

Supporting Information for “Partisan Conversion through Neighborhood Influence”

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1 Voterfile Data and Panel Construction

Data for this study consists of yearly Target Smart snapshots from 2012-2020 for California, Florida, Kansas, New York, and North Carolina, and older state files (CA 2005, 2007, 2009; FL 2007, 2009; KS 2008; NY 2001, 2008; NC 2009). Target Smart identifies voters across time periods by linking individuals based on name, age, residential address, voting history, and other proprietary information. The vendor further identifies people changing addresses using records from the USPS National Change of Address database, and keeps track of deceased voters by comparing voter lists to the Social Security Death Master File.

I rely on Target Smart's linkages when comparing years from 2012 to 2020. To construct the longer panel, I link pre-2012 directly to the Target Smart files by first exact matching on first name, last name, birth year, and residential address. In order to account for potential surname changes, possibly due to marriage, I do a second link of the remaining unlinked sample by first name, birth year and residential address. As a last step, I match only on first name, last name, and residential address, to see if there are any potential links where age was differentially recorded.

Table S1 provides descriptive statistics of the linked (voters in the year 1 file who were located in the year 2 file at the same residence) and unlinked (all other voters in the year 1 file) samples for the linked voterfiles. The linked and unlinked samples are generally pretty similar, although there are differences in turnout, Block Group homeownership, Block Group median household income, and Block Group median house value, each of which are larger for the linked sample. Levels of partisan exposure and individual partisanship are similar.

2 Mover Analysis

Tables S2 reports the average levels of proportion Democrat and Republican in movers' new and old neighborhoods in the final years of their respective linked sample (2016 for 2012-

Table S1: Mean Variable Levels Across Linked and Unlinked Samples

Variable	2008-2012		2012-2016		2016-2020	
	Linked	Unlinked	Linked	Unlinked	Linked	Unlinked
Age	51.202	48.013	53.375	47.791	51.892	46.532
Democrat	0.408	0.447	0.435	0.431	0.431	0.429
Republican	0.369	0.303	0.335	0.310	0.303	0.270
White	0.764	0.553	0.702	0.689	0.664	0.652
Black	0.082	0.114	0.093	0.100	0.104	0.116
Hispanic	0.091	0.119	0.122	0.124	0.151	0.153
Asian	0.033	0.032	0.042	0.037	0.047	0.041
Female	0.538	0.538	0.536	0.527	0.538	0.542
Vote General	0.826	0.685	0.600	0.503	0.067	0.033
Vote Primary	0.655	0.554	0.280	0.203	0.007	0.004
Block Group Democrat	0.400	0.450	0.425	0.430	0.428	0.433
Block Group Republican	0.361	0.310	0.321	0.313	0.294	0.283
Block Group White	65.246	57.147	0.593	0.585	0.565	0.550
Block Group Registered	0.615	0.618	0.517	0.502	0.621	0.624
Block Group Median Age	0.406	0.392	0.406	0.397	0.411	0.401
Block Group Median Household Income	69,497	61,573	69,544	66,175	70,521	64,696
Block Group Median Year House Built	1974	1970	1972	1973	1,973	1,974
Block Group Median House Value	343,528	363,856	339,897	330,520	356,220	333,232
Block Group Homeowner	75.213	60.531	0.687	0.633	0.649	0.587
Block Group Drive to Work	0.886	0.791	0.833	0.821	0.814	0.815
Democratic Exposure	0.402	0.453	0.423	0.428	0.429	0.434
Republican Exposure	0.357	0.302	0.309	0.295	0.285	0.267

Table shows the average levels of individual and aggregate variables across linked and unlinked samples for the 2008-2012, 2012-2016, and 2016-2020 linked samples.

Table S2: Partisan Differences in Old and New Neighborhoods for Movers

Party	2012-2016				2016-2020			
	% Democrat		% Republican		% Democrat		% Republican	
	Origin	New	Origin	New	Origin	New	Origin	New
Democrat	0.489	0.479	0.237	0.248	0.496	0.486	0.218	0.229
Non-Partisan	0.414	0.404	0.292	0.302	0.420	0.411	0.275	0.286
Republican	0.353	0.346	0.365	0.374	0.355	0.346	0.353	0.366

Table reports Block Group % Democrat and % Republican of origin and destination neighborhoods for movers.

2016, and 2020 for 2016-2020). The Census Block Groups that movers leave are only about 1 percentage points different in Democratic or Republican makeup from the Block Groups they move to.

Next, I model the decision to move as a function of changes in the Census Block Group¹ the voter lived in at the start of the panel. This test whether voters are more likely to move if the number of out-partisans in their neighborhood increases. I estimate models of the

¹I use Block Groups in this analysis, rather than individual measures of exposure as in the main analysis, since it is more straightforward to see what the Block Group exposure of a voter would have been if they had not left the Block Group.

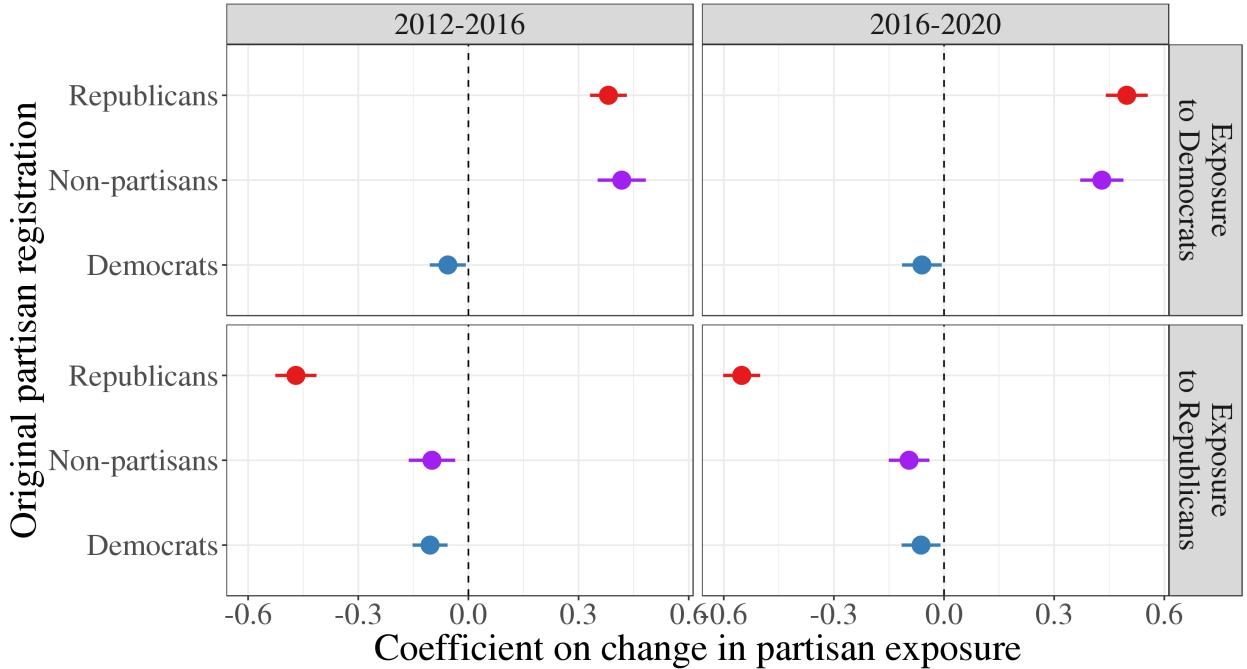


Figure S1: Effect of Census Block Group Changes in Partisan Exposure on Moving

form:

$$\text{Move}_i = \alpha_{M_i} + \theta(\text{DE}_{i,2} - \text{DE}_{i,1}) + \tau HHDem_i + \lambda HHReg_i + \beta \mathbf{X}_i + \gamma_z + \epsilon_{i,c}$$

Figure S1 reports the results. Democrats' likelihood of moving slightly decreases in response to Democratic exposure, while Republicans or Non-Partisans become more likely to move. Democrats, Non-partisans, and Republicans become less likely to move in response to Republican exposure. This effect is largest for Republicans, but the decrease in Democratic mobility in response to Republican exposure is larger than the estimated effect of Democratic exposure on Democratic mobility. Thus, there is some evidence of differential mobility by partisanship in response to partisan exposure, but the results are inconsistent. Combined with the information that voters do not replace old neighborhoods with substantially more homogeneous ones, there does not appear to be clear evidence pointing towards partisan-motivated residential sorting.

Table S3: Average Within-Strata Standard Deviation of Changes in Partisan Exposure

Exposure Type	Subset	Main Specification			Pre-Trend Specification	
		2008-2012	2012-2016	2016-2020	2012-2016	2016-2020
Democratic	Democrats	0.067	0.057	0.059	0.056	0.054
Republican	Democrats	0.056	0.043	0.041	0.045	0.035
Democratic	Republicans	0.061	0.052	0.054	0.051	0.051
Republican	Republicans	0.069	0.059	0.061	0.052	0.041
Democratic	Non-Partisans	0.064	0.055	0.060	0.054	0.055
Republican	Non-Partisans	0.061	0.050	0.052	0.047	0.040

3 Matched Strata Statistics

Here I present the summary statistics of the standard deviations of changes in Democratic and Republican exposure within strata. These strata are used in the main specification to narrow the scope of comparison in the estimation. For each linked sample (2008-2012, 2012-2016, and 2016-2020) and for each subset (year 1 Democrats, Republicans, or Non-Partisans) within that sample, I calculate the within-strata standard deviation in Democratic and Republican Exposure. I also do this for the pre-trend specification strata. I report the average within-strata standard deviations in Table S3, showing that there is variation within strata in changes in partisan exposure, making the within Zip Code and other characteristic comparison feasible.

4 Descriptive Statistics and Main Results Tables

Table S4 presents average levels of descriptive variables for voters by partisan stability or partisan switching across the linked samples. Table S5 shows these statistics by levels of changes in Democratic and Republican exposure. Table S6 presents the full regression tables from the current effect main specifications.

Table S4: Mean Levels of Variables by Party Switching

Years	Variable	Stable Democrat	Switch Democrat	Stable Republican	Switch Republican	Stable Non-Partisan	Switch Non-Partisan
2008-2012	Age	52	46	53	52	46	50
	Female	0.587	0.597	0.510	0.542	0.502	0.488
	White	0.655	0.618	0.882	0.832	0.769	0.772
	2008 Dem. Exp.	0.475	0.430	0.336	0.364	0.380	0.386
	2008 Rep. Exp.	0.296	0.321	0.428	0.404	0.348	0.371
	Δ Dem. Exp.	-0.007	0.013	-0.005	-0.016	-0.002	-0.008
	Δ Rep. Exp.	-0.020	-0.032	-0.027	-0.010	-0.025	-0.029
	Block Group White	0.589	0.564	0.714	0.689	0.669	0.655
	Block Group Med. HH Inc.	65, 726	69, 611	72, 505	67, 655	71, 580	70, 257
	Block Group Homeowner	0.724	0.726	0.782	0.770	0.755	0.754
2012-2016	Age	54	48	56	55	49	51
	Female	0.587	0.542	0.505	0.511	0.495	0.465
	White	0.578	0.597	0.857	0.823	0.708	0.721
	2012 Dem. Exp.	0.503	0.456	0.337	0.364	0.400	0.408
	2012 Rep. Exp.	0.243	0.271	0.395	0.370	0.304	0.319
	Δ Dem. Exp.	-0.004	0.015	-0.005	-0.015	-0.003	-0.008
	Δ Rep. Exp.	-0.014	-0.022	-0.014	0.001	-0.015	-0.018
	Block Group White	0.514	0.519	0.688	0.662	0.614	0.600
	Block Group Med. HH Inc.	65, 014	68, 677	72, 504	67, 789	70, 731	69, 196
	Block Group Homeowner	0.638	0.642	0.748	0.734	0.694	0.696
2016-2020	Age	52,000	48,000	56,000	53,000	47,000	49,000
	Female	0.592	0.567	0.505	0.498	0.498	0.499
	White	0.525	0.612	0.859	0.767	0.668	0.630
	2016 Dem. Exp.	0.516	0.443	0.327	0.368	0.404	0.427
	2016 Rep. Exp.	0.215	0.262	0.386	0.339	0.281	0.281
	Δ Dem. Exp.	0.001	0.021	0.001	-0.007	0.003	0.002
	Δ Rep. Exp.	-0.011	-0.022	-0.010	0.002	-0.011	-0.021
	Block Group White	0.478	0.526	0.680	0.613	0.582	0.522
	Block Group Med. HH Inc.	66, 993	78, 207	73, 618	70, 964	71, 213	76, 087
	Block Group Homeowner	0.590	0.637	0.727	0.700	0.656	0.655

Table S5: Mean Levels of Variables by Partisan Exposure

Sample	Variable	Δ Dem. Exp.			Δ Rep. Exp.		
		< -0.05	[−0.05, 0.05]	> 0.05	< -0.05	[−0.05, −0.05]	> 0.05
2008-2012	Age	50	52	49	50	51,000	50
	Female	0.543	0.537	0.545	0.541	0.540	0.540
	Democrat	0.436	0.397	0.408	0.363	0.441	0.380
	Republican	0.351	0.383	0.350	0.409	0.340	0.395
	White	0.774	0.771	0.723	0.768	0.742	0.830
	Block Group White	0.676	0.655	0.616	0.648	0.636	0.727
	Block Group Med. HH Inc.	63, 749	71, 935	69, 314	72, 936	68, 451	65, 709
	Block Group Homeowner	0.749	0.757	0.741	0.762	0.741	0.774
	Age	53	54	52	53	54	53
	Female	0.541	0.535	0.541	0.538	0.537	0.534
2012-2016	Democrat	0.452	0.426	0.450	0.383	0.460	0.363
	Republican	0.321	0.347	0.303	0.379	0.312	0.403
	White	0.714	0.708	0.662	0.722	0.679	0.812
	Block Group White	0.620	0.597	0.555	0.604	0.575	0.710
	Block Group Med. HH Inc.	60, 607	70, 958	69, 243	70, 349,000	68, 769	65, 698
	Block Group Homeowner	0.690	0.695	0.652	0.704	0.676	0.736
	Age	51	52	51	52	52	52
	Female	0.546	0.539	0.540	0.539	0.542	0.538
	Democrat	0.459	0.423	0.432	0.368	0.465	0.342
	Republican	0.276	0.318	0.283	0.357	0.275	0.381
2016-2020	White	0.618	0.670	0.678	0.723	0.625	0.776
	Block Group White	0.540	0.567	0.577	0.607	0.532	0.678
	Block Group Med. HH Inc.	59, 122	71, 172	78, 543	81, 030	68, 586	62, 931
	Block Group Homeowner	0.635	0.657	0.640	0.694	0.627	0.703

Table S6: Current Effects Main Specification Regression Tables

DV: Δ Dem. Reg.									
	2008-2012			2012-2016			2016-2020		
	'08 Reps	'08 NPs	'08 Dems	'12 Reps	'12 NPs	'12 Dems	'16 Reps	'16 NPs	'16 Dems
Δ Dem Exp	0.040 (0.004)	0.075 (0.008)	0.062 (0.005)	0.033 (0.003)	0.085 (0.009)	0.056 (0.004)	0.073 (0.006)	0.176 (0.011)	0.094 (0.005)
Δ HH Democrats	0.064 (0.004)	0.066 (0.005)	0.103 (0.009)	0.059 (0.005)	0.065 (0.009)	0.093 (0.014)	0.115 (0.006)	0.124 (0.012)	0.098 (0.011)
Δ HH Voters	-0.007 (0.001)	-0.014 (0.001)	-0.070 (0.006)	-0.006 (0.000)	-0.012 (0.002)	-0.063 (0.009)	-0.012 (0.001)	-0.023 (0.003)	-0.070 (0.006)
Δ BG White	-0.001 (0.001)	0.003 (0.004)	0.000 (0.002)	-0.001 (0.001)	-0.001 (0.002)	0.000 (0.001)	0.000 (0.001)	0.003 (0.003)	-0.001 (0.002)
Δ BG Age	0.000 (0.000)								
Δ BG Reg.	0.000 (0.001)	-0.002 (0.002)	-0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	-0.001 (0.001)	0.002 (0.001)	-0.001 (0.001)
Δ BG HH Income	0.000 (0.000)								
Δ BG Homeowner	-0.001 (0.001)	-0.002 (0.003)	0.000 (0.002)	0.000 (0.001)	0.002 (0.002)	0.000 (0.001)	0.000 (0.001)	0.001 (0.002)	0.000 (0.001)
Δ BG Med. Year Built	0.000 (0.000)								
Δ BG Drive Work	0.000 (0.002)	-0.004 (0.004)	-0.004 (0.002)	0.001 (0.001)	0.000 (0.003)	0.000 (0.001)	-0.002 (0.002)	-0.001 (0.004)	0.000 (0.001)
Δ BG Med. Home Value	0.000 (0.000)								
Δ Married				0.000 (0.000)	0.005 (0.001)	-0.010 (0.001)	-0.005 (0.001)	-0.006 (0.004)	0.000 (0.002)
Δ BG College				0.000 (0.001)	0.003 (0.002)	0.000 (0.001)	-0.001 (0.001)	-0.001 (0.003)	-0.001 (0.002)
Δ BG Unemployed				-0.001 (0.001)	-0.001 (0.003)	0.000 (0.002)	0.002 (0.002)	0.005 (0.004)	0.001 (0.002)
Num.Obs.	6,052,389	3,648,978	6,684,288	6,960,759	4,713,332	8,681,329	8205468	6,913,541	10,743,631
R ²	0.505	0.572	0.454	0.537	0.568	0.479	0.493	0.511	0.444
R ² Adj.	0.221	0.137	0.104	0.200	0.092	0.113	0.176	0.098	0.106

DV: Δ Rep. Reg.									
	2008-2012			2012-2016			2016-2020		
	'08 Reps	'08 NPs	'08 Dems	'12 Reps	'12 NPs	'12 Dems	'16 Reps	'16 NPs	'16 Dems
Δ Rep. Exp	0.046 (0.005)	0.070 (0.008)	0.066 (0.005)	0.034 (0.003)	0.085 (0.010)	0.068 (0.004)	0.070 (0.007)	0.113 (0.010)	0.100 (0.005)
Δ HH Republicans	0.065 (0.003)	0.120 (0.013)	0.151 (0.011)	0.057 (0.004)	0.147 (0.017)	0.166 (0.015)	0.099 (0.005)	0.140 (0.008)	0.173 (0.012)
Δ HH Voters	-0.042 (0.002)	-0.020 (0.003)	-0.015 (0.002)	-0.036 (0.003)	-0.022 (0.004)	-0.014 (0.004)	-0.065 (0.002)	-0.016 (0.003)	-0.012 (0.002)
Δ BG White	-0.001 (0.002)	0.000 (0.003)	-0.001 (0.001)	-0.001 (0.001)	0.003 (0.002)	0.000 (0.001)	-0.001 (0.002)	-0.002 (0.002)	0.001 (0.001)
Δ BG Age	0.000 (0.000)								
Δ BG Reg.	0.002 (0.001)	0.000 (0.002)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)	-0.001 (0.001)	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)
Δ BG Med. HH Income	0.000 (0.000)								
Δ BG Homeowner	0.001 (0.002)	0.003 (0.002)	0.000 (0.001)	-0.002 (0.001)	0.000 (0.002)	-0.001 (0.001)	0.001 (0.002)	0.000 (0.002)	0.001 (0.001)
Δ BG Med. Year Built	0.000 (0.000)								
Δ BG Drive Work	0.001 (0.003)	0.000 (0.003)	0.001 (0.001)	0.000 (0.001)	0.000 (0.002)	0.000 (0.001)	0.002 (0.002)	0.000 (0.002)	0.001 (0.001)
Δ BG Home Value	0.000 (0.000)								
Δ Married				-0.005 (0.001)	0.009 (0.001)	0.004 (0.000)	0.005 (0.003)	-0.001 (0.002)	-0.002 (0.001)
Δ BG College				0.002 (0.001)	-0.002 (0.002)	0.001 (0.001)	0.002 (0.002)	0.003 (0.002)	0.000 (0.001)
Δ BG Unemployed				0.002 (0.003)	-0.002 (0.003)	-0.001 (0.001)	-0.004 (0.003)	-0.003 (0.003)	-0.002 (0.002)
Num.Obs.	6,052,389	3,648,978	6,684,288	6,960,759	4,713,332	8,681,329	8205468	6913541	10,743,631
R ²	0.478	0.565	0.463	0.517	0.579	0.483	0.490	0.512	0.457
R ² Adj.	0.139	0.130	0.156	0.119	0.127	0.163	0.126	0.112	0.171

5 Simulation Analysis of Census Block Shocks

I conduct a simulation to test the sensitivity of the estimates to local shocks to partisanship, generating common Census Block-level shocks to Democratic partisanship. This analysis was run on voters in California in the 2012-2016 linked sample, and measures how shocks to Democratic partisanship influence the measured effect of Democratic exposure. In each run of the simulation, block-level shocks were generated by randomly drawing from a normal distribution $\epsilon_b \sim N(0, \sigma^2)$. I also drew an individual random effect for each voter from the standard normal distribution ($\epsilon_i \sim N(0, 1)$). An intercept α was also calculated based on average levels of 2016 Democratic partisanship within each 2012 partisanship subset.² Democratic partisanship in 2016 was then generated based on an indicator variable, $\mathbf{1}(\alpha + \epsilon_i + \epsilon_b \geq 0)$.

Ten runs of the simulation were run for values of σ^2 : 0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0. After simulating 2016 Democratic partisanship, I re-calculate the neighbor and household partisan exposure measures and re-estimate the main specifications using these simulated exposure and simulated outcome. Figure S2 presents the average estimates from the simulation run. In order to benchmark plausible levels of Census Block-level shocks to party switching, I estimate the variance of average party switching across Blocks, and compare that to the average within-Block variance, from the formula $V[Y] = E[V[Y|B]] + V[E[Y|B]]$, where $Y = D_{t+1} - D_t$ and B is the Census Block. Common shocks to voters in the same Census Block correspond to the $V[E[Y|B]]$. Thus, the ratio of $\frac{V[E[Y|B]]}{E[V[Y|B]] + V[E[Y|B]]}$ represents a useful benchmark for comparing the likely variance of ϵ_b in relation to the variance of ϵ_i and the total variance of party switching ($\sigma_y^2 = \sigma_{\epsilon_i}^2 + \sigma_{\epsilon_b}^2$) – i.e. what proportion

²In order to ensure that the total amount of simulated switching in each draw was similar to the total amount of switching in the data, α was adjusted down at higher values of σ^2 , since otherwise the uneven distribution of voters across Census Blocks would cause higher values of σ^2 to result in too high levels of party switching.

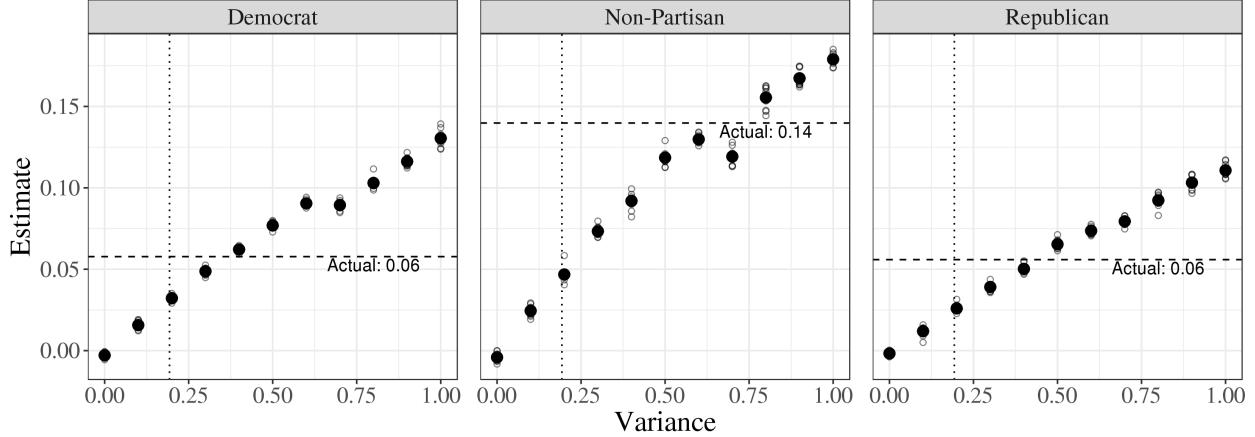


Figure S2: Estimate effect by variance of Census Block-level shock

Figure plots the estimates of the effect of Democratic Exposure on Democratic partisanship for the 2012-2016 linked California sample. The x-axis is the variance of the Block-level shock. Horizontal dashed lines represent the actual results from the current results main specification from the 2012-2016 linked California sample. The vertical dotted line represents the benchmark of Block-level shock variance.

of the variance in party switching could plausibly be explained by Block-level shocks.³ In the data, $\frac{V[E[Y|B]]}{E[V[Y|B]]+V[E[Y|B]]} \approx 0.162$. This ratio applied to the simulation ($\frac{\sigma_{\epsilon_b}^2}{\sigma_{\epsilon_i}^2 + \sigma_{\epsilon_b}^2}$) corresponds to a σ^2 value of 0.193.

Figure S2 plots a horizontal dotted line at this benchmark. At this benchmark, Block-level shocks generate effect estimates much smaller than the observed effects. For Block-level shocks to generate estimates as large as those from the main effects the variance would have to be as large as 0.4 to 0.7, depending on starting partisanship subset, meaning the Block-level shocks would have to explain from 28%-41% or more of the variance in party-switching, significantly larger than the likely benchmark from the block-level variation in the data.

³This benchmarking assumes that the Block-level shock is unrelated to the treatment effect from neighbor partisan exposure. But neighbor influence could itself increase the variance across Blocks, so it is possible that the true benchmark is lower.

6 Additional Panel Results

6.1 Results by District Electoral Competitiveness

If campaign activity is driving the effects then results should be larger in competitive electoral districts, and potentially non-existent in uncompetitive ones. To test this, I subset the 2012-2016 and 2016-2020 linked samples by House district, and re-estimate the main specification within these district subsets. I then classify each district as competitive if across the time period the same party represented the district, and the minimum margin of victory never fell below 20 percentage points. Figure S3 shows the distribution of these district-level estimates across districts, weighting by sample size in each district, plotting separate histograms for competitive and uncompetitive districts. Not only do the results persist in uncompetitive districts but the distributions for competitive and uncompetitive districts almost entirely overlap, indicating that electoral competition is not determinant of effect size.

6.2 Main Results Across Other Time Periods and by State

Here I present current results across alternative time periods. I created linked samples connecting 2008 to 2012, 2014, 2016, 2018 and 2020, linking 2012 to 2014, 2016, 2018 and 2020, and connecting 2016, to 2017, 2018, 2019 and 2020. I estimated the main specification effects for all of these years. Next, I present the main current results broken out by state. The patterns observed in the pooled samples are consistent across states, with all states exhibiting consistent direction of the effects.

6.3 Alternative Estimation

Next, I present the results under alternative definitions of treatment and alternative specifications. Excepted where noted otherwise, each alternative estimation below described below is identical to the main current results specification in the manuscript. I present these results

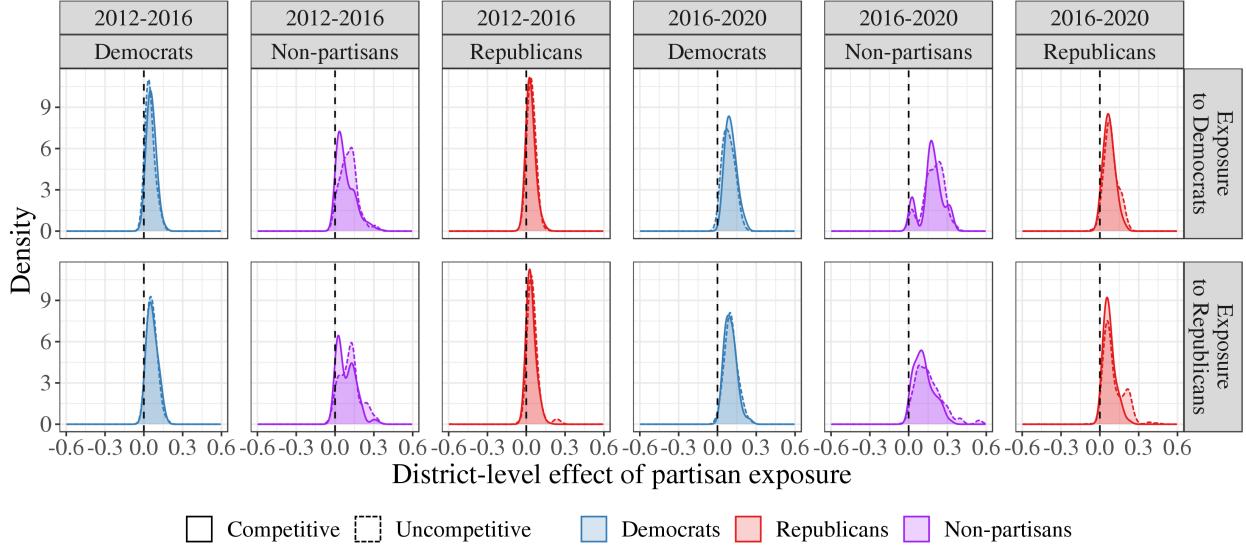


Figure S3: District Electoral Competition is not Determinant of Effect Size

Figure plots the distribution of current effects across U.S. House districts for the 2012-2016 and 2016-2020 linked samples. Distributions are weighted by voters in the sample in each district. Distributions are plotted separately for year 1 Democrats (blue), Republicans (red) and Non-Partisans (purple) for each linked sample. Effects of Democratic exposure on Democratic partisanship are in the top row, and effects of Republican exposure on Republican partisanship are in the bottom row. Overlaid histograms plot effects for competitive (solid lines) and uncompetitive (dashed lines).

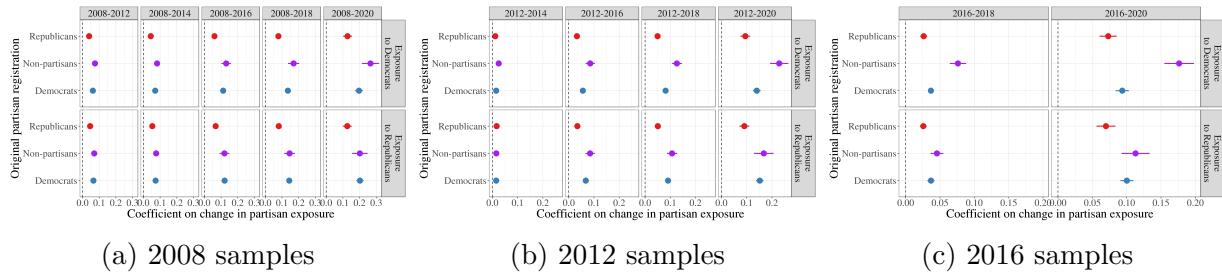


Figure S4: Effect of Partisan Exposure Across Multiple Time Periods

Figure plots the effect of Democratic and Republican exposure across alternative linked samples. Results are plotted separately based on partisanship in the first year of each linked sample.

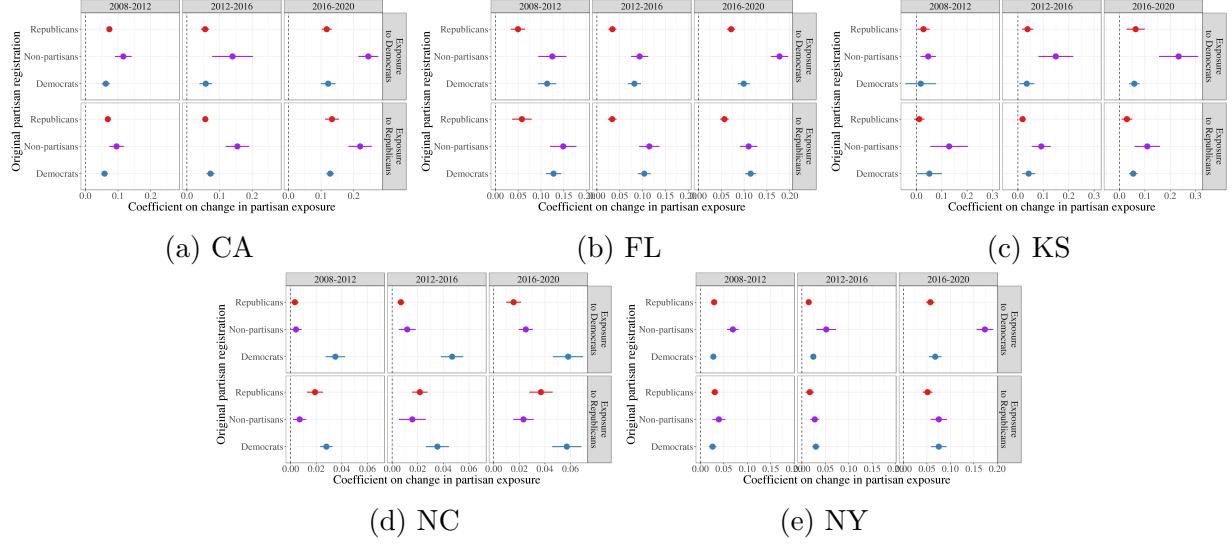


Figure S5: Effect of Partisan Exposure by State

Figure plots the current effect of Democratic and Republican exposure by state. Results are plotted separately based on partisanship in the first year of each linked sample.

for the 2012-2016 and 2016-2020 linked samples. These include:

1. Aspatial exposure, the proportion of Democrats or Republicans in each voter's 1,000 nearest neighbors, with no distance weighting.
2. Spatial Democratic ratio of Republicans and Democrats, the spatially weighted proportion of Democrats out of the all the Democrats and Republicans in a voter's 1,000 nearest neighbors (dropping non-partisans from the denominator).
3. Spatial exposure including neighbors living in the same household as the voter.
4. Spatial exposure within each voter's 100 and 500 nearest neighbors.
5. Spatial exposure within 1 mile of each voter.
6. Change in number of new Democratic or Republican neighbors (not counting neighbors who switch).
7. Census Block and Census Block Group proportions of Democrats and Republicans out of total registered voters in the Census geography.
8. Main specification but using posterior probability of being White as the race variable rather than categorical imputations.⁴

⁴Target Smart provides posteriors only for the 2020 data, so these results are only estimated for the 2016-2020 linked sample.

Table S7: Alternative Treatment Estimates

Treatment	Current Results: 2012-2016					
	DV: Democratic Registration			DV: Republican Registration		
	Democrats	Republicans	Non-Partisans	Democrats	Republicans	Non-Partisans
Main	0.056 (0.004)	0.033 (0.003)	0.085 (0.009)	0.068 (0.004)	0.034 (0.003)	0.085 (0.01)
Pre-trend	0.127 (0.01)	0.127 (0.01)	0.119 (0.013)	0.143 (0.009)	0.044 (0.005)	0.138 (0.009)
Aspatial	0.021 (0.005)	0.017 (0.006)	0.021 (0.005)	0.019 (0.006)	0.009 (0.006)	0.027 (0.01)
Dem. Ratio	0.063 (0.004)	0.025 (0.003)	0.053 (0.005)	-0.053 (0.003)	-0.035 (0.004)	-0.061 (0.007)
Include Same Household	0.165 (0.013)	0.043 (0.004)	0.106 (0.01)	0.158 (0.009)	0.063 (0.003)	0.128 (0.013)
100 Neighbors	0.034 (0.003)	0.02 (0.002)	0.054 (0.006)	0.043 (0.003)	0.022 (0.002)	0.054 (0.007)
500 Neighbors	0.049 (0.004)	0.029 (0.003)	0.075 (0.008)	0.059 (0.003)	0.029 (0.003)	0.074 (0.008)
Mile Radius	0.054 (0.004)	0.029 (0.003)	0.08 (0.009)	0.062 (0.004)	0.03 (0.003)	0.078 (0.009)
New Neighbors	0.003 (0.004)	0.012 (0.006)	0.04 (0.012)	0.015 (0.006)	0.007 (0.006)	0.029 (0.009)
Census Block	0.003 (0.002)	0.004 (0.002)	0.011 (0.003)	0.005 (0.002)	-0.004 (0.001)	0.003 (0.003)
Census Block Group	0.005 (0.006)	0.011 (0.007)	0.041 (0.016)	0.007 (0.005)	-0.012 (0.007)	0.005 (0.009)

Treatment	Current Results: 2016-2020					
	DV: Democratic Registration			DV: Republican Registration		
	Democrats	Republicans	Non-Partisans	Democrats	Republicans	Non-Partisans
Main	0.094 (0.005)	0.073 (0.006)	0.176 (0.011)	0.1 (0.005)	0.07 (0.007)	0.113 (0.01)
Pre-trend	0.143 (0.01)	0.143 (0.01)	0.246 (0.015)	0.171 (0.006)	0.098 (0.011)	0.165 (0.016)
Aspatial	0.05 (0.007)	0.035 (0.006)	0.05 (0.007)	0.04 (0.005)	0.035 (0.007)	0.037 (0.008)
Dem. Ratio	0.102 (0.005)	0.054 (0.005)	0.112 (0.008)	-0.079 (0.004)	-0.076 (0.007)	-0.087 (0.009)
Same Households	0.187 (0.01)	0.098 (0.008)	0.218 (0.013)	0.182 (0.009)	0.072 (0.006)	0.121 (0.009)
100 Neighbors	0.059 (0.003)	0.045 (0.004)	0.113 (0.006)	0.064 (0.003)	0.047 (0.005)	0.077 (0.007)
500 Neighbors	0.081 (0.004)	0.063 (0.005)	0.155 (0.009)	0.088 (0.004)	0.062 (0.006)	0.101 (0.01)
Mile Radius	0.09 (0.005)	0.065 (0.006)	0.167 (0.011)	0.093 (0.005)	0.061 (0.007)	0.102 (0.01)
New Neighbors	0.005 (0.004)	0.01 (0.005)	0.028 (0.014)	-0.002 (0.006)	0.009 (0.006)	0.024 (0.011)
Census Block	0.018 (0.003)	0.007 (0.002)	0.024 (0.005)	0.018 (0.002)	0.002 (0.002)	0.009 (0.003)
Census Block Group	0.027 (0.01)	0.026 (0.009)	0.063 (0.017)	0.033 (0.006)	0.022 (0.009)	0.01 (0.011)
Race Posteriors	0.101 (0.005)	0.083 (0.008)	0.183 (0.012)	0.106 (0.005)	0.081 (0.01)	0.122 (0.013)

7 Heterogeneous results: age, housing type, and neighbor race

Registration effects should be strongest for voters most likely to be connected to their community, interact with neighbors, and be influenced by the people they live near. I examine several such sources of heterogeneity: voter age, housing, and racial similarity with neighbors. Survey data demonstrate that community trust and interactions with neighbors are increasing with age, possibly due to higher levels of homeownership, longer tenure, less cross-pressure from competing social networks, or different patterns of social interaction (Parker et al., 2018). Consequently, while older voters may exhibit stabler partisan affiliations overall (Hobbs, 2019), they may be more influenced to adopt neighbors' partisanship.

The built environment may also structure how voters interact with and are influenced by those they live around. Hopkins and Williamson (2010), for example, demonstrate the influence of design features on political participation in rural, suburban, and urban communities. I focus on the different effects of local influence for voters living in single-family housing versus those living in high-rise apartments. Voters living in single-family communities may more readily observe their neighbors and interact with them compared to voters living in high-rises, since it is easier to see the neighbor across the street, and walk over to talk to them, than the neighbor living several floors up in the same building. Living in high-density cities where neighbors are vertically integrated has been shown to reduce local ties (Fischer, 1982), and urban residents report lower levels of trust in their neighbors than rural or suburban residents (Parker et al., 2018). Some of these differences may be a function of other demographics (i.e. homeownership, age, income) that, in combination with the direct influence of housing, strengthen the hypothesis that voters will be more influenced by their neighbors in single-family communities than in high-rise housing.

Lastly, voters may be most influenced by neighbors who are similar to them along other

characteristics, particularly race. Voters rely on racial categorization and identification when choosing their political party (Mangum, 2013), and local context can strengthen both racial identity and its influence on political attitudes (Gay, 2004). Other research argues that race is the most powerful determinant of divisions in local politics (Hajnal and Trounstein, 2014), and a primary source of growing partisan polarization at the national level (Abramowitz and McCoy, 2019). Racial homogeneity is a powerful predictor of community cohesiveness and group political attitudes (Hutchings and Valentino, 2004; Putnam, 2007), and voters may be more likely to interact with same race neighbors, or may perceive a sense of shared identity that makes them more responsive to partisan cues. Therefore, a voter that sees increasing partisan exposure may be most influenced by these changes if the change comes from same-race neighbors. Exposure to racial out-groups may also produce backlash effects that supplant the influence of partisan exposure. For example, exposure to Hispanics has been shown to increase White Republican partisanship (Hajnal and Rivera, 2014).

Here, I present results by 1) voter age 2) whether voters live in single-family homes or apartments, and 3) whether increased partisan exposure comes from same-race neighbors.

I subset the data by age and housing type and estimate the main current effect specifications for the 2012-2016 and 2016-2020 linked samples within subsets. Figure S7 presents the results for the 2016-2020 sample by age and housing type subsets, plotting for each age group (18-34, 35-49, 50-64, and 65 and over) the effect for voters living in single-family homes and those living in apartments. The results are larger for voters living in single-family homes, while the effects for voters in apartments are muted. The effects are generally increasing by age within the single-family home group, but do not vary substantially by age for voters in apartments.

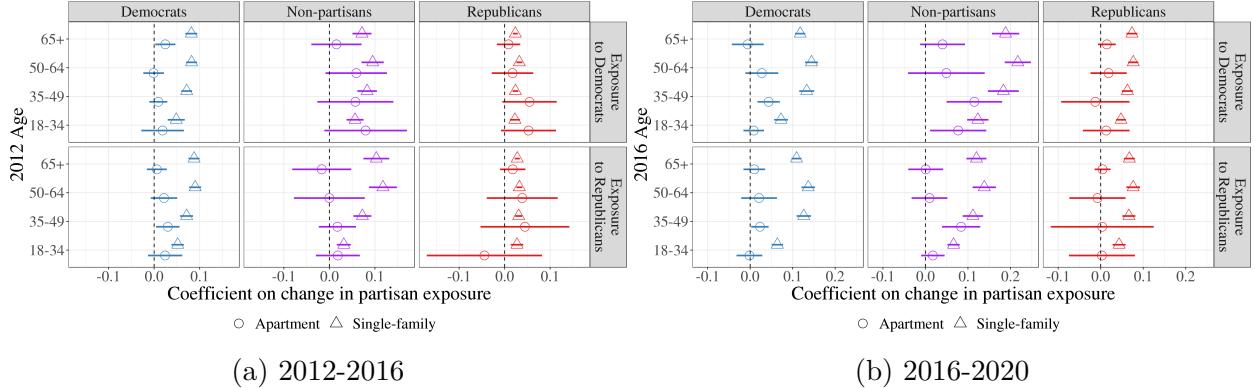


Figure S7: Effect of Partisan Exposure by Age and Housing Type – White Voters

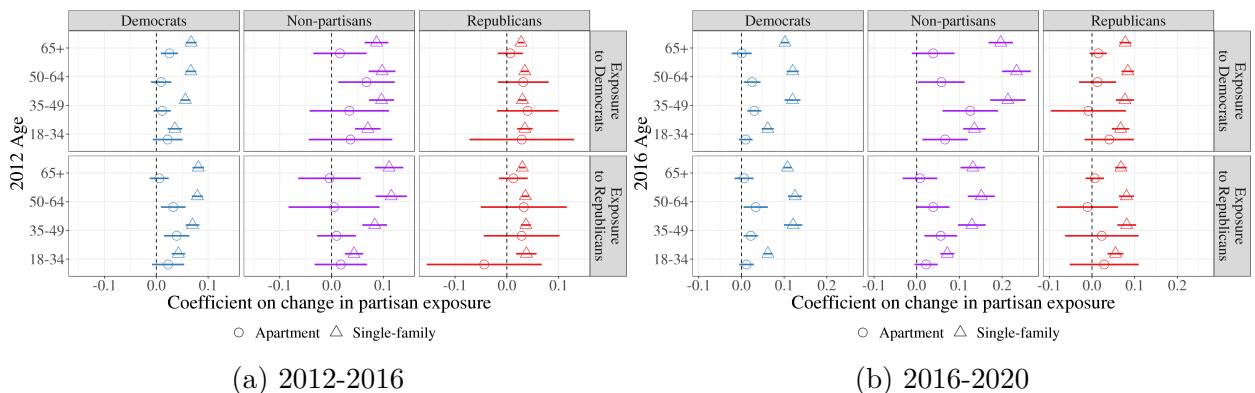


Figure S6: Effect of Partisan Exposure by Age and Housing Type

Figure plots effect of a one unit (100 percentage point) increase in Democratic exposure on Democratic partisanship (top row) and effect of a similar increase in Republican exposure on Republican partisanship (bottom row) for the 2012-2016 and 2016-2020 linked sample, from the current effect specifications. Results are plotted separately by subsets of age (Y-axis) and whether the voter lives in a single-family home (triangles) or an apartment (circles). Results are plotted separately for subsets based on partisanship in the first year of the linked sample. Bars plot 95% confidence intervals.

Next I show the same results for the 2012-2016 linked sample, as well as the 2012-2016 and 2016-2020 results subset to just White voters. Housing type is not measured in the earlier state voterfiles, so I do not estimate 2008-2012 results. Subsetting to Whites shows that the patterns observed in the age and housing subsets are not a result of unequal distributions of race across these subsets.

To test whether voters are most influenced by neighbors of the same race as them, I estimate four separate interaction models. The first operationalizes partisan exposure

as exposure to White Democrats or White Republicans out of each voter's 1,000 nearest neighbors and interacts an indicator variable for whether a voter is White with change in partisan exposure, and all other covariates in the model. If same-race neighbors are most influential, then effect for ingroup voters should be larger for outgroup voters. The other three specifications are similar in structure, but with partisan exposure operationalized by exposure to Black, Asian, and Hispanic neighbors, respectively, with the corresponding interaction term for that race.⁵

Figure S8 plots the effects from these models. Exposure to White partisans generally has the largest effects for White voters, compared to non-White voters. The results for Asians (and exposure to Asian partisans) and Hispanics (and exposure to Hispanic partisans) mirror those for Whites, but the effect of Black partisan exposure for Blacks is generally statistically indistinguishable from that for Non-Blacks.

⁵These models are of the form:

$$D_{i,2} - D_{i,1} = \alpha_M + \theta(ZDE_{i,2} - ZDE_{i,1}) + \beta(\mathbf{X}_{i,2} - \mathbf{X}_{i,1}) \\ + \tau Z_i * (ZDE_{i,2} - ZDE_{i,1}) + \eta Z_i * (\mathbf{X}_{i,2} - \mathbf{X}_{i,1}) + \epsilon_i$$

where $ZDE_{i,t}$ is the spatially weighted proportion of Democratic neighbors who are race z among voter i 's 1,000 nearest neighbors, and Z_i is an indicator variable for if voter i is race z .

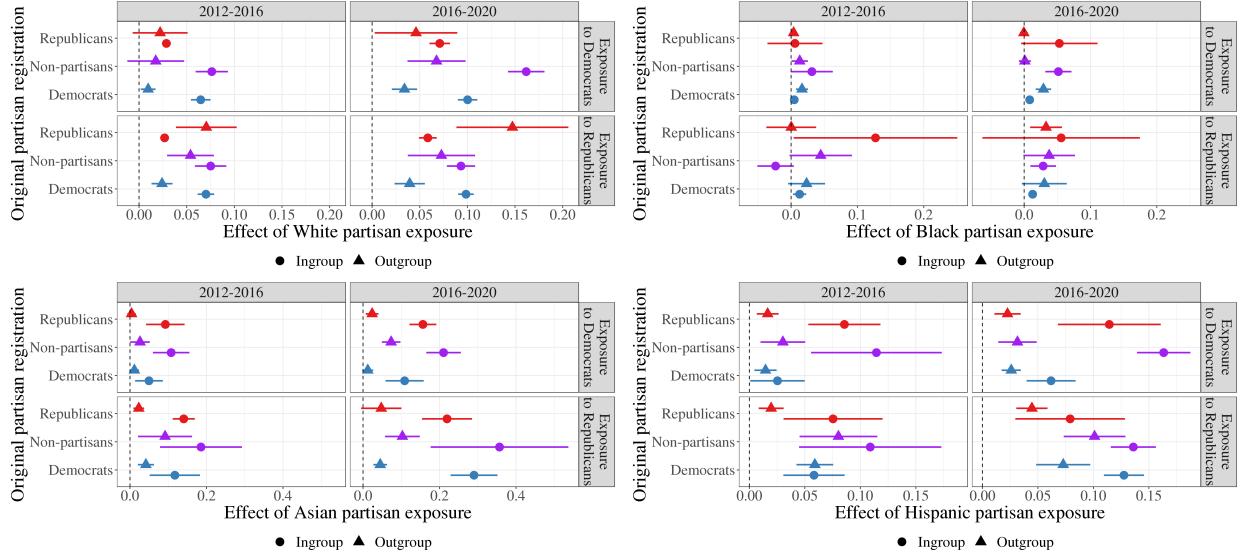


Figure S8: Voters are Most Influenced by Same-Race Neighbors

Top left figure plots effect of exposure to White Democrats or White Republicans, from the current effect specifications. Points are plotted separately for in-group and out-group voters. The other figures plot the same coefficients, but from models interacting whether a voter is Asian, Black, or Hispanic (bottom left, top right, bottom right) and partisan exposure from neighbors of that race. Bars plot 95% confidence intervals.

8 Survey

The survey was in the field from June 29, 2020 to August 28, 2020, administered from email lists linked to voter data. The survey was taken online through Qualtrics. Surveys were delivered by e-mail via Qualtrics, and e-mails were drawn from e-mail lists connected to voterfile data by Target Smart. The survey was nationwide, with voters randomly drawn from the email list, and a large oversample was taken in the 5 states from the panel analysis. Sampled voters were sent an initial e-mail inviting them to be in the survey, and follow-up reminder emails were sent each week for the following 3 weeks. In total, 4,826,036 voters were contacted, with 76,576 total responses for a response rate of 1.59%. Of these responses, 92.3% verified that they were the person listed on the voterfile. For the analysis in this paper I limit the sample to voters who were also in the panel analysis (and thus living in California, Florida, Kansas, New York, or North Carolina), and who verified their identity,

Table S8: Survey Descriptive Statistics and Population Comparisons

Status	Registered Population	Sample	Sample Weighted
Democrat	0.424	0.412	0.379
Married	0.370	0.537	0.417
Republican	0.271	0.366	0.280
White	0.641	0.856	0.631
Black	0.103	0.051	0.095
Hispanic	0.165	0.052	0.177
Asian	0.050	0.018	0.055
Female	0.511	0.513	0.509
Age	50.097	62.097	54.131
Democratic Exposure	0.433	0.380	0.420
Republican Exposure	0.264	0.317	0.276
Block Group White	0.543	0.670	0.566
Block Group Registered	0.481	0.626	0.588
Block Group Median Age	41.294	43.759	41.271
Block Group Median Household Income	78,957	84,541	80,408
Block Group Homeowner	0.629	0.712	0.657
Block Group Median Year House Built	1974	1978	1973
Block Group Drive to Work	0.810	0.847	0.828
Block Group Median House Value	421,767	404,466	404,969
Vote 2016 General	0.662	0.951	0.618
Vote 2018 General	0.576	0.912	0.520

leaving a sample of 24,623 voters.

In the analysis, I use survey weights designed to make the survey sample look more like the registered population of the states in the sample. Survey weights were constructed by estimating a logistic regression, fit to all the voters in the five states, modeling being in the sample as a function of voter age, gender, race, party, state, 2016 turnout, and 2018 turnout:

$\text{Survey}_i = \alpha + \text{Age}_i + \text{Race}_i + \text{Party}_i + \text{State}_i + \text{Vote 2016}_i + \text{Vote 2018}_i + \text{Gender}_i + \epsilon_i$

From this model I calculate the probability of being in the sample and invert the probability ($1/p$) to get the survey weight for each voter. Table S8 shows the mean levels of variables for the survey sample compared to the registered voting population of the 5 states from the panel. The table also shows the average levels of the variables when accounting for survey weights, which generally move the average levels of variables for the survey sample towards the averages of the broader population.

Table S9: Full survey results – Perception of neighbors' party, contact with partisan neighbors, and comfort with neighbors' knowing partisanship

	Neighbors: Democrats or Republicans				Contact: Democrats		Contact: Republicans		Comfort: Neighbors know Party			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dem Exp	1.24 (0.14)	1.24 (0.10)			0.76 (0.34)	0.70 (0.18)			-0.10 (0.23)	-0.12 (0.13)		
HH Dem	-0.08 (0.03)	-0.05 (0.02)			0.10 (0.06)	0.04 (0.04)			-0.01 (0.05)	-0.05 (0.04)		
Dem Exp * Dem									0.62 (0.27)	0.55 (0.18)		
Rep Exp			-1.20 (0.13)	-1.28 (0.12)			1.59 (0.29)	1.67 (0.18)		-0.34 (0.23)	-0.48 (0.16)	
HH Rep			0.02 (0.03)	0.03 (0.02)			0.12 (0.05)	0.10 (0.03)		0.13 (0.07)	0.09 (0.04)	
Rep Exp * Rep									0.93 (0.31)	1.11 (0.19)		
BG White	-0.64 (0.14)	-0.47 (0.11)	-0.66 (0.15)	-0.48 (0.11)	0.03 (0.32)	-0.15 (0.20)	0.46 (0.27)	0.26 (0.18)	0.19 (0.21)	0.16 (0.13)	-0.04 (0.19)	0.10 (0.12)
BG Age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.01 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
BG Registered	0.29 (0.14)	0.19 (0.09)	0.33 (0.14)	0.20 (0.09)	-0.01 (0.26)	0.04 (0.17)	-0.07 (0.24)	-0.02 (0.16)	0.11 (0.21)	0.03 (0.13)	0.20 (0.18)	0.07 (0.12)
BG Med. HH Income	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
BG College	0.51 (0.15)	0.41 (0.12)	0.55 (0.15)	0.43 (0.12)	0.64 (0.36)	0.78 (0.24)	0.00 (0.29)	0.18 (0.21)	0.17 (0.26)	-0.04 (0.17)	-0.04 (0.26)	0.07 (0.17)
BG Homeowner	0.11 (0.12)	-0.02 (0.09)	0.13 (0.12)	0.01 (0.08)	-0.11 (0.22)	-0.23 (0.14)	-0.08 (0.19)	0.02 (0.15)	0.01 (0.20)	0.01 (0.14)	-0.16 (0.16)	-0.14 (0.13)
BG Drive Work	0.18 (0.19)	0.12 (0.15)	0.20 (0.19)	0.13 (0.16)	-0.70 (0.34)	-0.31 (0.25)	-0.28 (0.28)	-0.16 (0.22)	-0.13 (0.29)	-0.21 (0.21)	0.18 (0.24)	-0.10 (0.18)
BG Unemployed	0.53 (0.36)	0.34 (0.25)	0.56 (0.36)	0.39 (0.25)	0.10 (0.72)	-0.07 (0.43)	0.03 (0.56)	-0.19 (0.43)	1.48 (0.54)	0.62 (0.33)	1.11 (0.52)	0.24 (0.34)
BG Med. House Value	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Asian	-0.02 (0.11)	-0.01 (0.10)	-0.05 (0.11)	-0.02 (0.10)	-0.69 (0.22)	-0.83 (0.15)	-0.73 (0.15)	-0.55 (0.12)	-0.23 (0.18)	-0.14 (0.13)	-0.44 (0.18)	-0.21 (0.15)
Black	0.07 (0.09)	0.08 (0.06)	0.09 (0.09)	0.11 (0.09)	0.24 (0.06)	0.14 (0.15)	-0.33 (0.13)	-0.35 (0.13)	0.04 (0.11)	0.09 (0.19)	0.27 (0.15)	0.40 (0.09)
Hispanic	-0.06 (0.07)	-0.11 (0.06)	-0.08 (0.07)	-0.12 (0.06)	-0.14 (0.16)	-0.14 (0.10)	-0.11 (0.15)	-0.09 (0.09)	-0.09 (0.15)	-0.09 (0.10)	-0.07 (0.14)	0.02 (0.08)
White	-0.08 (0.06)	-0.09 (0.05)	-0.09 (0.06)	-0.09 (0.05)	-0.20 (0.11)	-0.25 (0.08)	-0.11 (0.10)	-0.04 (0.07)	-0.01 (0.13)	0.07 (0.07)	0.03 (0.12)	0.13 (0.08)
Age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.01 (0.00)	-0.01 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Male	0.01 (0.03)	0.00 (0.02)	0.01 (0.03)	0.00 (0.02)	0.06 (0.06)	0.01 (0.04)	0.02 (0.05)	0.03 (0.04)	0.22 (0.04)	0.18 (0.03)	0.05 (0.04)	0.05 (0.03)
Liberalism	0.00 (0.02)	0.00 (0.01)	0.00 (0.02)	0.00 (0.01)	0.04 (0.03)	0.05 (0.02)	-0.11 (0.03)	-0.14 (0.02)	-0.02 (0.02)	-0.04 (0.02)	0.07 (0.02)	0.07 (0.01)
Married	0.02 (0.03)	0.02 (0.02)	0.02 (0.03)	0.02 (0.02)	0.14 (0.09)	0.13 (0.05)	0.23 (0.06)	0.17 (0.05)	0.03 (0.05)	0.01 (0.04)	0.06 (0.05)	0.02 (0.03)
College	-0.03 (0.03)	-0.01 (0.02)	-0.03 (0.03)	-0.01 (0.02)	0.25 (0.06)	0.25 (0.04)	0.10 (0.06)	0.11 (0.05)	-0.04 (0.05)	-0.06 (0.04)	0.00 (0.03)	-0.05 (0.03)
Years Residence	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Party7	0.03 (0.01)	0.01 (0.01)	0.03 (0.01)	0.01 (0.01)	0.03 (0.02)	0.04 (0.01)	-0.11 (0.02)	-0.08 (0.01)	-0.03 (0.02)	0.04 (0.01)	0.02 (0.01)	0.02 (0.01)
Num.Obs.	19,123	19,123	19,123	19,123	18,144	18,144	18,159	18,159	14,365	14,365	14,365	14,365
Weights	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
R ²	0.600	0.507	0.599	0.507	0.407	0.268	0.469	0.323	0.440	0.261	0.444	0.266
R ² Adj.	0.511	0.396	0.509	0.396	0.267	0.096	0.344	0.164	0.274	0.042	0.279	0.048

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