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RESEARCH

HOW DID THE VOTER'S CHOICE ACT AFFECT TURNOUT IN 2018?

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Abstract. In its first year of implementation, did the Voter's Choice Act (VCA) change turnout patterns in the counties – Madera, Napa, Nevada, Sacramento, and San Mateo – that adopted this new reform? How did this reform affect the turnout of groups of Californians – young voters, Latinos, and Asian Americans– who have often participated in elections at lower rates than others? We address these questions by gathering data on turnout rates, voter demographics, and electoral competition from 2002 through the primary and general elections of 2018, comparing trends in the adopting counties to the rest of the state.

Looking at the turnout of all eligible voters, the VCA appeared to bring an increase in turnout of approximately three percentage points in the 2018 general election as well as a boost of about three and a half percentage points in the primary. The five counties that implemented the VCA saw their turnout rise more steeply than the participation increase seen in other counties from 2014 to 2018, with this straightforward comparison yielding similar findings to a statistical analysis that considers historical trends since 1990 as well as the level of electoral competition in each county. We also looked at the relative turnout of young voters, Latinos, and Asian Americans, but found little evidence that the reform had improved or worsened the representativeness of the voting electorate. However, firm conclusions about these subgroups are more difficult because their turnout rates vary more widely from county to county than for voters overall.

I. Background on the Voter's Choice Act

In 2016, Governor Jerry Brown signed Senate Bill 450, which allows California counties to choose to adopt a new voting model.¹ Known as the Voter's Choice Act (VCA), this law directs participating counties to mail every registered voter a vote- by-mail ballot which the voter can mail in, drop off at a secure ballot box, or drop off at a newly established Vote Center. The VCA also provided more services to voters using the new Vote Centers. At a Vote Center, voters can now cast their ballots in person, drop off their VBM ballots, register to vote as late as election day through "conditional" voter registration, receive replacement ballots, use an accessible voting machine, and receive language assistance. Voters may vote at any Vote Center in their county up to ten days before Election Day.



The new voting system is designed to make the voting process more convenient for voters in California, while at the same time potentially increasing voter turnout and reducing the cost of conducting elections. The VCA has been implemented in phases, and mostly at each county's discretion. Of California's 58 counties, only 14 were eligible to opt into the VCA system during the 2018 election. Five did: Madera, Napa, Nevada, Sacramento and San Mateo Counties. All other California counties were eligible to adopt the model in 2020, and ten more chose to do so in the 2020 primary. All counties are mailing every voter a vote-by-mail ballot this fall in response to the threat of COVID-19, but this policy shift was unrelated to the VCA. In fact, most counties will not be using Vote Centers, but consolidated precincts that still serve particular communities within the county. Thus, full statewide VCA implementation is still an open policy question.

II. Research Approach

To analyze the impact of the VCA on participation rates, we compare trends in voter turnout in the adopting counties to trends in the rest of California. We track whether their voter participation rates moved in parallel to the statewide pattern in 2018 or whether they diverged. This allows us to determine what level of turnout we might have expected in these counties if they had not implemented the new set of voting options in 2018. We also gather data on the average competitiveness of legislative contests in each county in order to account for the potential impact of tightly contested races on turnout. Our approach allows us to address three obstacles to evaluating the impact of the VCA on voter participation:

Long-term turnout patterns. On average, the counties that adopted the VCA in 2018 have had higher turnout rates than the rest of the state. Their average turnout was also higher in the 2014 midterm election, which was held before the passage of the VCA. We would expect them to maintain these higher levels of turnout even if they did not implement the VCA. Consequently, an analysis that simply compares 2018 turnout in the VCA-adopting counties to turnout in counties without the VCA would not reveal its impact; their turnout should be higher on average *after* the VCA because they consistently had higher participation rates even before the reform.

Higher 2018 turnout everywhere. The 2018 primary and general elections saw historically high levels of voter engagement, especially compared with the historically low turnout in 2014. With turnout of 50.5% of eligible voters, the November 2018 election had the highest participation of any midterm election since 1982. With turnout of 30.9% of eligible voters, the November 2014 election had the lowest participation rate of any midterm at least since 1910. Regardless of the voting system, we'd expect every county in California to see a rise in turnout from 2014 to 2018. Simply comparing participation in those two elections for a county that adopted the VCA does not reveal the reform's impact. Instead, we need to compare a county's rise in participation to the overall state trend.

Other campaign and election dynamics. In any given election, especially competitive races held in the legislative and congressional districts contested in a county can lead to a spike in turnout there. Also, counties that tend to vote for Democratic Party candidates saw especially strong spikes in turnout in the 2018 election. With only one year of experience to evaluate the VCA, it is important to account for such spikes, isolating the impact of the voting reform from patterns in electoral competition and from



partisan turnout trends. We measure and use statistical models to control for the competitiveness of Assembly, State Senate, and congressional races in each county, in order to rule out the possibility that any differential trends we observe are a function of where the state's most contested districts were located. We also use statistical models that control for partisan voting trends across counties, measured by their 2016 presidential vote, in order to rule out the possibility that a turnout surge in Democratic-leaning counties accounts for any of the patterns we observe.

II. How Did the VCA Affect Turnout of All Eligible Voters?

Turnout in the November 2018 General Election

We begin our analysis of the initial impact of the VCA on voter participation by looking at turnout trends in the five adopting counties and comparing them with the patterns in other counties.² This approach accounts for both the consistently high turnout rates achieved by these counties over the past two decades, as well as for the sharp increase in voter participation in 2018.

We focus on the turnout of eligible voters for two reasons. First, this provides the most complete measure of the effect of the reforms on the entire potential electorate. Second, it better captures the two possible impacts of the VCA: making it more (or potentially less) convenient to cast a ballot for those who are already registered, and making conditional registration a more (or less) streamlined process for those who are not. Analyzing the registered population instead of the eligible population as the baseline would capture the first effect, but it would not capture any changes in registration that emerge from the second.

Table 1 simply compares the rise in turnout from 2014 to 2018 in the VCA counties to the average rise in other counties. For both sets of counties, we take the average of the turnout rates in each county, giving each the same weight regardless of the size of its electorate. This approach views every California county as equally informative about the impact of voting methods on turnout, rather than giving dominant weight to data from the largest counties in each group.³ This is a sensible approach when trying to understand the effect of the reform, but it means our composite of the rest of the state will often differ from reported statistics. Figure 1 extends our approach by providing turnout data in every midterm election since 2002, ensuring that none of the adopting counties deviated from the state trend in an anomalous way in 2014. Finally, we conclude our discussion by summarizing the results of multivariate statistical models that allow us to control for the level of electoral competition in each county in each year, and to hold constant the year-to-year turnout trends and the different baseline levels of turnout that are typically seen in each county.



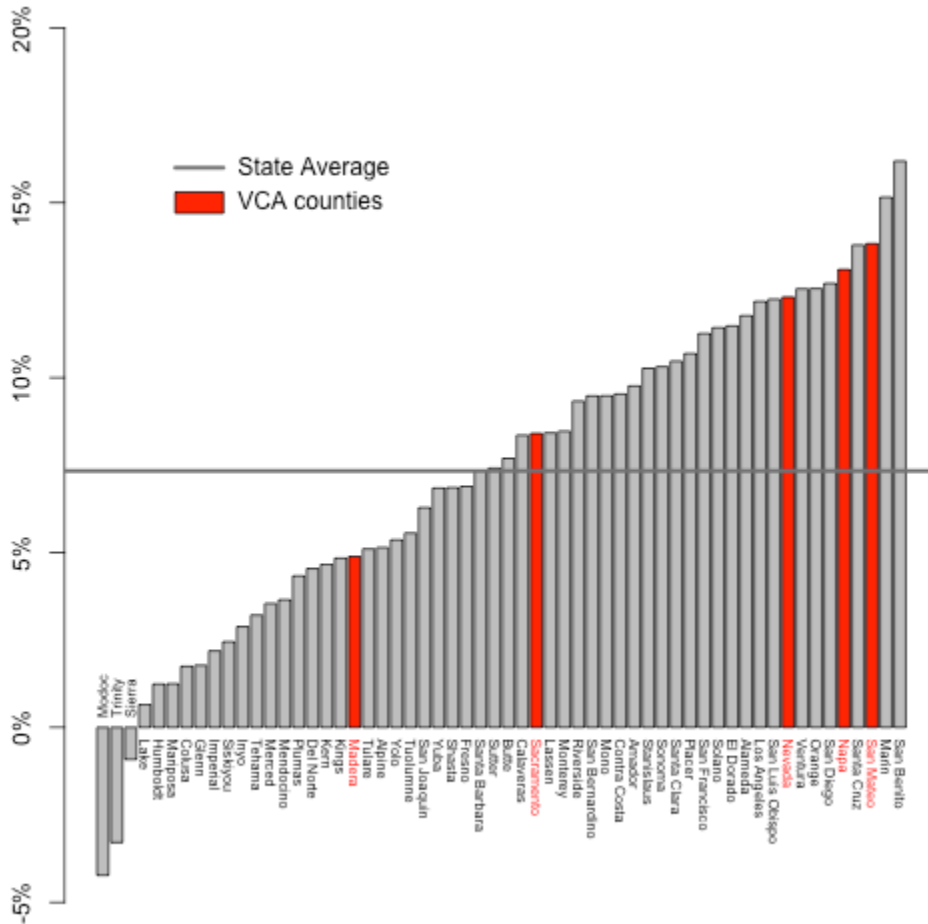
Table 1. General Election Turnout of Eligible Voters

	Increase in General Election Turnout, 2014 to 2018	Estimated Boost in Turnout: 3.0 percentage points
Average Increase in Counties Adopting the VCA	18.0	←
Average Increase in All Other Counties	15.0	
Counties Adopting the VCA		
Madera	11.6	
Napa	19.5	
Nevada	18.3	
Sacramento	17.2	
San Mateo	23.6	

As Table 1 shows, the increase in turnout from the November 2014 election to November 2018 was steeper in nearly all of the counties that adopted the VCA, compared with the trend in other parts of the state. The average rise in turnout was 18 percentage points in adopting counties, compared with 15 percentage points elsewhere.⁴ This straightforward approach yields an estimated increase in turnout due to the VCA of three percentage points in the general election. Looking back further in time through Figure 1 and estimating a statistical model reveal very similar trends, increasing our confidence about the VCA's initial positive impact on overall turnout.

Figure 1 shows each county's change in turnout in 2018 against its longer historical midterm turnout average from 1990 through 2014, with the VCA counties shown in red. There is a wide range of turnout change across counties, most of it positive, with an average increase of about 7 percentage points. However, all but one of the VCA counties had a 2018 turnout change more positive than the average county, offering confirmatory evidence of the VCA's positive impact on turnout.

Figure 1. General election turnout in 2018 against historical average



Note: Bars show the difference between 2018 general election turnout and the average 1990-2014 midterm turnout in the same county. VCA counties are shown in red. The horizontal reference line shows the unweighted average change across all counties.

Finally, we estimated a “differences-in-differences” statistical model predicting turnout in every county in each of the past eight midterm elections going back to 1990. We included year “fixed effects” to capture statewide turnout trends in each election, and county “fixed effects” to capture the consistent difference in baseline turnout levels across counties. The estimated impact of VCA adoption in this model closely mirrors our estimate from the straightforward comparison made in Table 1 (full model results are in Table A1 of the Appendix). The statistical model estimates that VCA adoption increased the turnout of eligible voters by 3.5 percentage points, with 97% confidence that the effect is not zero. We also ran two additional statistical models, one that controls for the level of electoral competition in each county in each year, and another that controls for the percentage of voters in each county who supported the Democrat (Hillary Clinton) in the 2016 presidential race. These models allow us to consider the alternative explanation that any effect we observe for the VCA is due to especially competitive races held in the adopting counties in 2018, or particularly high spikes in turnout in those counties in that year driven by partisan trends. In both analyses, we still find a significant and positive



impact of the reform. Controlling for the level of competition, VCA adoption increased the turnout of eligible voters by 3.2 percentage points, with 96% confidence that the effect is not zero. Controlling for partisan voting trends in each county, VCA adoption appeared to increase turnout by 2.4 percentage points, with 88% confidence that the effect is not zero.

B. Turnout in the Primary

Just as we did in our analysis of general election turnout, we analyze the impact of the VCA in the primary election by comparing the rise in turnout from 2014 to 2018 in the VCA counties to the average rise in other counties. We summarize this analysis in Table 2. Again, we see that turnout rose more sharply in nearly every VCA county than it did, on average, in the 53 counties that did not adopt the reform. In the counties that did not adopt, participation in the primary election rose an average of 6.8 percentage points between 2014 and 2018. In the five counties that did adopt the VCA, the increase in turnout in these years was steeper: 10.3 percentage points. Comparing these two increases, we estimate an increase in turnout due to the VCA of 3.5 percentage points in the primary election.

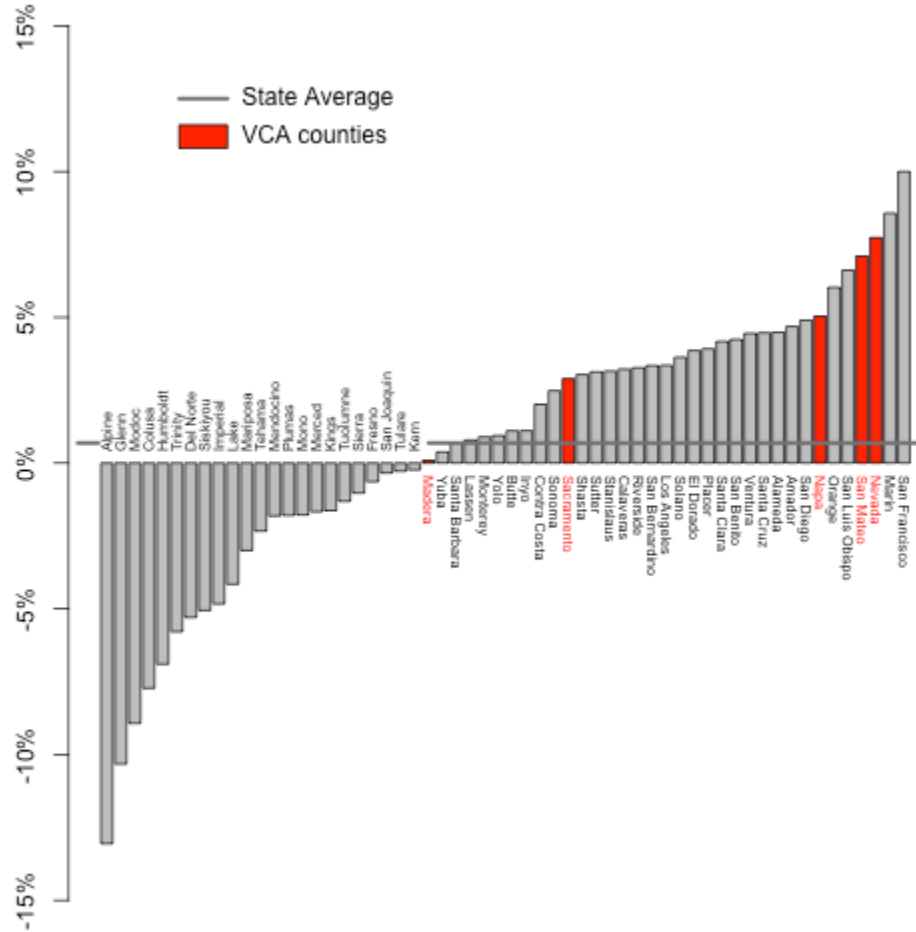
Again, looking at the longer time trends displayed in Figure 2 and using a statistical model yield similar conclusions, increasing our confidence that the reform brought its intended increase in overall turnout. Figure 2 plots each VCA county's 2018 increase (in red) against its average midterm turnout from 1990 through 2014. All other counties are again shown in gray. There is more of a mix of increases and decreases in these 2018 primary turnouts, but the VCA counties once again beat the average in four of five cases.

Table 2. Primary Election Turnout of Eligible Voters

	Increase in Primary Election Turnout, 2014 to 2018
Average Increase in Counties Adopting the VCA	10.3
Average Increase in All Other Counties	6.8
Counties Adopting the VCA	
Madera	4.6
Napa	9.7
Nevada	13.5
Sacramento	9.5
San Mateo	14.0

Estimated Boost
in Turnout:
3.5 percentage
points

Figure 2. Primary election turnout in 2018 against historical average



Note: Bars show the difference between 2018 primary election turnout and the average 1990-2014 midterm turnout in the same county. VCA counties are shown in red. The horizontal reference line shows the unweighted average change across all counties.

These findings are confirmed by our “difference-in-differences” statistical model. This model estimates that VCA adoption increased the turnout of eligible voters in the primary by 4.2 percentage points, with 99% confidence that the effect is not zero. When we added control variables to this model in order to rule out alternative explanations, we continued to see strongly significant effects of the reform. Controlling for the level of electoral competition in each county, VCA adoption increased the turnout of eligible voters by 4.4 percentage points, with 99% confidence that the effect is not zero. Controlling for partisan voting trends, adoption of the VCA increased turnout by an estimated 3.4 percentage points, with 97% confidence that the effect is not zero.



IV. How Did the VCA Affect Relative Turnout of Young, Latino, and Asian-American Voters?

An important question about the impact of the VCA on the representativeness of California elections is whether the increase that it appears to have brought to voter turnout overall was shared by all types of voters, especially those who have traditionally participated at lower rates. In this section, we focus on three groups that have often seen less representation in California’s electorate than in its population of eligible voters: young voters (aged 18-24), Latinos, and Asian-American voters. We look at the gap between turnout in these groups and turnout in groups that have historically been overrepresented. We find only limited evidence that the VCA has improved the representativeness of the electorate when measured this way.

To calculate these estimates, we begin with figures on the number of eligible voters in each group in each county during each year, provided to us by the California Department of Finance Demographic Unit. That serves as our denominator; our numerator comes from California Statewide Database voting data for the 2010, 2014, and the 2018 elections. Young voters are identified in each year through self-reported birth dates, with voters aged between 18 and 24 years considered young for our purposes. Latino and Asian-American voters are estimated through their surnames. We use these figures to calculate participation rates for each group in each county in each election. We then take the difference between turnout in each of these underrepresented groups and turnout in other groups. For Latinos and Asian Americans, the comparison group is those who are neither Latino nor Asian American; for young people, the comparison group is seniors 65 and older. We average across both adopting and non-adopting counties and look at how the difference between those two sets of counties changed in 2018, just as in our analysis of voters overall. Because Latinos and Asian Americans in particular are not evenly distributed across all 58 counties, we omit data from counties with fewer than 100 eligible voters in a group in 2014 or with missing data in any election, dropping one county from our analysis of young voters, four counties from our analysis of Latino voters, and five counties from our analysis of Asian-American voters.

Table 3. Change in the turnout gap

	Increase in General Election Turnout, 2014 to 2018	Increase in Primary Election Turnout, 2014 to 2018
Young voters (18-24)		
Average Change in Counties Adopting the VCA	10.1	-1.5
Average Change in All Other Counties	6.5	-1.2
Estimated Change in Gap	3.6	-0.3
Latino voters		
Average Change in Counties Adopting the VCA	-2.8	-5.0
Average Change in All Other Counties	-3.7	-4.3
Estimated Change in Gap	0.9	-0.6



Asian American voters		
Average Change in Counties Adopting the VCA	-5.9	-7.7
Average Change in All Other Counties	-5.7	-5.6
Estimated Change in Gap	-0.2	-2.1

Table 3 compares the average change between 2014 and 2018 in the gaps for the five counties that adopted the VCA to the same in all other counties. The difference between these increases yields our estimate of the impact of the reform's adoption. Positive values here mean the underrepresented group improved its position relative to the overrepresented group. There are few signs of any effect from the reform here. Most of the effects are smaller than a percentage point change, though the effect for young voters suggests an improvement of 3.6%, and the effect for Asian Americans suggests a worsening of 2.1 percentage points.

We also tested these effects with both the 2010 and 2014 elections as the pre-reform baseline comparison group. In these statistical models (displayed in detail in the Appendix), the effect sizes were comparable to the ones in Table 3 but none was measured with much statistical confidence. Overall, it is difficult to conclude that the VCA improved or worsened the relative position of these three underrepresented groups; in most cases the odds were better than not that the true effect was zero, and that probability was always at least 35 percent. With all of our analyses of small groups of voters, one year of implementation of the VCA can yield only preliminary lessons about its effects on turnout. Our statistical models indicate less confidence in estimates of the impact of VCA adoption on Latino and Asian-American voters because these turnout rates vary significantly across counties and across years. The concentrations of young, Latino, and Asian-American voters vary across the counties, and differ between the five counties that adopted it in 2018 and the rest of the state. All of these factors suggest that more experience with the implementation of the VCA is necessary in order to draw firm conclusions about its effect on voters in each of these groups.

In order to evaluate the impact of the VCA on participation in the 2018 elections, it is important to make careful comparisons. Because the five counties that adopted it had high turnout even before 2018, simply comparing their participation rates to those of other counties does not isolate the impact of the reform. Because turnout in 2018 was so much stronger all across California than it was in 2014, simply looking at the increase in turnout in the VCA counties from one midterm election to the next does not tell the full story, either. Instead, our analysis compares the increase in turnout from 2014 to 2018 in the VCA counties, compared with the average turnout increase in all other counties, in order to determine whether the reform in fact boosted participation.

We find that the VCA's adoption in 2018 led to modest yet significant increases in turnout by eligible voters of approximately three percentage points in the primary and general elections. Importantly, the rise in turnout among voters overall appears to be present as well in most of the groups we looked at that have had low levels of representation in California's electorate. However, none of the underrepresented groups we examined—young voters, Latinos, and Asian-Americans—showed clear signs of improving their turnout relative to groups that have traditionally been overrepresented.



1. For more information on the Voter's Choice Act (California Senate Bill 450), see:
http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB450

2. Our data on turnout in each county comes from the "Turnout Eligible" column of the "Voter Participation Statistics by County" table of the appropriate "Statement of the Vote," made available by the California Secretary of State in each election. These reports can be found at: <https://elections.cdn.sos.ca.gov/sov/2014-general/pdf/03-voter-participation-stats-by-county.pdf> (for the 2014 general election), <https://elections.cdn.sos.ca.gov/sov/2018-general/sov/03-voter-participation-stats-by-county.pdf> (for the 2018 general election), <https://elections.cdn.sos.ca.gov/sov/2014-primary/pdf/03-voter-participation-stats-by-county.pdf> (for the 2014 primary election), and <https://elections.cdn.sos.ca.gov/sov/2018-primary/sov/03-voter-participation-stats-by-county.pdf> (for the 2018 primary election).

3. An alternative approach would be to weight the importance of each county in our analysis, proportional to the size of that county's electorate. In this approach, turnout trends in Sacramento County (by far the largest of the counties that adopted the VCA) would account for much of the estimated turnout trend for adopting counties, while the trend for other counties would closely follow patterns in Los Angeles, San Diego, and Orange Counties. When we take this approach in our statistical models – weighting data from each county by the square root of the size of its eligible electorate– we estimate smaller positive impacts on turnout. In the general election, we estimate a 1.2% increase in turnout due to the implementation of the VCA (with 71% confidence of at least some effect), rather than a 3.5% increase. In the primary, we estimate a 2.0% increase in turnout due to the implementation of the VCA (with 92% confidence of at least some effect), rather than a 4.2% increase.

4. General election turnout in the counties that adopted the VCA averaged 38.74% in 2014 and rose to 56.78% in 2018, an increase of 18 percentage points. In the counties that did not adopt the VCA, the average turnout rate of all eligible voters was 37.0% in 2014 and then rose to 52.0% in 2018, an increase of 15 percentage points. Comparing these increases gives us an estimated boost in turnout due to the VCA of three percentage points. Note that this is a three percentage point increase in the portion of the eligible voter population that participated, rather than a percent of the turnout rate in 2014.

5. While we would prefer a consistent source for the 2018 general election, we have extensively analyzed whether Political Data, Incorporated and the Statewide Database report similar figures for the 2018 primary election, for which both have available data. Turnout rates for each subgroup of voters in each county are nearly perfectly correlated across the two sources for young voters and Latinos, and are solidly correlated for Asian-American voters. Data from the Statewide Database and Political Data, Inc. is derived from county voter registration records rather than from a sample of voters. Because of this, figures calculated from these sources are not susceptible to sampling error in the way that surveys and exit poll results are. The Statewide Database distinguishes Latinos and Asian Americans in the registration data from the general population by the use of Spanish and Asian surname lists which identify registrants with commonly occurring Spanish and Asian surnames. The Passel-Word Spanish surname list, published by the US Census Bureau, was utilized to identify Latinos. For Asian Americans, the US Census Bureau's surname lists for six major Asian-American ethnic groups were utilized: Chinese, Japanese, Filipino, Korean, Asian Indian, and Vietnamese. Surname matching for Latinos is a commonly utilized methodology. However, confidence levels for Asian American groups can generally be lower as it has often been found to be more difficult to achieve accurate identification of Asian surnames. Surname matching is not reliable for white, non-Hispanic, and African American populations, and thus registration data is not available for these groups. Note: Some additional Latinos and Asian Americans may be registered to vote and not flagged by surname databases. For more information on methodology and limitations, please see:
<https://statewidedatabase.org/d10/Creating%20CA%20Official%20Redistricting%20Database.pdf>



Appendix

Table A1. Difference-in-differences models of total turnout, general elections, 1990-2018

	(1)	(2)	(3)
Intercept	0.441*** (0.012)	0.394*** (0.020)	0.496*** (0.031)
VCA county in 2018	0.035* (0.016)	0.032* (0.015)	0.024 (0.016)
County competitiveness	--	0.013 (0.045)	--
Presidential vote	--	--	-0.001* (0.000)
Presidential vote X 2018 election	--	--	0.002*** (0.000)
State fixed effects	X	X	X
Year fixed effects	X	X	X
Adjusted R ²	0.884	0.919	0.893
RMSE	0.032	0.029	0.031
N	464	464	464

Note: County competitiveness is a weighted average of the margin of victory across state legislative and congressional districts falling at least partially in each county. Weights reflect the share of each county's population falling in the district portion in question.



Table A2. Difference-in-differences models of total turnout, primary elections, 1990-2018

	(1)	(2)	(3)
Intercept	0.306*** (0.012)	0.291*** (0.020)	0.328*** (0.032)
VCA county in 2018	0.042** (0.016)	0.044** (0.017)	0.034* (0.016)
County competitiveness	--	-0.024 (0.019)	--
Presidential vote	--	--	0.000 (0.000)
Presidential vote X 2018 election	--	--	0.001*** (0.000)
State fixed effects	X	X	X
Year fixed effects	X	X	X
Adjusted R ²	0.890	0.888	0.894
RMSE	0.032	0.032	0.031
N	464	464	464

Note: County competitiveness is a weighted average of the margin of victory across state legislative and congressional districts falling at least partially in each county. Weights reflect the share of each county's population falling in the district portion in question.



Table A3. Difference-in-difference-in-differences models of subgroup turnout, primary elections, 2010-2018

	Young people (18-24)	Latinos	Asian Americans
Intercept	0.636*** (0.025)	0.444*** (0.038)	0.552*** (0.030)
In subgroup	-0.386*** (0.035)	-0.176* (0.038)	-0.252*** (0.043)
VCA county in 2018	0.016 (0.024)	0.026 (0.025)	0.029 (0.030)
VCA county in 2018 X In subgroup	0.032 (0.034)	0.009 (0.035)	0.001 (0.042)
State fixed effects	X	X	X
Year fixed effects	X	X	X
State fixed effects X In subgroup	X	X	X
Year fixed effects X In subgroup	X	X	X
Adjusted R ²	0.976	0.945	0.888
RMSE	0.041	0.037	0.051
N	348	324	312

Note: Data are aggregated turnout rates by county and election and within demographic subgroups. Each county-election has two turnout rates, one for the subgroup of interest and the other for a reference group. The reference group for young people is seniors 65 and older, and the reference group for Latinos and Asian Americans is those who are non-Asian-American and non-Latino. Counties with fewer than 100 eligible residents of the subgroup were dropped from the analysis.



Table A4. Difference-in-difference-in-differences models of subgroup turnout, primary elections, 2010-2018

	Young people (18-24)	Latinos	Asian Americans
Intercept	0.503*** (0.028)	0.273*** (0.023)	0.333*** (0.024)
In subgroup	-0.408*** (0.040)	-0.134*** (0.032)	-0.168 (0.034)
VCA county in 2018	0.026 (0.027)	0.028 (0.021)	0.032 (0.024)
VCA county in 2018 X In subgroup	0.004 (0.039)	-0.006 (0.030)	-0.018 (0.033)
State fixed effects	X	X	X
Year fixed effects	X	X	X
State fixed effects X In subgroup	X	X	X
Year fixed effects X In subgroup	X	X	X
Adjusted R ²	0.884	0.934	0.876
RMSE	0.032	0.032	0.041
N	348	324	312

Note: Data are aggregated turnout rates by county and election and within demographic subgroups. Each county-election has two turnout rates, one for the subgroup of interest and the other for a reference group. The reference group for young people is seniors 65 and older, and the reference group for Latinos and Asian Americans is those who are non-Asian-American and non-Latino. Counties with fewer than 100 eligible residents of the subgroup were dropped from the analysis.