	(0.003)	(0.001)	(0.003)
Party Contact	0.119***	0.110***	0.055***	0.200***
	(0.003)	(0.002)	(0.001)	(0.003)
Year = 2020	0.076***	0.018***	-0.012***	0.033***
	(0.003)	(0.002)	(0.002)	(0.003)
Not Very Strong Democrat	-0.042***	-0.078***	-0.042***	-0.120***
	(0.005)	(0.004)	(0.003)	(0.004)
Lean Democrat	-0.026***	-0.060***	-0.030***	-0.035***
	(0.005)	(0.004)	(0.003)	(0.005)
Independent	-0.152***	-0.089***	-0.044***	-0.132***
	(0.005)	(0.004)	(0.002)	(0.004)
Lean Republican	-0.048***	-0.061***	-0.062***	-0.128***
	(0.005)	(0.005)	(0.003)	(0.005)
Not Very Strong Republican	-0.046***	-0.088***	-0.060***	-0.172***
	(0.005)	(0.004)	(0.003)	(0.004)
Strong Republican	-0.020***	-0.014***	-0.046***	-0.116***
	(0.005)	(0.004)	(0.003)	(0.004)
Constant	0.094***	0.077***	0.088***	0.198***
	(0.015)	(0.012)	(0.008)	(0.013)
Observations	99,582	99,582	99,582	99,582
R^2	0.128	0.088	0.056	0.227

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. Base category for partisanship is "Strong Democrat." *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Sources are the 2016 and 2020 CES (pooled).

Table B4

This is a simplified model meant to allay concerns that any results are due to including an unnecessarily and insufficiently justified number of controls (Lenz and Sahn 2021 *Political Analysis*). As such, I only include a small set of salient demographics that are likely to correlate with both student loan debt possession and voter turnout: age, gender, race, education, and state of residence. All coding here is dichotomous.

Table B4: Student Loan Debt and Electoral Participation When Including a Smaller Number of Control Variables, 2016-2020

	DV = Voter Turnout	DV = Display Sign	DV = Campaign Work	DV = Donate Money
Student Loans	0.070***	0.034***	0.018***	0.045***
	(0.004)	(0.003)	(0.002)	(0.004)
Age	0.008***	0.001**	-0.002***	-0.004***
	(0.001)	(0.000)	(0.000)	(0.000)
Age^2	-0.002***	0.000	0.002***	0.009***
	(0.000)	(0.000)	(0.000)	(0.000)
Female	-0.014***	-0.039***	-0.014***	-0.070***
	(0.003)	(0.002)	(0.002)	(0.003)
White	0.098***	0.048***	0.005***	0.048***
	(0.003)	(0.003)	(0.002)	(0.003)
College	0.079***	0.057***	0.056***	0.178***
	(0.003)	(0.003)	(0.002)	(0.003)
Swing State	0.019***	0.018***	0.005***	-0.013***
	(0.003)	(0.002)	(0.001)	(0.003)
Constant	0.143***	0.070***	0.073***	0.176***
	(0.013)	(0.011)	(0.007)	(0.012)
Observations	104,219	104,219	104,219	104,219
R^2	0.071	0.016	0.017	0.076

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Sources are the 2016 and 2020 CES (pooled).

Table B5

Here (Tables B5a and B5b), I replicate my main analyses (from Table 3 in the main paper) separately in each election year. In short, I run eight regression models using data from the 2016 CES and eight other regression models using data from the 2020 CES. See the following two pages for these models.

Overall, the results show that student loan debt is positively and significantly associated with electoral participation in both election years (2016 and 2020). In short, my main results do not seem to be driven by one election year, e.g., the heightened salience of student loan debt in 2020 during the Covid-era pause on repayments.

Table B5a: Student Loan Debt and Electoral Participation in 2016

	DV = Voter Turnout		DV = Display Sign		DV = Campaign Work		DV = Donate Money	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Student Loans	0.074***	0.062***	0.030***	0.016***	0.018***	0.011***	0.034***	0.012**
	(0.006)	(0.006)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.005)
Age	0.006***	0.005***	-0.002***	-0.003***	-0.002***	-0.003***	-0.005***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Age^2	0.001	0.000	0.002***	0.002***	0.003***	0.002***	0.009***	0.008***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
College	0.039***	0.009**	0.031***	-0.001	0.046***	0.031***	0.124***	0.072***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.002)	(0.004)	(0.004)
Female	0.001	0.023***	-0.025***	-0.001	-0.011***	-0.000	-0.047***	-0.010**
	(0.005)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
White	0.088***	0.072***	0.035***	0.017***	0.005**	-0.003	0.036***	0.008**
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
Third Gen	0.053***	0.054***	0.006*	0.006*	-0.005**	-0.005**	-0.010**	-0.010***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.004)
High Income	0.044***	0.030***	0.018***	0.003	0.017***	0.010***	0.085***	0.062***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.004)
Current Student	0.081***	0.056***	0.039***	0.012	0.036***	0.023***	0.061***	0.017
	(0.014)	(0.013)	(0.010)	(0.010)	(0.008)	(0.007)	(0.011)	(0.010)
Married	0.004	0.001	0.012***	0.008**	-0.008***	-0.009***	-0.003	-0.009**
	(0.005)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
Children	-0.061***	-0.055***	0.005	0.012***	0.001	0.005**	-0.035***	-0.022***
	(0.006)	(0.006)	(0.004)	(0.004)	(0.003)	(0.003)	(0.004)	(0.004)
Homeowner	0.015***	0.009*	0.041***	0.034***	0.002	-0.002	0.006	-0.005
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.002)	(0.004)	(0.004)
Stable Resident	0.032***	0.027***	0.012***	0.006	0.000	-0.003	-0.012***	-0.021***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
Military Service	0.004	-0.004	0.034***	0.026***	0.005	0.001	0.024***	0.011*
	(0.007)	(0.006)	(0.006)	(0.006)	(0.004)	(0.004)	(0.006)	(0.006)
Union Affiliation	0.036***	0.023***	0.050***	0.035***	0.030***	0.023***	0.058***	0.034***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.004)
Weekly Church	0.014***	0.009*	0.018***	0.012***	0.011***	0.008***	-0.025***	-0.035***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.002)	(0.004)	(0.004)
Swing State	0.028***	0.017***	0.016***	0.004	0.011***	0.004*	-0.006*	-0.027***
	(0.004)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)	(0.004)	(0.003)
High Interest		0.115***		0.126***		0.054***		0.193***
		(0.005)		(0.003)		(0.002)		(0.004)
Party Contact		0.109***		0.121***		0.067***		0.205***
		(0.005)		(0.003)		(0.002)		(0.004)
Constant	0.108***	0.098***	0.092***	0.084***	0.063***	0.058***	0.169***	0.157***
	(0.021)	(0.021)	(0.017)	(0.016)	(0.011)	(0.011)	(0.018)	(0.017)
Observations	51,839	51,750	51,839	51,750	51,839	51,750	51,839	51,750
R^2	0.076	0.103	0.022	0.080	0.021	0.054	0.081	0.193

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Source is the 2016 CES.

Table B5b: Student Loan Debt and Electoral Participation in 2020

	DV = Voter Turnout		DV = Display Sign		DV = Campaign Work		DV = Donate Money	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Student Loans	0.066***	0.049***	0.037***	0.022***	0.016***	0.010***	0.050***	0.022***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.003)	(0.003)	(0.005)	(0.005)
Age	0.011***	0.010***	0.001**	-0.000	-0.002***	-0.002***	-0.003***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
Age^2	-0.006***	-0.005***	-0.001	-0.000	0.002***	0.002***	0.007***	0.008***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)
College	0.093***	0.050***	0.050***	0.009**	0.055***	0.039***	0.174***	0.099***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.005)	(0.004)
Female	-0.001	0.018***	-0.017***	0.006	-0.006***	0.002	-0.045***	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
White	0.085***	0.072***	0.049***	0.035***	0.008***	0.003	0.051***	0.026***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.005)	(0.004)
Third Gen	0.038***	0.038***	0.001	0.002	-0.009***	-0.008***	-0.018***	-0.017***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
High Income	0.058***	0.036***	0.043***	0.022***	0.024***	0.016***	0.124***	0.087***
	(0.005)	(0.004)	(0.005)	(0.004)	(0.003)	(0.003)	(0.005)	(0.005)
Current Student	0.107***	0.084***	0.045***	0.024**	0.018**	0.010	0.064***	0.026**
	(0.014)	(0.014)	(0.011)	(0.011)	(0.007)	(0.007)	(0.013)	(0.012)
Married	0.015***	0.014***	0.019***	0.018***	-0.005**	-0.005**	0.002	-0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.005)	(0.004)
Child	-0.056***	-0.050***	0.001	0.008*	-0.003	-0.000	-0.048***	-0.037***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.003)	(0.003)	(0.005)	(0.005)
Homeowner	0.029***	0.021***	0.054***	0.047***	0.001	-0.002	0.011**	-0.003
	(0.005)	(0.005)	(0.004)	(0.004)	(0.002)	(0.002)	(0.005)	(0.004)
Stable Resident	0.041***	0.042***	0.007*	0.007*	-0.004	-0.003	-0.021***	-0.019***
	(0.005)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
Military Service	0.009	0.007	0.018***	0.016***	-0.010***	-0.010***	0.004	0.001
	(0.006)	(0.006)	(0.006)	(0.006)	(0.004)	(0.004)	(0.007)	(0.007)
Union Affiliation	0.047***	0.030***	0.056***	0.040***	0.024***	0.018***	0.068***	0.040***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.005)
Weekly Church	0.007	0.006	0.012***	0.013***	0.001	0.001	-0.055***	-0.054***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.005)	(0.004)
Swing State	0.013***	-0.002	0.021***	0.011***	0.001	-0.004*	-0.014***	-0.034***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)	(0.004)	(0.004)
High Interest		0.106***		0.138***		0.049***		0.234***
		(0.004)		(0.004)		(0.002)		(0.004)
Party Contact		0.154***		0.110***		0.047***		0.213***
		(0.004)		(0.003)		(0.002)		(0.004)
Constant	0.078***	0.037*	0.004	-0.029*	0.060***	0.046***	0.181***	0.120***
	(0.020)	(0.020)	(0.017)	(0.017)	(0.011)	(0.011)	(0.020)	(0.018)
Observations	50,334	50,238	50,334	50,238	50,334	50,238	50,334	50,238
R^2	0.091	0.134	0.034	0.083	0.025	0.046	0.107	0.224

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Source is the 2020 CES.

Table B6

Here (Tables B6a and B6b), I conduct a sensitivity analysis for my main results (those displayed in Table 2 in the main paper).

I use the *sensemakr* command in Stata and follow the advice from (Hazlett and Cinelli 2020 *JRRS Series B*) and the instructions that these authors provide to conduct and interpret the results obtained from running the *sensemakr* command in Stata (`https://carloscinelli.com/sensemakr/`).

I chose to use labor union affiliation, a well-established correlate of voter turnout and political participation (e.g., Flavin and Radcliff 2011 *Electoral Studies*; Kerrissey and Schofer 2013 *Social Forces*) as a baseline for the *sensemakr* analysis. By this, I mean that I used this sensitivity analysis command to estimate, in line with recommendations from Hazlett and Cinelli (2020), how much more of the variation in my dependent and main independent variable an omitted variable would have to explain than a relevant comparison variable, here that being current/former union membership (0 = no; 1 = yes).

The results of this analysis (see the bolded text in the below tables) show that an omitted variable would have to explain more than *ten times* the variation in both student loan debt and voter turnout that labor union affiliation does, in order to reduce the magnitude of the student loan debt coefficient to the point that it is no longer significantly different from zero. In short, this sensitivity analysis suggests that my results seem unlikely to be a mere statistical fluke that is exceptionally vulnerable to omitted variable bias.

CES, 2016-2020

Table B6a

"Treatment"	coef	se	t(H0)	R2yd.x	RV_q	RV_qa
Student Loan Debt	0.0558	0.0038	14.8243	0.0022	0.0454	0.0395

Table B6b

Bound	"Benchmark" Variable	R2dz.x	R2yz.dx	Coef.	S.E.	t(H0)	Lower CI	Upper CI
1.00x	Union Affiliation	0.0025	0.0006	0.0543	0.0038	14.4087	0.0469	0.0617
2.00x	Union Affiliation	0.0049	0.0013	0.0528	0.0038	13.9928	0.0454	0.0601
3.00x	Union Affiliation	0.0074	0.0019	0.0512	0.0038	13.5766	0.0438	0.0586
4.00x	Union Affiliation	0.0099	0.0026	0.0497	0.0038	13.1601	0.0423	0.0571
5.00x	Union Affiliation	0.0123	0.0032	0.0482	0.0038	12.7433	0.0408	0.0556
6.00x	Union Affiliation	0.0148	0.0039	0.0466	0.0038	12.3263	0.0392	0.0541
7.00x	Union Affiliation	0.0172	0.0045	0.0451	0.0038	11.9089	0.0377	0.0525
8.00x	Union Affiliation	0.0197	0.0051	0.0436	0.0038	11.4912	0.0361	0.0510
9.00x	Union Affiliation	0.0222	0.0058	0.0420	0.0038	11.0733	0.0346	0.0495
10.00x	Union Affiliation	0.0246	0.0064	0.0405	0.0038	10.6550	0.0330	0.0479

Table B7

This shows the relationship between student loan debt and support for two policies, canceling student loan debt (0 vs. 1) and free college tuition (0 vs. 1). This uses data from the 2019 ANES Pilot and is associated with Table 6 in the main paper.

The additional control variables that I include are: age group (Millennial/Gen Z vs. not), gender (female vs. not), race (White vs. not), education (4-year college degree vs. not), household income (over $80,000 vs. not), party identification (Republican vs. not), and ideology (Conservative vs. not).

Table B7: Student Loan Debt and Policy Opinions, 2019

	Favor Canceling Loans	Favor Free College Tuition
Student Loan Debt	0.281***	0.182***
	(0.033)	(0.033)
Millennial/Generation Z	0.036	0.056**
	(0.028)	(0.028)
Female	-0.002	-0.042*
	(0.022)	(0.023)
White	0.015	-0.018
	(0.027)	(0.028)
College	0.036	0.006
	(0.025)	(0.026)
Income Over $80,000	0.010	0.014
	(0.026)	(0.027)
Republican	-0.194***	-0.186***
	(0.031)	(0.033)
Conservative	-0.213***	-0.254***
	(0.032)	(0.033)
Constant	0.433***	0.522***
	(0.030)	(0.030)
Observations	1,446	1,446
R^2	0.215	0.214

Note: Dependent variables are dichotomous (0 = oppose/neither favor nor oppose; 1 = favor). All independent variables are also dichotomous (0 vs. 1). OLS coefficients from 2 linear probability models (probit yields very similar results) with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, two-tailed test. Source is the 2019 ANES Pilot.

Table B8

This displays the full results from Table 4 in the main paper.

Table B8: Student Loan Debt and Voter Turnout by Swing State Residence, 2016-2020

	DV = Validated Voter Turnout			
	Non Swing States		Swing States	
Student Loans	0.071***	0.058***	0.069***	0.053***
	(0.005)	(0.005)	(0.006)	(0.006)
Age	0.008***	0.006***	0.010***	0.008***
	(0.001)	(0.001)	(0.001)	(0.001)
Age^2	-0.002**	-0.002***	-0.004***	-0.004***
	(0.001)	(0.001)	(0.001)	(0.001)
College	0.066***	0.031***	0.065***	0.028***
	(0.004)	(0.004)	(0.005)	(0.005)
Female	-0.000	0.021***	0.001	0.021***
	(0.004)	(0.004)	(0.005)	(0.005)
White	0.083***	0.066***	0.092***	0.082***
	(0.005)	(0.004)	(0.006)	(0.006)
Third Gen	0.054***	0.053***	0.033***	0.036***
	(0.004)	(0.004)	(0.005)	(0.005)
High Income	0.049***	0.032***	0.054***	0.036***
	(0.004)	(0.004)	(0.005)	(0.005)
Current Student	0.090***	0.066***	0.107***	0.082***
	(0.012)	(0.012)	(0.016)	(0.015)
Married	0.014***	0.012***	0.005	0.004
	(0.004)	(0.004)	(0.005)	(0.005)
Child	-0.058***	-0.051***	-0.061***	-0.054***
	(0.005)	(0.005)	(0.006)	(0.006)
Homeowner	0.016***	0.009*	0.032***	0.024***
	(0.005)	(0.005)	(0.006)	(0.006)
Stable Resident	0.037***	0.034***	0.035***	0.031***
	(0.004)	(0.004)	(0.005)	(0.005)
Military Service	0.007	0.002	0.008	0.001
	(0.006)	(0.006)	(0.007)	(0.007)
Union Affiliation	0.047***	0.031***	0.035***	0.021***
	(0.004)	(0.004)	(0.005)	(0.005)
Weekly Church	0.010**	0.008*	0.011**	0.006
	(0.004)	(0.004)	(0.005)	(0.005)
High Interest		0.113***		0.110***
		(0.004)		(0.005)
Party Contact		0.123***		0.143***
		(0.004)		(0.005)
Year = 2020	0.102***	0.085***	0.084***	0.066***
	(0.004)	(0.004)	(0.004)	(0.004)
Constant	0.051***	0.039**	0.051**	0.024
	(0.019)	(0.019)	(0.023)	(0.023)
Observations	60,371	60,255	41,802	41,733
R^2	0.096	0.128	0.084	0.121

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10, two-tailed test. Sources are the 2016 and 2020 CES (pooled).

Table B9

This displays the full results from Table 5 in the main paper.

Table B9: Student Loan Debt and Voter Turnout by College Degree Status, 2016-2020

	DV = Validated Voter Turnout							
	Some College/Less		Two-Year Degree		Four-Year Degree		Graduate Degree	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Student Loans	0.030***	0.021***	0.039***	0.035***	0.055***	0.048***	0.073***	0.064***
	(0.007)	(0.007)	(0.011)	(0.011)	(0.007)	(0.007)	(0.009)	(0.008)
Age	0.008***	0.007***	0.011***	0.010***	0.010***	0.008***	0.012***	0.009***
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)
Age2_100	-0.001*	-0.003***	-0.004**	-0.005***	-0.004***	-0.004***	-0.005***	-0.003**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Some College	0.116***	0.075***						
	(0.004)	(0.004)						
Female	-0.001	0.020***	-0.019**	-0.006	0.006	0.022***	0.035***	0.044***
	(0.005)	(0.005)	(0.009)	(0.009)	(0.006)	(0.006)	(0.007)	(0.008)
White	0.057***	0.043***	0.078***	0.072***	0.138***	0.120***	0.116***	0.102***
	(0.005)	(0.005)	(0.010)	(0.010)	(0.007)	(0.007)	(0.009)	(0.009)
Third Gen	0.027***	0.030***	0.063***	0.063***	0.062***	0.060***	0.067***	0.064***
	(0.004)	(0.004)	(0.009)	(0.009)	(0.006)	(0.006)	(0.007)	(0.007)
High Income	0.059***	0.039***	0.037***	0.027***	0.036***	0.026***	0.031***	0.025***
	(0.006)	(0.006)	(0.010)	(0.010)	(0.006)	(0.006)	(0.008)	(0.008)
Married	0.031***	0.025***	0.022**	0.020**	-0.009	-0.009	-0.025***	-0.026***
	(0.005)	(0.005)	(0.010)	(0.009)	(0.007)	(0.007)	(0.008)	(0.008)
Child	-0.043***	-0.036***	-0.041***	-0.040***	-0.063***	-0.056***	-0.049***	-0.044***
	(0.006)	(0.006)	(0.011)	(0.011)	(0.008)	(0.008)	(0.010)	(0.009)
Homeowner	0.036***	0.024***	0.016	0.013	-0.013*	-0.014*	0.008	0.007
	(0.005)	(0.005)	(0.011)	(0.011)	(0.007)	(0.007)	(0.010)	(0.010)
Stable Resident	0.053***	0.047***	0.046***	0.044***	0.020***	0.018***	0.000	-0.001
	(0.005)	(0.005)	(0.010)	(0.010)	(0.007)	(0.007)	(0.008)	(0.008)
Military Service	0.020***	0.015**	0.007	0.003	-0.031***	-0.032***	-0.025**	-0.027**
	(0.007)	(0.007)	(0.012)	(0.012)	(0.009)	(0.009)	(0.011)	(0.011)
Union Affiliation	0.047***	0.033***	0.037***	0.026***	0.006	-0.004	0.032***	0.025***
	(0.005)	(0.005)	(0.009)	(0.009)	(0.007)	(0.007)	(0.007)	(0.007)
Weekly Church	0.030***	0.024***	0.016	0.010	-0.011	-0.010	-0.022***	-0.020**
	(0.005)	(0.005)	(0.010)	(0.010)	(0.007)	(0.007)	(0.008)	(0.008)
Swing State	0.023***	0.008*	0.024***	0.014	0.024***	0.013**	0.012*	0.003
	(0.004)	(0.004)	(0.008)	(0.008)	(0.006)	(0.006)	(0.007)	(0.007)
High Interest		0.124***		0.071***		0.085***		0.063***
		(0.005)		(0.009)		(0.007)		(0.009)
Contacted		0.136***		0.103***		0.104***		0.107***
		(0.005)		(0.009)		(0.007)		(0.009)
Year = 2020	0.071***	0.058***	0.088***	0.074***	0.136***	0.116***	0.126***	0.108***
	(0.004)	(0.004)	(0.008)	(0.008)	(0.006)	(0.006)	(0.007)	(0.007)
Constant	-0.001	-0.025	0.036	0.013	0.079***	0.069**	0.032	0.033
	(0.021)	(0.021)	(0.049)	(0.049)	(0.029)	(0.029)	(0.041)	(0.040)
Observations	48,298	48,193	11,268	11,247	24,411	24,375	15,150	15,129
R^2	0.105	0.142	0.089	0.108	0.102	0.123	0.104	0.119

Note: OLS coefficients from linear probability models with robust standard errors in parentheses. Sample is restricted to respondents who are not current students. *** p<0.01, ** p<0.05, * p<0.10, two-tailed test. Sources are the 2016 and 2020 CES (pooled).