White Constituents and Legislative Voting

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Abstract

Why do some lawmakers in the U.S. vote more on the extremes of their party than others?[1] I consider the racial composition of members' districts. Lawmakers representing more homogeneously white districts have greater electoral incentive to moderate their voting records, since the two parties compete more vigorously for white electoral support than for the support of other racial and ethnic groups. I provide evidence using roll-call votes from members of the U.S. House, the U.S. Senate, and the 49 partisan state legislatures. I find that individual lawmakers representing more homogeneously white districts have more moderate voting records, a finding that holds for both Democrats and Republicans. I explore two potential mechanisms that may explain the association: legislator responsiveness and electoral accountability. While legislators do not seem to adjust their voting behavior in response to short-term changes in district racial composition, more homogeneously white districts are found to assess larger penalties on more extreme candidates in general elections. The findings have implications for representation, party polarization, and electoral accountability.

Keywords: Race, representation, party polarization, Congress, state legislatures

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What leads some legislators to vote more on the extremes of their parties than others? Electoral considerations at home strongly inform the votes that legislators cast (e.g. Fenno 1978; Fiorina 1974; Kingdon 1977). Lawmakers keep an ear to the ground in their districts to assure their actions in office do not cross constituent preferences. But often, constituencies prefer more moderate representation than their partisan representatives provide (Masket & Noel 2012). Scholars consistently find that lawmakers who vote more on the extremes of their parties face stiffer penalties from voters on Election Day (Ansolabehere, Snyder, & Stewart 2001; Canes-Wrone, Brady, & Cogan 2002; Carson et al. 2010; Erikson 1971).

This literature, grounded in spatial theories of representation (e.g. Downs 1957), rarely engages with more sociologial approaches to representation. Voters and lawmakers act on more than ideology. In particular, social group ties inform the actions of both voters (Achen & Bartels 2016; Berelson, Lazarsfeld, & McPhee 1954; Campbell et al. 1960; Mason 2018) and lawmakers (Broockman 2013; Fenno 1978; Grose 2011). Group attachments might allow lawmakers to engage in more extreme representation of their districts, even if the representation is out of step with constituency opinion (Glazer, Grofman, & Owen 1998).

The two parties' coalitions have increasingly sorted along racial lines (Hajnal & Lee 2011; Mason 2018). When voters are committed to one party or another on the basis of racial group ties, legislators have greater latitude to vote on the extremes in office, with less risk of those voters defecting to the other party's candidate at the next election. However, to a greater extent than other groups, whites remain split between the two parties' coalitions. Because the two parties compete for electoral support from whites, legislators representing more homogeneously white districts are more constrained to moderate their voting behavior, else they risk white voters switching their support to the opposing party's candidate.

I provide evidence using data summarizing individual lawmakers' roll-call votes from the 112th and 113th House and Senate, and from the 49 partisan state legislatures between 2009 and 2016. The evidence consistently suggests that representatives of homogeneously white districts boast more moderate voting records, after controlling for key variables like district

ideology and ideological heterogeneity. I also conduct a test of the theoretical argument at the aggregate level, surveying two-party polarization in state legislatures between 2010 and 2014. I find that states with more homogeneously white populations tend to have legislatures that are less polarized along party lines.

What explains this moderation? I explore two mechanisms: incumbent responsiveness and electoral replacement of extremists. Using a redistricting design, I find that members of the U.S. House who came to represent larger shares of white voters after the 2010 round of redistricting did not subsequently moderate their roll-call votes. However, I find that in more homogeneously white constituencies, extremists suffer larger penalties in vote shares than in more racially diverse districts. Though the results are primarily descriptive, they point toward electoral replacement of extremists, rather than incumbent responsiveness, as the mechanism for legislator moderation in white districts.

The results contribute to our understanding of the relationship between legislative voting and race. It is well-established that issues of race have helped to divide and polarize the two parties over the last half century (Carmines & Stimson 1989; Miller & Schofield 2003). This study extends this understanding by connecting the racial composition of constituencies to individual legislators' electoral incentives to engage in extreme voting. This study also contributes evidence to the literature on district heterogeneity by showing that social heterogeneity in constituencies, beyond ideology, is tied to extreme voting. The results suggest that studies of electoral accountability should take racial coalitions of party support into account.

Constituent Ideology and Group Identities Inform Legislative Voting

Lawmakers' vary in how often they vote with the extreme wings of their parties. A rich literature explains how procedural rules, partisan strategy, legislators' personal goals, and

other factors influence legislative voting (e.g. Binder & Smith 1997; Burden 2007; Enelow & Hinich 1984; Lee 2009; Roberts 2007). Scholars generally agree that lawmakers' votes are in some part informed by electoral considerations in their home districts (e.g. Fiorina 1974; Kingdon 1977).

The exact ramifications of lawmakers' votes for their reelection prospects remain unclear. On one hand, lawmakers may cast votes without fear of electoral reprisal due to voter ignorance or apathy. Voters are famous for their inattention to politics (Delli Carpini & Keeter 1996) and members of Congress take pains to obscure their actions from voters (Arnold 1990). In lower offices like state legislatures, a dearth of information about officials' actions brings into question whether voters are capable of holding their representatives accountable for their votes (Rogers 2017).

On the other hand, legislators may suffer electoral penalties for voting out of line with constituency preferences. Survey evidence suggests that when presented with information about incumbent voting records, constituents use the information to hold lawmakers accountable (Ansolabehere & Jones 2010). The canonical median voter theorem implies that ideological moderation should help to increase incumbent vote share (Downs 1957). A number of empirical studies relying on this Downsian logic shows that moderation on roll-call votes brings electoral advantages to legislators. Incumbents who vote too often on the partisan extremes face a higher risk of losing reelection (Ansolabehere, Snyder, & Stewart 2001; Canes-Wrone, Brady, & Cogan 2002; Carson et al. 2010; Erikson 1971) or drawing electoral challengers (Birkhead 2015; Hogan 2008). Likewise, moderate candidates tend to draw substantially larger vote shares in general elections and win office at a higher rate than their more extreme intraparty rivals in primary elections (Hall 2015).

Though moderation bestows electoral benefits on average, legislators will perceive varying levels of risk and reward for moderation depending on the characteristics of their districts. Nearly all relevant studies control for average district ideology, taking into account that the absolute ideological position of median voters varies across districts. Ideologically heteroge-

neous districts also create electoral conditions that allow more extreme legislators to hold office (Levendusky & Pope 2010; McCarty et al. 2018) and give legislators leeway to vote with party leaders (Harden & Carsey 2012).

Social Groups in Electoral Calculations

Constituent ideology is not the only consideration that goes into lawmakers' decisions about roll-call voting. Social groups also factor in (Fenno 1978; Grose 2011; Miler 2010). By social group, I mean a set of people who share a common identity that has some relevance to politics. Social groups may hold similar policy preferences (Karol 2009), but need not hold uniform ones.

A prominent line of thinking holds that parties function as coalitions of social groups that create potential popular majorities and make it possible for groups to gain representation within government institutions (Bawn et al. 2012). Voters who identify with party-aligned social groups tend to vote in majorities, though not uniformly, for their party's candidates. Social group attachments shape voter behavior in addition to, but independently of, voter ideology as group identity and consciousness come to bear in vote choice (Berelson, Lazarsfeld, & McPhee 1954; Campbell et al. 1960; Conover 1988).The group's electoral support may be premised on a small set of issues important to the group (Miller et al. 1981) and/or considerations beyond issues, like group norms (White, Laird, & Allen 2014) or feelings of social exclusion (Kuo, Malhotra, & Mo 2017).

Given the inability of many Americans to align their issue positions in an ideologically consistent manner (Converse 1964; Ellis & Stimson 2012) and their propensity to arrive at issue positions after forming partisan attachments (Carsey & Layman 2006; Lenz 2013), vote choice may be more an expression of group identity or symbolic attachments than of ideological preference for many Americans (Green, Palmquist, & Schickler 2002, Achen & Bartels 2016, though see Abramowitz & Saunders 2006). Additionally, Americans have increasingly socially sorted into parties, such that a person's group identities are increasingly

predictive of that person's party identification (Mason 2018). As a result, social groups are quite relevant to how legislators position themselves across issues.

The extremity of legislators' voting records should reflect in part the social group composition of their districts. Legislators in a two-party system must position themselves to receive a majority of the vote. While some of that majority support may come from shared ideological preferences with voters, support may also come from social groups attached to the legislator's party. Voters make choices between candidates based not only the candidate's ideological positioning, but also on the assortment of social groups the candidate is perceived to represent (Boudreau, Elmendorf, & MacKenzie 2019; Fraga & Leal 2004; Glazer, Grofman, & Owen 1998; Kinder & Dale-Riddle 2012). Independent of ideology, a voter may prefer candidates who associate themselves with or appeal to members of a voter's ingroup. Conversely, a voter may reject candidates who represent an outgroup, particularly if the voter feels animus for the outgroup.

Such behavior has implications for legislators' voting behavior. With no group-based considerations, as in Downs' (1957) original theorem, legislators have incentives to moderate their voting behavior toward a median voter. In doing so, lawmakers will have some chance of winning the electoral support of voters who may reasonably choose to support the other party's candidate. However when group-based considerations enter into electoral choice, some lawmakers will find little benefit in moderating in an attempt to win swing votes. Even if voters in social groups committed to one party's coalition are ideologically moderate, and even if the opposing party's candidate moderates their voting behavior, those voters will continue to vote for their own party's candidate. More extreme candidates can win reelection by relying upon the sustained support of their party's committed social groups and have less incentive to moderate to win swing voters.

The logic of the argument closely resembles the underlying logic of literature on ideological heterogeneity (e.g. Fiorina 1974; Levendusky & Pope 2010). A key insight from that literature is that legislators have more leeway to vote on the extremes if the district is more

divided between supporters of the two parties.[2] Legislators have little incentive to moderate and appeal to supporters who are ideologically committed to the other party. Candidates who try to find middle ground garner lackluster support from their own party's voters and encounter sustained opposition from voters in the other party (Ensley 2012).

The same logic that applies to the representation of ideologically heterogeneous districts, then, should also apply to districts with a diverse array of social groups, so long as those social groups are sorted along party lines (Koetzle 1998). Legislators representing socially heterogeneous districts will be more likely to vote on the extremes, since they can galvanize committed copartisans in their districts and moderate records are unlikely to draw members of outparty-aligned groups to support them. Legislators representing socially homogeneous districts where the dominant group may reasonably support candidates of either party can appeal to a wider swath of voters with more moderate records.

The argument assumes that constituencies are the primary reason that (otherwise extreme) candidates moderate. Moderate candidates are increasingly rare in Congress, given the high personal costs and low rewards to service (Hall 2019; Thomsen 2017). External pressures to cast more extreme votes come regularly from intense in-party policy demanders (Layman et al. 2010), ideological donors (Barber, Canes-Wrone, & Thrower 2017), and party caucus leaders (Harden & Carsey 2012). Most, but not all, lawmakers are in a position where they have to balance competing demands on them from relatively more moderate voters and relatively more extreme parties (Masket & Noel 2012). Therefore, losing an incentive to moderate in the constituency means that lawmakers find it in their interest to respond to the demands made on them by more extreme actors.

[2]Past studies even explored whether *demographic* heterogeneity would result in greater electoral competition and more extreme representation, but found mixed results (Aistrup 2004; Bishin, Dow, & Adams 2006; Bond 1983; Patterson & Caldeira 1984; Sullivan 1973), perhaps due to measurement error (Koetzle 1998).

Whites as a Competitive Social Group

The case of race in the U.S. provides a good starting point to test the argument. Racial groups are quintessential social groups that define U.S. party politics (Kinder & Dale-Riddle 2012). The two parties have frequently divided on issues of race, both historically (Carmines & Stimson 1989; Key 1949) and recently (Abrajano & Hajnal 2015; Tesler 2016). The argument holds that legislators should be more constrained from voting on the extremes when larger shares of their potential voters belong to social groups that are two-party competitive. Applied to the case of race, legislators should be more likely to moderate their votes in constituencies that contain more white voters.

Party elites compete to varying extents for support from different racial groups. Republicans' attempt to attract votes from conservative whites in the South in the 1960s and 1970s led to that party's adoption of a conservative platform on issues of race (Carmines & Stimson 1989). Concomitantly, African Americans swung to the Democratic Party to the point of "electoral capture" (Frymer 1999). While Democrats have come to rely on the support of Latinos and Asian Americans as well (Hajnal & Lee 2011), Republicans maintain some support from these groups. Symbolic appeals made by Republicans to Latinos in the 200s, for instance, may have helped to soften the party's image and made Republicans more competitive among both Latinos and whites (Fraga & Leal 2004). While Latinos' reactions to President Trump's candidacy were complex (Corral & Leal 2020), his harsher rhetoric on immigration jeopardizes Republican standing among many Latino voters (Gutierrez et al. 2019). Asian Americans receive little attention from either party during elections (Kim 2007), but many feel excluded from the Republican Party (Kuo, Malhotra, & Mo 2017). A lack of elite competition for the votes of minority groups is reflected in studies of partisan vote choice. The two parties' coalitions of support in the electorate have split on racial and ethnic lines, with whites comprising the vast majority of the Republican coalition and Democrats relying on the support of moderate and liberal whites and people of color (Hajnal & Lee 2011; Zingher 2018).

Candidates in both parties actively compete for the support of white voters. Because whites form a majority of the electorate, neither party can compete nationally without substantial electoral support from whites. That two-party competition is reflected in recent polling data and election returns. According to data from Pew Research Center, Donald Trump won the white vote in the 2016 presidential election by a 21-point margin, the largest share any Republican presidential nominee has won since 1984.[3] The margin was still smaller than Hispanics' 36-point and African Americans' 80-point margin of support for Hillary Clinton. Moreover, whites comprised a majority of self-identified Democrats in 2008 and 2012[4] and gave Hillary Clinton the majority of her votes in the 2016 presidential election.[5] Analysis from the Brookings Institution suggests that a greater proportion of whites voted for Democratic candidates in the 2018 midterms than voted for Clinton in 2016, an apparent short-term reversal of whites' gradual migration toward the Republican Party.[6] Finally, presidential election polls conducted early in the summer of 2020 showed whites evenly split between President Trump and former Vice President Biden.[7]

It is worth noting that white support has increasingly shifted towards Republicans over the last two decades (Zingher 2019), perhaps due to attitudes on immigration (Hajnal & Rivera 2014) or increased awareness of party differences on racial issues under the Obama Administration (Sides, Vavreck, & Tesler 2018). The point here is not to contest findings that white support generally has been shifting toward the Republican Party in the long term. Rather, the point is to establish that, in recent election cycles, white votes have been contested by and important to both parties regardless of the long-term trends.

As a result, to a greater extent than other groups, whites are more likely to consider

[3]Tyson, Alec, and Shiva Maniam. 2016. "Behind Trump's Victory: Divisions by Race, Gender, Education." *Pew Research Center*. Available at `http://pewrsr.ch/2ffF1bU`.

[4]Newport, Frank. 2013. "Democrats Racially Diverse; Republicans Mostly White." *Gallup*. Available at `https://news.gallup.com/poll/160373/democrats-racially-diverse-republicans-mostly-white.aspx`.

[5]Roper Center for Public Opinion Research. 2016. "How Groups Voted in 2016." Available at `https://ropercenter.cornell.edu/how-groups-voted-2016`.

[6]Frey, William H. 2018. "2018 Exit Polls Show Greater White Support for Democrats." *Brookings Institution*. Available at `https://brook.gs/2Dur4Um`.

[7]Burns, Alexander, Jonathan Martin, and Matt Stevens. 2020. "Biden Takes Dominant Lead as Voters Reject Trump on Virus and Race." *New York Times*. Available at `https://nyti.ms/2YticaX`.

appeals from both parties. Interparty competition for (moderate) white votes gives whites the option to choose the more moderate candidate from either party. Seeing both parties' candidates as reasonable options allows white voters to exercise a role in rejecting more extreme candidates.

In the following empirical analyses, I test the expectation that lawmakers representing more homogeneously white districts should hold more moderate roll-call voting records. The expectation should apply to both Democrats and Republicans. If Democratic candidates can rely on the electoral support of nonwhite groups, then Democratic legislators representing districts with greater nonwhite populations have more leeway to cast extreme votes, since nonwhite support will remain high regardless of their records. Over and above district ideology, electorates that are more homogeneously white should be more amenable to appeals from Republican challengers, forcing Democrats representing such districts to moderate their records to compete. Likewise, Republican legislators in racially diverse districts also should have less incentive to moderate, since even moderate nonwhite populations would be less likely to consider supporting a Republican candidate than moderate white populations.

Evidence from Congress

As an initial test of the expectation that representatives of more homogeneously white districts moderate their votes, I turn to the roll-call voting records of members of the 112th and 113th Congress. These terms are chosen both for the availability of contemporaneous public opinion data and for comparison to a model of legislative change over a redistricting cycle, presented below. I use members' DW-NOMINATE scores to capture extremity. Scholars frequently use DW-NOMINATE scores to measure the ideological preferences of members (Poole & Rosenthal 1997), but the scores might better represent partisan divisions, particularly during times when the parties are polarized (Aldrich, Montgomery, & Sparks 2014; Lee 2009). Whether the scores capture ideology or partisanship, they nonetheless serve as a useful measure of extreme voting behavior in office. To measure the racial composition of

members' districts, I use one-year estimates from the American Community Survey (ACS). The principal independent variable used in subsequent analyses is the percentage of the district population self-identifying as non-Hispanic whites.

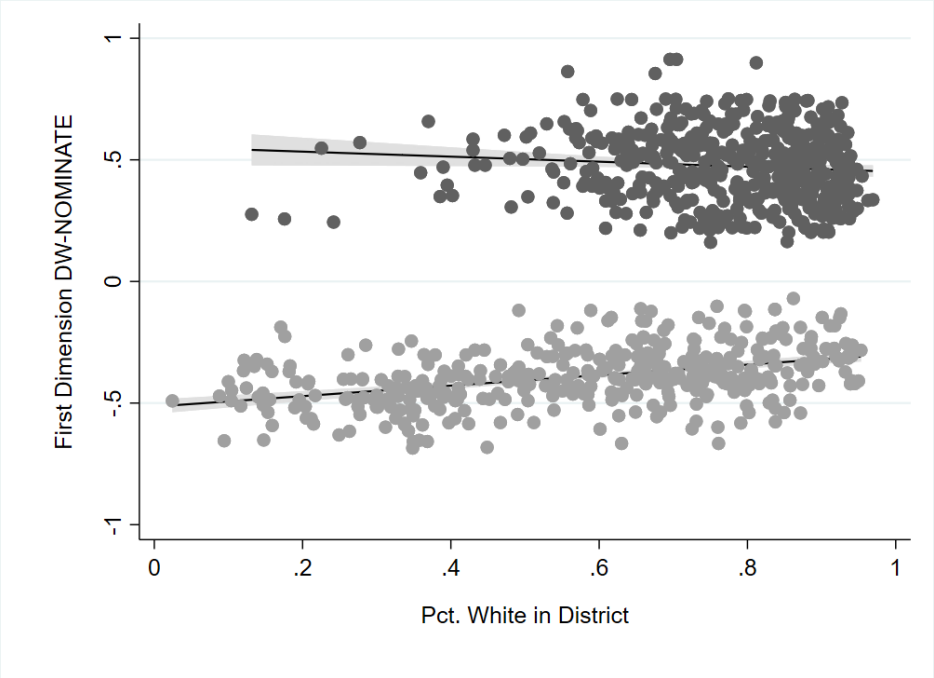
In Figure 1, I plot members' DW-NOMINATE scores against the percent white in their districts by party for the 112th Congress. Evidence consistent with the theoretical expectations would show that members' scores converge towards zero as percent white in the district increases. The figure shows that in the House, both Republicans and Democrats in more homogeneously white districts boast more moderate voting records. The association is substantively larger for Democrats ($\beta = 0.22$) than for Republicans ($\beta = -0.10$). Coefficient estimates within both parties are statistically significant at the .05 level of confidence. Turning to the Senate, the white population of a district negatively correlates with member extremity in both parties ($\beta = -0.15$ for Republicans, $\beta = 0.13$ for Democrats), but is statistically significant only for Democrats.

The figures do not constitute strong evidence of the expected relationship in and of themselves. It could be that the relationship is confounded by other factors like district ideology or region. To clarify the role of district racial composition, I estimate several multiple regression models. For the purpose of these models, I transform members' DW-NOMINATE scores into a measure of *Extremity* by using the absolute value as the dependent variable. Higher values of this transformed variable (farther from 0 on the original scale) indicate more extreme records. As above, the principal independent variable is *Pct. White*, the percentage of the district population identifying as non-Hispanic whites.

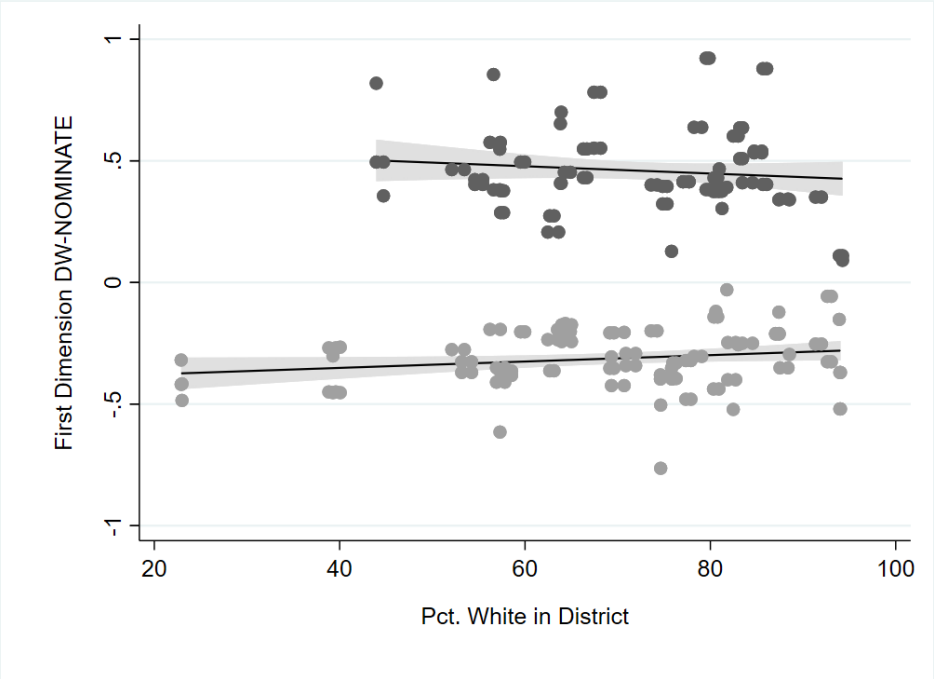
I include several control variables in the model. First, in line with the median voter theorem, more liberal districts on average should elect more liberal members and more conservative districts should elect more conservative members. I include a control for *District Extremity*, the absolute value of the district ideology measure developed by Tausanovitch & Warshaw (2013). Higher values indicate more ideologically extreme districts while lower

Figure 1: Roll-Call Voting and District Racial Composition in the 112th–113th Congress

House



Senate



Notes: Data from Voteview and the American Community Survey. Light gray markers represent Democrats. Dark gray markers markers represent Republicans.

values indicate more moderate districts.[8] I also control for the *Ideological Heterogeneity* of districts, since more heterogeneous districts tend to elect more extreme members (Ensley 2012). I use the standard deviation of the district opinion measure from Tausanovitch & Warshaw (2013).

Through a process of asymmetric polarization, Republican members have come to take more ideologically extreme positions than Democratic members in recent congresses (Grossmann & Hopkins 2016). I include an indicator for *Republican* members. Finally, I include an indicator for districts or states located in the *South*, given the greater extent of racial polarization along party lines in that region than in other regions of the country (Lublin 1997). The South is defined as the 11 states of the former Confederacy. Summary statistics for House data and Senate data are presented in Tables A1 and A2 of the appendix respectively.

I estimate separate models for House and Senate. If the expectation is correct that representatives of homogeneously white districts vote less on the extremes, then the models should show a negative and significant coefficient estimate for the *Pct. White* variable across specifications. To determine the extent to which the relationship varies by party, I also estimate models interacting *Pct. White* with *Republican*.

Table 1 displays the results of four multilevel regression specifications in which observations are nested within districts and fixed effects for terms are included. Beginning with the House in the first column, the association between *Pct. White* and members' *Extremity* is found to be negative and significant, in line with expectations. Substantively, the relationship is modest. The model projects that, controlling for other variables in the model, moving from a 50% white district to a 100% white district results in a member moderating their record by 0.05 on the extremity scale—roughly a third of a standard deviation. Among the control variables, representatives of more ideologically extreme districts, Republican members, and Southern members are estimated to have more extreme voting records. However, no significant relationship is observed between ideological heterogeneity of the district and

[8] In using the absolute value, I am assuming that extremely liberal districts are not represented by extremely conservative members or vice versa.

Table 1: District Racial Composition and Member Extremity in the 112th-113th Congress

	House		Senate	
Pct. White	-0.10*	-0.11*	-0.23*	-0.17
	(0.03)	(0.03)	(0.09)	(0.09)
Republican	0.12*	0.11*	0.15*	0.33*
	(0.02)	(0.05)	(0.03)	(0.16)
Republican X Pct. White		0.02		-0.24
		(0.06)		(0.21)
District Extremity	0.28*	0.28*	0.29*	0.30*
	(0.03)	(0.03)	(0.14)	(0.15)
Ideological Heterogeneity	0.05	0.06	-0.15	-0.14
	(0.06)	(0.06)	(0.30)	(0.32)
South	0.03*	0.03*	-0.07*	-0.09*
	(0.01)	(0.01)	(0.03)	(0.04)
Term FE	Yes	Yes	Yes	Yes
District RE	Yes	Yes	Yes	Yes
Constant	0.29*	0.29*	0.63	0.57
	(0.08)	(0.08)	(0.45)	(0.48)
N	866	866	200	200
BIC	-1310.86	-1304.27	-201.21	-198.11

Note: Bootstrap standard errors clustered by district in parentheses. *p<0.05. Significance tests are two-tailed.

member extremity.

The second column models the relationship with the full set of controls, but includes an interaction between *Pct. White* and *Republican*. The coefficient estimate for the interaction term is signed positively but does not reach statistical significance. This finding suggests that the relationship between the white population of a district and extremity is not significantly different for House Democrats and House Republicans.

Turning to the Senate, a negative and significant relationship between *Pct. White* and *Extremity* is observed in the third column of Table 1. The association is substantively larger for the Senate than for the House. The model projects that moving from a 50% white district to a 100% white district results in a member moderating their record by 0.12, which falls just short of a full standard deviation of the dependent variable. Results for the control

variables suggest that representatives of more extreme districts and Republican members hold more extreme voting records. However, ideological heterogeneity is not found to be significantly associated with extreme voting records, and southern Senators are found to have more moderate voting records, controlling for other variables in the model.

The fourth column displays results of a model interacting *Pct. White* with *Republican*. The coefficient estimate for the interaction term is signed negatively, but fails to reach statistical significance. As in the House, the relationship between district whiteness and extremity does not significantly differ by party in the Senate.

On balance, the results point toward the conclusion that representatives of districts with more homogeneously white populations are more moderate than their colleagues who represent more racially diverse districts. The associations are modest in both chambers, as large changes in the racial composition of the district are associated with small changes in a member's voting record. Moreover, the results are descriptive; nothing in these results should be taken to suggest that constituencies with larger white populations *cause* their representatives to vote more moderately. However, the relationship appears in both chambers and does not seem to differ by party.

Evidence from State Legislatures

Further evidence can be gathered by turning to the state level of government. State legislators vary in the extremity of their voting records, and the extent of two-party polarization varies across states (Shor & McCarty 2011). The racial composition of state legislative districts may also correlate with legislator extremity in statehouses. Studying other elected officials in the U.S. provides a greater number of observations, more variation in observations, and moves towards generalizing the findings outside the context of the U.S. Congress.

Important differences between Congress and state legislatures are worth noting beforehand. States address different (though often overlapping) sets of issues with the federal government. Public knowledge and media scrutiny of state legislatures pale in comparison to

Congress, raising questions about how accountable state legislators are to their constituents (Rogers 2017). Nonetheless, state legislators seem to follow similar patterns of responsiveness to district opinion as members of Congress (McCarty et al. 2018; Shor & McCarty 2011; Tausanovitch & Warshaw 2013).

To study the relationship between district racial composition and legislator extremity, I employ data on roll-call voting patterns among state legislators who served in two different two-year terms: 2009-10 and 2015-16.[9] These terms are chosen to observe legislative behavior before the 2010 round of state legislative redistricting commenced and after that round of redistricting was fully implemented.[10] Shor & McCarty (2011) provide estimates of state legislators' ideal points in a left-right common space, using state legislator survey responses to bridge observations of legislators casting different sets of votes in each state. I match estimates of individual legislators to the percent of non-Hispanic whites in their districts, using five-year estimates from the ACS.[11]

Figure 2 displays the bivariate relationship of legislator ideal points and percent white population in the district, with best-fit lines estimated by party. Evidence supporting the expected relationship would be displayed if legislator ideal points converged towards zero as their districts became increasingly white. This is, in fact, the relationship we observe in Figure 2. Moreover, the association is similar in terms of substantive size (Democrats, $\beta = 0.31$; Republicans, $\beta = -0.34$) and coefficient estimates within each party are statistically different from zero.

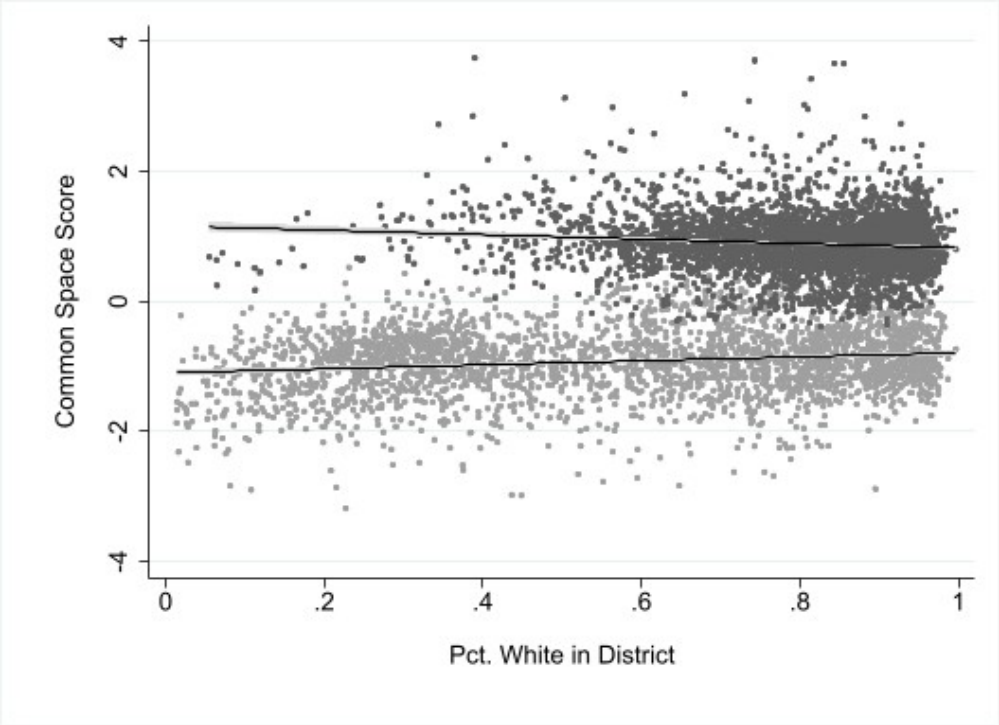
I conduct a more rigorous test of the relationship using multiple regression. I transform legislator ideal points into their absolute values to create the variable *Extremity*, such that higher values indicate more extreme records. The principal independent variable *Pct. White* is again based on non-Hispanic whites from the American Community Survey. As in Table

[9]For states where terms begin in even years, voting records for legislators serving in the term beginning in the prior year are used.

[10]Because state legislative redistricting is not implemented simultaneously, ACS data do not perfectly capture districts that all sitting legislators represented in a given year between 2011 and 2014.

[11]Though one-year estimates were employed for the Congressional analyses, five-year estimates are more appropriate for state legislative districts given their small populations in many states.

Figure 2: Roll-Call Voting and District Racial Composition in State Legislatures by Party, 2015-16



Notes: Data from Shor & McCarty (2011) and the American Community Survey. Light gray markers represent Democrats. Dark gray markers represent Republicans.

1 for the Congressional analysis, I control for *District Extremity* using the absolute value of district opinion estimates from Tausanovitch & Warshaw (2013). I also include dummy variables for *Republican* legislators and for legislators from states in the *South*.

Controlling for *Ideological Heterogeneity* in state legislative districts presents a challenge. For their measure, McCarty et al. (2018) use the standard deviations of district estimates of opinion from Tausanovitch & Warshaw (2013). However, they note that these estimates correlate with the widely varying sample sizes from each state legislative district in the underlying national survey data. The authors conduct a supplementary analysis showing that an alternative estimation of ideological heterogeneity within state legislative districts while adjusting for sample size produces similar results as their original measure, which provides stronger justification for its use. Therefore, I follow McCarty et al. (2018) in using

the standard deviations from Tausanovitch and Warshaw's (2013) measure.

Finally, I estimate a third model including more controls specific to state legislatures. I include indicator variables for legislators who serve in the *Upper Chamber* of their state's legislature and for legislators who represent *Multimember Districts*. I also control for the *District Population*, which varies widely across state legislative districts from a few thousand constituents to nearly a million constituents.

To account for state legislators voting within different state institutional contexts and political environments, I estimate the models using multilevel regression with random effects for states. I present the estimates with bootstrap standard errors clustered by state. I exclude independents from the analysis, as well as the nonpartisan legislators from Nebraska. As before, I estimate models in which *Pct. White* is interacted with *Republican* to determine whether the relationship between district composition and extremity varies by party. Summary statistics for all variables are presented in Table A4 in the appendix.

The results are presented in Table 2. As in previous analyses, if legislators representing more homogeneously white districts held more moderate voting records, we should expect to see a negative and statistically significant coefficient estimate for the *Pct. White* variable. Beginning with the first column for the 2009-10 term, the association between *Pct. White* and *Legislator Extremity* is negative and statistically significant. As in the Congressional analysis, the association is substantively modest. The model projects that moving from a 50% white district to a 100% white district would be associated with a roughly 0.08 decrease in the extremity of a legislator's ideal point, controlling for other factors in the model. For reference, the standard deviation of the dependent variable is 0.42. Turning to the controls, legislator extremity appears to be positively related to district extremity, but southern districts tend to elect more moderate legislators. The results suggest that Republican state legislators are no more extreme than Democrats on average, controlling for other factors in the model. Likewise, I find no significant relationship between ideological heterogeneity and extremity, nor do I find that state senators are more moderate than state

Table 2: District Racial Composition and State Legislator Extremity

	2009-10		2015-16	
Pct. White	-0.16*	-0.14	-0.13	-0.12
	(0.07)	(0.08)	(0.09)	(0.10)
Republican	0.03	0.21	0.05	0.08
	(0.06)	(0.20)	(0.06)	(0.14)
Republican X Pct. White		-0.22		-0.04
		(0.24)		(0.18)
District Extremity	0.79*	0.80*	0.58*	0.58*
	(0.10)	(0.10)	(0.07)	(0.07)
Ideological Heterogeneity	0.14	0.16	-0.38	-0.37
	(0.31)	(0.31)	(0.25)	(0.25)
South	-0.13*	-0.13*	-0.07	-0.07
	(0.06)	(0.06)	(0.06)	(0.06)
Upper Chamber	-0.01	-0.01	-0.03	-0.03
	(0.02)	(0.02)	(0.02)	(0.02)
State RE	Yes	Yes	Yes	Yes
Constant	0.74*	0.71*	0.90*	0.89*
	(0.07)	(0.08)	(0.06)	(0.07)
N	7147	7147	6493	6493
BIC	5299.95	5289.93	6107.69	6115.86

Note: Bootstrap standard errors clustered by state in parentheses. *p<0.05. Significance tests are two-tailed.

representatives.

In the second column, I estimate the same model as in the first column but add the interaction term between *Pct. White* and *Republican*. As before, I find no significant difference between parties in the size of the association between district racial composition and legislator extremity. However, I note that when the interaction is accounted for, the estimate for the component variable *Pct. White* fails to reach statistical significance.

The results for the 2015-16 term in the third and fourth columns resemble those for 2009-10, with some key differences. Most importantly, the coefficient estimate for *Pct. White* remains negatively signed but is not statistically significant at the .05 level of confidence. While the direction of the estimate remains consistent with all prior results, it cannot be ruled

out that a district's white population had no association with legislator extremity in this term. Among the controls, legislators in the South are not found to have more moderate records than non-Southern legislators. Coefficient estimates for *Ideological Heterogeneity* switched signs from positive to negative, but remain statistically indistinguishable from zero. The remaining controls maintain roughly the same size and significance as they did in the first model. In the fourth column, the coefficient for the interaction term fails to reach statistical significance, continuing to suggest no difference in the relationship between district race and extremity between Democrats and Republicans. Though a large number of observations were excluded in 2015-16 due to missing ideal point estimates from Shor & McCarty (2011), results obtained using multiple imputation (presented in the appendix) show similar results to this model.

On the whole, the evidence from state legislators is more mixed than that from Congress. State legislators appear to adopt more moderate voting records when representing more homogeneously white districts, but the evidence is stronger in the 2009-10 term than the 2015-16 term. It is unclear what drives the difference in findings between terms. One possibility is that over-time changes in legislative behavior account for a weaker relationship between district racial composition and extremity. State legislative elections during the Obama Administration were marked by relatively high turnover and a drastic shift towards Republican control of statehouses. However, the evidence from individual state legislative voting records remains largely consistent with the evidence from Congress.

Aggregate Analysis

The expectation that legislators adopt more moderate voting records can also be tested by moving from micro-level analysis of individual legislators to macro-level analysis of legislatures. A district-level theory of individual legislators' voting behavior has important implications in the aggregate: it implies that the two parties will polarize as districts grow more racially diverse on average. When more legislators must run for election in racially

diverse districts, more legislators would be unconstrained from casting extreme votes. Conversely, fewer legislators representing homogeneously white districts will be constrained to moderate their votes. Greater heterogeneity across districts should produce more extreme legislators, which in turn produces more internally homogeneous, polarized parties within legislatures. As a parallel to this line of thinking, previous work shows that legislative parties tend to polarize as ideological heterogeneity within states increase (Kirkland 2014).

To test the expectation that legislative parties are more polarized in states with less homogeneously white populations, I gather data for each chamber (except the nonpartisan Nebraska legislature) for the legislative terms ending in 2010, 2012, and 2014, yielding a total of 294 observations.[12] The measure of polarization I use is *Interparty Distance*, a measure of the distance across a common space between the median legislators in each party. Data for the variable also come from Shor & McCarty (2011). For the independent variable, I use the percentage of the entire state's population that identifies as non-Hispanic white from five-year estimates of the American Community Survey.[13]

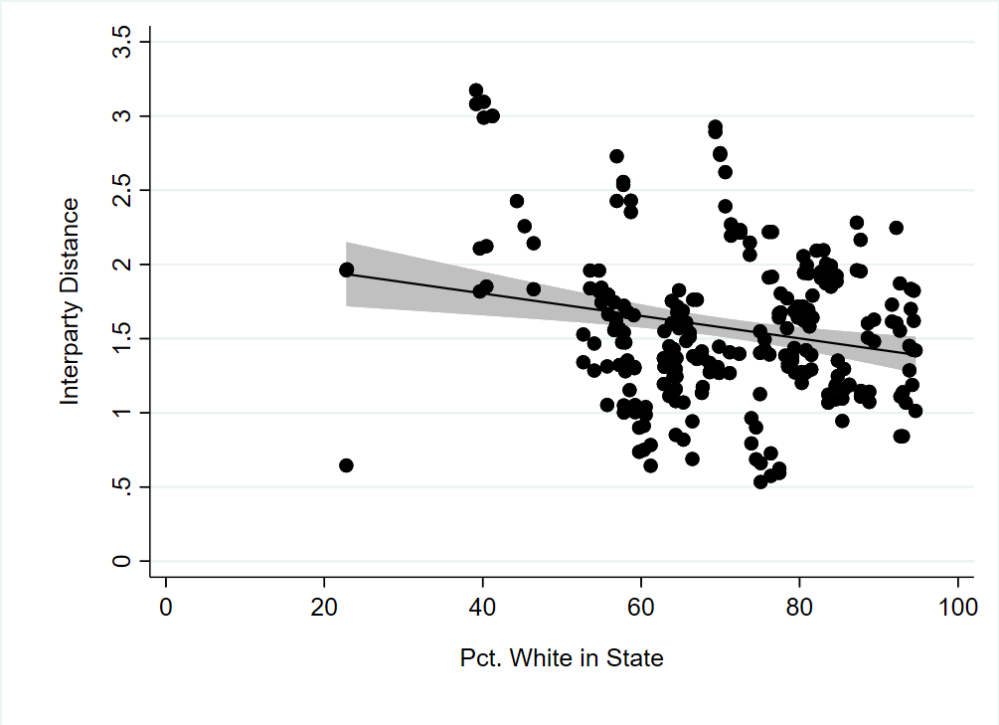
As an initial illustration, Figure 3 plots the bivariate relationship between *Interparty Distance* and *Pct. White* in the state population. Evidence supporting theoretical expectations would come in the form of a negative association between the two variables. In line with expectations, Figure 3 shows that the distance between party means decreases significantly as the state population grows more homogeneously white. A bivariate regression indicates the relationship is negative ($\beta = -0.76$) and statistically significant ($p = 0.00$).

To provide more robust evidence of the relationship, I fit several multiple regression models controlling for state-level factors associated with greater polarization. First, I control for the *Ideological Heterogeneity* of state populations (Kirkland 2014). The estimates

[12] In states where legislative terms do not end in even-numbered years, I use data from the most recently concluded term. In the models below, 48 observations are dropped due to missing data on the dependent variable.

[13] An alternative measure would be the mean percent white of all districts forming a chamber, which would better account for possible racial segregation along district lines. However, this alternative measure and the simple percent white in the state population correlate at $r = 0.998$ for the year 2010, suggesting the simpler measure will yield virtually the same results.

Figure 3: Party Polarization in State Legislative Chambers and State Racial Composition, 2010-2014



Notes: Data from Shor & McCarty (2011) and the American Community Survey.

from (Tausanovitch & Warshaw 2013) used in prior analyses are static for districts between redistricting cycles. In order to use a time-dynamic measure of this control, I employ a measure capturing variance in estimates of state-level policy mood originally derived by Carsey & Harden (2010). I use 2010 data based on this technique calculated by Harden & Carsey (2012) and extend the measure using data from the 2012 and 2014 waves of CCES and matching values to the appropriate state-year.

I further control for two variables meant to capture political competition between the parties within states, which drive roll-call voting patterns, party positioning on the issues, and polarization (Hinchcliffe & Lee 2015). I control for state-level *Party Competition in Government* using a folded Ranney index (see Holbrook & La Raja 2010) and for state-level *Electoral Competition* between the parties using an updated measure originally introduced

by Holbrook & Van Dunk (1993).[14] Data for the competition variables come from Klarner (2013).

Finally, I include a set of controls for legislative institutions that structure roll-call voting patterns and, as a consequence, legislative polarization. I include variables for states that term limit their legislators and for the average population of constituencies for the chamber. I also include indicator variables for upper chambers. Summary statistics for all variables are presented in Table A6 in the appendix.

I estimate the association using a multilevel model, nesting chambers within states. I include fixed effects for terms and present bootstrap standard errors clustered by state. The results for the specification are presented in the first column of Table 3. The results indicate a negative and statistically significant association between *Pct. White* and *Interparty Distance*, controlling for other factors in the model.[15] The association is substantively large. For purposes of illustration, moving from a 45% non-Hispanic white state population (Texas in 2010) to a 95% non-Hispanic white state population (Maine in 2010) yields a decrease in interparty distance of 0.55, which is slightly larger than a full standard deviation of the dependent variable. This result suggests that state legislatures collectively representing largely white populations are less polarized on average. Among the controls, both ideological heterogeneity and electoral competition are found to be positively and significantly related to a larger distance between party median legislators.

Interparty distance is a useful measure of polarization, but alone it cannot tell us whether both parties are moving toward one another in a common ideological space, or whether one party is moderating more than the other. So far, the results have shown no significant differences in the association by party when legislators are the unit of analysis. To asses whether Democratic or Republican caucuses as a whole behave differently depending on the racial

[14] Though the measures are related, Flavin & Shufeldt (2012) demonstrates that the two variables measure distinct aspects of political competition.

[15] Shor & McCarty (2011) provide an alternative measure of polarization, calculated as the average distance between all possible dyads of legislators within a chamber. Employing this measure yields weaker evidence of a relationship between homogeneously white populations and party polarization, but the relationship is signed in the same direction. Full results are presented in Table A7 in the appendix.

Table 3: Party Polarization in State Legislatures and State Racial Composition, 2010-2014

	(1) Interparty Distance	(2) Dem. Median	(3) Rep. Median
Pct. White	-1.10*	0.73*	-0.37
	(0.52)	(0.36)	(0.31)
Ideological Heterogeneity	0.51*	-0.23	0.31
	(0.19)	(0.13)	(0.17)
Party Competition in Govt.	0.69	-0.56	0.13
	(0.71)	(0.61)	(0.47)
Electoral Competition	0.02*	-0.01	0.01
	(0.01)	(0.01)	(0.00)
Upper Chamber	-0.03	0.05	0.02
	(0.04)	(0.03)	(0.03)
Term Limits	0.18	0.09	0.26*
	(0.14)	(0.11)	(0.09)
Mean District Population	0.01	-0.03	-0.02
	(0.04)	(0.03)	(0.02)
South	-0.01	0.31*	0.30*
	(0.14)	(0.12)	(0.11)
Term FE	Yes	Yes	Yes
State RE	Yes	Yes	Yes
Constant	0.50	-0.37	0.10
	(0.67)	(0.51)	(0.46)
N	246	246	246
BIC	-27.15	-195.65	-171.73

Note: Bootstrap clustered standard errors in parentheses. *p<0.05. Significance tests are two-tailed.

composition of the state, I specify two additional models in Table 3 to track the ideological range of each party across states of differing racial compositions. The two dependent variables I use are *Democratic Median* and *Republican Median*, which are simply the ideal points of the median member of each chamber caucus from Shor & McCarty (2011). Moderation in more homogeneously white states in these models would be indicated by a positive coefficient estimate for Democrats and a negative coefficient estimate for Republicans.

Beginning with Democrats in the second column of Table 3, a positive and significant coefficient estimate for *Pct. White* indicates that Democratic caucuses on average are more

moderate in more homogeneously white states. Among the controls, only the variable *South* produces a significant coefficient estimate, indicating that Democratic caucuses in Southern state legislatures are more moderate than Democratic caucuses elsewhere. Turning to Republicans in the third column of Table 3, we see a negative coefficient estimate for the *Pct. White* variable. However, the association is not significant at the conventional .05 level of confidence.

The results point to the conclusion that the decrease in polarization is primarily due to Democratic moderation. However, the results do not imply that Republican caucuses are more conservative in more homogeneously white states. Therefore, it remains possible that more moderate Republican caucuses in whiter states contribute to a reduction in two-party polarization in state legislatures as well.

Accounting for Moderation

The analysis to this point has demonstrated a recurring pattern that legislators representing more homogeneously white constituencies hold more moderate voting records. It remains unclear why this should be the case. In the sections that follow, I explore two possible mechanisms: incumbent responsiveness and electoral replacement of extremists.

One possibility is that, in response to changes in district composition, incumbents change their own voting behavior. Incumbents who want to remain in office should take actions to satisfy the evolving preferences of constituents and forestall electoral challenges. Government policy outputs change in response to changes in public mood over time (Erikson, MacKuen, & Stimson 2002; Page & Shapiro 1983). At least one study finds that lawmakers modify their voting habits in response to changes in district opinion (Stratmann 2000).

However, electoral replacement might better account for changes in members' positions. The voting habits of incumbents tend to remain consistent over time. As Poole (2007) memorably wrote, "members of Congress die in their ideological boots." Similarly Hayes, Hibbing, & Sulkin (2010) show legislators change the issues the pay attention to as district

composition changes, but do not change their roll-call voting patterns (especially on partisan issues). Meanwhile, much of literature on responsiveness suggests that voters throw incumbents out of office when they step out of line with constituent opinion (Canes-Wrone, Brady, & Cogan 2002; Carson et al. 2010) and reward more moderate general election candidates (Hall 2015).

In what follows, I explore each mechanism. First, I use a redistricting design to determine whether short-term changes in the racial composition of districts result in changes to U.S. House members' roll-call votes. Second, I observe the general election outcomes of candidates for the U.S. House between 2008-16 and test whether moderate candidates perform better in more homogeneously white districts.

Incumbent Responsiveness

To assess this explanation, I turn to evidence from House redistricting following the 2010 Census. After each decennial Census, changes in Congressional district boundaries result in changes to the composition of most House members' districts (though many of these changes are small). While most of the focus of analyzing redistricting has focused on partisan gerrymandering and polarization (e.g. McCarty, Poole, & Rosenthal 2009), demographic changes in the district might also produce changes in representative behavior. Hayes, Hibbing, & Sulkin (2010), for instance, find that small shifts in the demographic composition of constituents result in small shifts in the policy agendas of members. A hypothesis that representatives of more homogeneously white districts exhibit more moderate roll-call behavior could be tested by observing whether incumbents change their behavior as the racial composition of their districts change. Because incumbent members of Congress may exert some influence in the redrawing of their own districts, we cannot rule out endogeneity in the findings. However, this poses a relatively easy test of the relationship; if incumbents changed their voting behavior in response to changes in district racial composition, supporting evidence should appear here.

For this analysis, I rely again upon data from the 112th and 113th House, the terms that straddled the redistricting implemented during the 2012 Congressional elections. Observations are restricted to 338 House members who served both terms. Rather than using members' DW-NOMINATE scores, which are static over time, I rely upon modified, term-specific NOMINATE scores produced by Nokken & Poole (2004) for the outcome variable. I predict the change in the extremity of roll-call records as a function of the change in percent of the district that is white. I estimate the following regression model using the full set of controls used in Table 1:

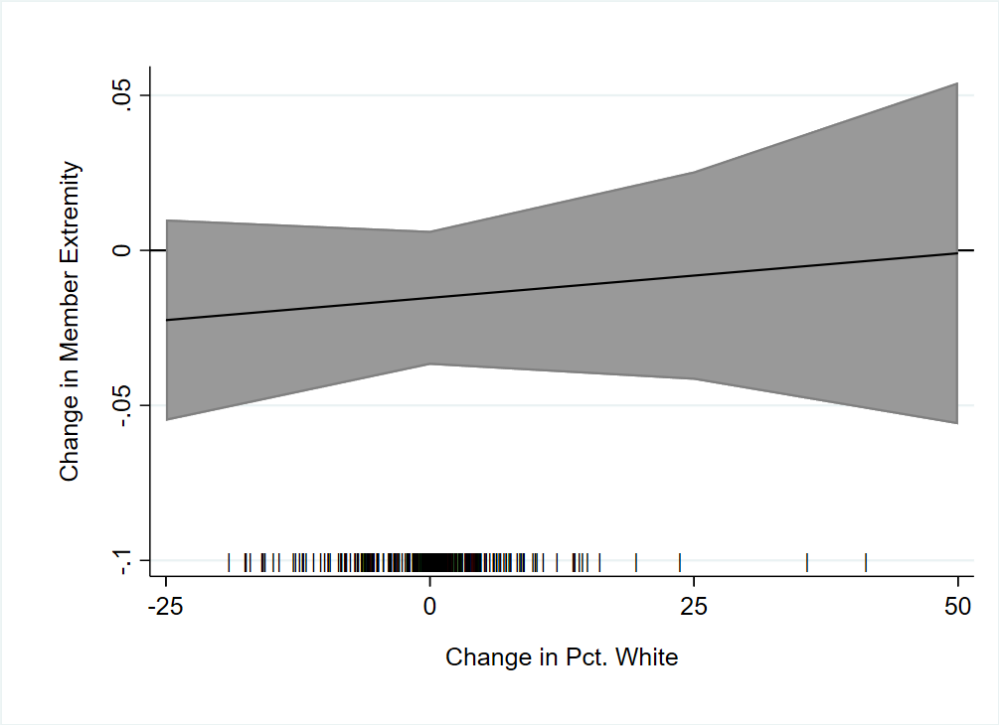
$$\Delta\text{Member Extremity} = \beta_0 + \beta_1 \cdot \Delta\text{Pct. White} + \text{Controls} + \epsilon$$

If incumbents moderated in response to the addition of more white voters to their constituencies, we should expect to see a negative relationship between Δ *Member Extremity* and Δ *Pct. White*. I control for the change in district opinion and change in district ideological heterogeneity, using estimates from Tausanovitch & Warshaw (2013). I also include binary indicators for whether a member is *Republican* or represents a district in the *South*.

The predicted value of the change in member extremity is plotted in Figure 4, while full regression results are presented in Table A3 in the appendix. The figure plots the relationship for a non-Southern Democratic member holding all other controls at their means. Supporting evidence would come in the form of a negative slope; members would assume less extreme records in the 113th House if their districts gained white constituents. Instead, the figure shows a null relationship between the variables, controlling for other factors in the model. The slope of the line is positive (contrary to expectations), but the predicted value of member extremity is not statistically different from zero across the entire range of values of the independent variable.

Though the results here do not provide dispositive evidence of a null relationship, the lack of a relationship in this easy test suggest supporting evidence is unlikely to be found

Figure 4: Change in District Composition and Roll-Call Voting after 2012 Redistricting



Notes: Data from Voteview and the American Community Survey.

through more stringent analysis. I interpret the results to indicate that any relationship between district homogeneity and member moderation occurs through mechanisms other than incumbent responsiveness to changes in district composition. The results here reinforce that it is unlikely for short-term changes in district racial composition to result in otherwise stable partisan voting patterns among incumbents.

Electoral Replacement

Next, I test whether electoral replacement of extremists might best account for representatives holding moderate voting records in more homogeneously white districts. Data for the test come from the Database on Ideology, Money in Politics, and Elections or DIME (Bonica 2014). I observe the electoral outcomes of all incumbents and challengers in general elections for the U.S. House from 2008 to 2016. These cycles are chosen to match the time period

of the other statistical analyses in this paper. I use two outcomes in particular: a binary indicator of whether the candidate won their election, and the candidate's vote share.

I expect that the racial composition of the district will moderate the relationship between candidate ideology and election outcomes. To measure candidate ideology, I take the absolute value of candidate's CFscore to create the variable *Extremity*. I merge DIME data to one-year ACS estimates of the racial composition of districts and create the variable *Pct. White*. I control for several factors. A candidate that is an *Incumbent*, measured using a binary indicator, should perform better in general elections than challengers. The *Number of Primary Opponents* should be positively related to winning a general election, since primary challengers tend to run in districts when conditions are favorable for their party in the general. District opinion estimates derived from large-N surveys are not available every election cycle, so I proxy for left-right opinion by controlling for *Same-Party President Vote Share* in the district. Finally, I include the *Logged Receipts*, or the natural log of the total contributions the candidate received, under the assumption that candidates with higher contributions perform better.

A test of the expectation will come in the form of an interaction between *Extremity* and *Pct. White*. If more moderate candidates perform better in more homogeneously white districts, we should expect to see a negatively signed coefficient estimate for the interaction term.

Table 4 displays the results. Estimates for both outcome variables are displayed with and without random effects for districts. The first two columns show the outcome of logistic regression with a binary measure of candidate victory in the general election. Contrary to expectations, the coefficient estimate for the interaction term *Extremity X Pct. White* is positively signed, but the estimate is not found to be statistically different from zero. Therefore, these models show no evidence that more extreme candidates are more likely to lose in more homogeneously white districts. Among the controls, incumbent status, the number of primary opponents, same-party presidential vote share, and campaign contributions are all

Table 4: Extremity, District Racial Composition, and General Election Outcomes

	DV: Win (0/1)		DV: Vote Share	
Extremity	-1.24	-1.24	0.00	0.00
	(0.65)	(0.71)	(0.01)	(0.01)
Pct. White	0.54	0.54	0.03	0.03
	(0.91)	(0.98)	(0.02)	(0.03)
Extremity X Pct. White	0.13	0.13	-0.05*	-0.05*
	(0.92)	(0.98)	(0.02)	(0.02)
Incumbent	2.70*	2.70*	0.13*	0.12*
	(0.15)	(0.20)	(0.01)	(0.01)
Number of Primary Opponents	0.13*	0.13*	-0.00	0.00
	(0.03)	(0.04)	(0.00)	(0.00)
Same-Party President Vote Share	11.66*	11.66*	0.64*	0.62*
	(0.78)	(1.20)	(0.02)	(0.02)
Logged Receipts	0.63*	0.63*	0.02*	0.02*
	(0.06)	(0.08)	(0.00)	(0.00)
Cycle FE	Yes	Yes	Yes	Yes
District RE	No	Yes	No	Yes
Constant	-15.09*	-15.09*	-0.09*	-0.12*
	(1.14)	(1.44)	(0.02)	(0.02)
N	3801	3801	3801	3801
BIC	2001.62	2001.62	-6348.63	-6446.51

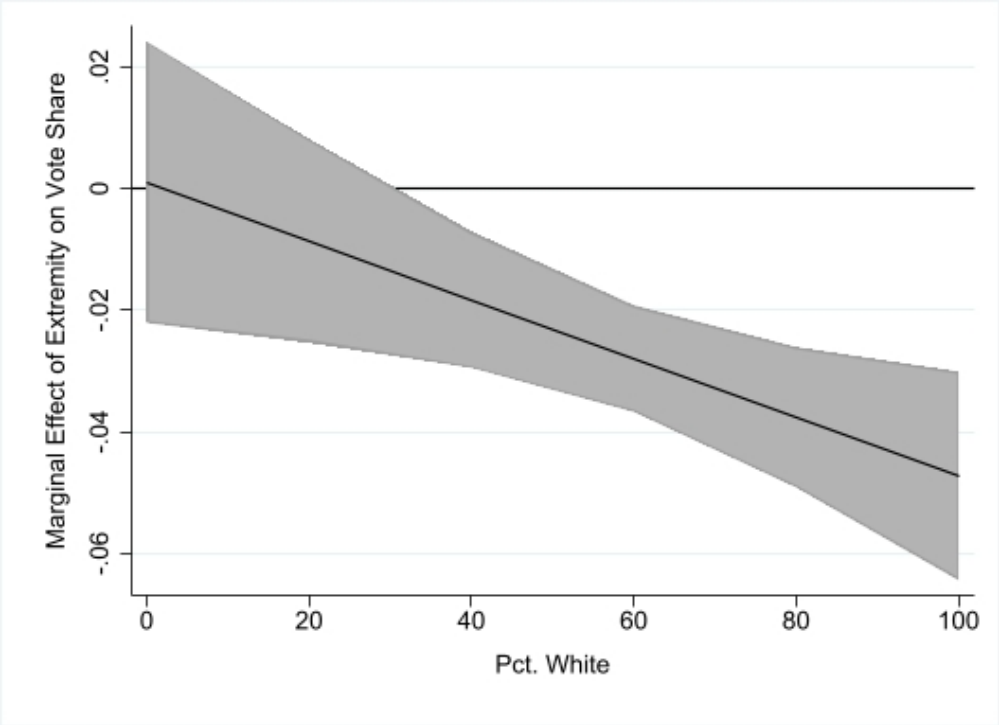
Note: Results in columns 1-2 estimated with logistic regression. Results in columns 3-4 estimated with OLS regression. Robust clustered standard errors are presented for random effects models and clustered by district. *p<0.05. Significance tests are two-tailed.

positively and significantly related to a general election victory.

The third and fourth columns show the outcome of linear regression models with candidate vote share as the dependent variable. In line with expectations in these models, the coefficient estimate for the interaction term is negatively signed and statistically different from zero. Among the controls, incumbent status, same-party presidential vote share, and campaign contributions are postively and significantly related to an increase in candidate vote share. However, the number of primary opponents appears to have no significant association with general election vote share.

Figure 5 plots the marginal effect of *Extremity* on general election vote share across

Figure 5: Extremity, Electoral Vote Share, and District Racial Composition



Notes: Data from DIME and the American Community Survey.

values of *Pct. White* for an incumbent candidate in the 2012 election cycle with remaining control variables held at their means. The plot shows that a candidate at the mean level of extremity can expect to see their vote share decrease by roughly five percentage points moving from a district with no white voters to a district with all white voters, controlling for other variables in the model. While losing five percent vote share may not jeopardize victory for candidates in safe districts, such a decrease in vote share is consequential for candidates in more marginal districts.

The results of these tests suggest that extreme candidates receive larger penalties at the ballot box when running in more homogeneously white constituencies. It remains unclear whether these penalties systematically cause extreme candidates to lose, given the null findings in the logistic regression model. However, this null result could be the result of including candidates in both safe and competitive seats in the same analysis. In competitive races,

more extreme candidates may be able to cling to victory in diverse districts but be edged out by moderate rivals in more homogeneously white districts.

Discussion

The findings above provide evidence that the racial composition of districts are related to how extreme or moderate lawmakers' voting records are across lawmaking bodies. The individual-level findings are fairly consistent for both Democrats and Republicans across all lawmaking bodies examined. At the aggregate level, state legislatures governing more homogeneously white states were less polarized, though Democratic caucuses seemed to moderate more in these states than Republican caucuses did. By marshaling evidence from a number of contexts at both the individual and aggregate levels, this study provides consistent evidence of the relationship.

Exploratory tests of the mechanism showed it is likely not the case the legislators moderate their roll-call votes in anticipation of appealing to more homogeneously white electorates. Rather, it appears that white electorates tend to assess larger electoral penalties on extreme candidates. While it is unclear the penalties are large enough to endanger extreme candidates in uncompetitive districts, the penalties are large enough to cost extreme candidates victory in more competitive contests.

None of the evidence above identifies a causal link between district racial composition and representative behavior. The findings are best interpreted as descriptive, though suggestive of a potential causal link that could be identified through further analysis. While efforts have been made to control for potential confounding factors, the possibility of a spurious relationship cannot be eliminated. Minimally, reverse causation seems unlikely; it is doubtful white voters sort into certain districts because those districts are represented by more moderate lawmakers. The redistricting analysis provides no evidence that short-term changes in district demographics produce changes in incumbent voting patterns, suggesting that the mechanism producing the observed relationship runs through elections.

It is worth highlighting that the findings are time-bound. All data analyzed above were recorded between 2009 and 2016. Electoral conditions and party coalitions have not shifted drastically in the intervening period. However, it is possible that long-term changes in the structure of party coalitions could lead to changes in the relationship between district-level racial composition and partisan behavior. In the short term, the findings would seem to imply that continued demographic change in the U.S. will lead to greater legislative polarization. However, given historical changes in party coalitions, it is difficult to predict with any certainty that the relationship observed here will continue to be observed in coming decades.

The evidence provided here does not speak to previous assertions that legislators are more responsive to the policy demands of whites than other racial groups (e.g. Griffin & Newman 2008). None of the analyses in this work test this proposition directly. Neither does the evidence show that representatives of more homogeneously white districts moderate their votes because whites demand more moderate policies (or conversely that nonwhites hold more extreme policy preferences). The more likely mechanism is that voters in more homogeneously white districts are more likely to oppose extreme candidates than voters in more racially diverse districts, perhaps due to conditions of racially polarized voting within districts (consistent with the racial threat hypothesis, e.g. Avery & Fine 2012; Key 1949) or due to the electoral capture of minority groups by the Democratic Party (Frymer 1999).

This study contributes to the literature on electoral accountability and spatial voting. Studies finding that more extreme lawmakers perform worse in elections typically neglect any consideration of race in electoral outcomes (e.g. Ansolabehere, Snyder, & Stewart 2001; Canes-Wrone, Brady, & Cogan 2002; Carson et al. 2010). Future studies in this vein should minimally control for district racial composition. Future work might also consider how the presence other captured social groups (e.g. evangelical Christians, LGBTQ+ Americans; see Frymer 1999) in legislative district impacts the electoral rewards for moderation.

This study also contributes to the literature on district heterogeneity by providing new

evidence of a relationship between *demographic* heterogeneity and extreme representative behavior. Inconsistent findings and the use of questionable index measures of demographic heterogeneity in early studies led some researchers to conclude that ideological, not demographic, heterogeneity in the district alone was responsible for more extreme or partisan lawmaker behavior (e.g. Gerber & Lewis 2004; Levendusky & Pope 2010). By focusing on a single demographic cleavage expected to produce partisan divisions and employing a straightforward measure of that cleavage, this study provides evidence that demographic heterogeneity can play a role in lawmaker extremity.

Finally, the evidence here is consistent with accounts of elite party polarization rooted in demographic changes in the electorate, especially through immigration (e.g. Stonecash, Brewer, & Mariani 2003). Historically low levels of elite polarization in the mid-20th Century occurred at a time when immigration had been sharply curtailed during the four decades after the 1924 Immigration Act. Simultaneously, most African Americans faced *de facto* exclusion from the electorate. It was during this time of low polarization, when the voting public was almost exclusively white, that Downs (1957) published his influential median voter theorem. Elite polarization rose again after federal civil rights legislation began to protect the voting rights of African Americans and immigration expanded in the 1960s. By focusing on legislator-constituency dyads, this study provides a new look at the connection between race and polarization in the U.S. The findings suggest that district-level demographics, in concert with the composition of national party coalitions, can reinforce the incentives for individual lawmakers to side with the more extreme flanks of their parties. Partisan realignment away from division on issues of race may help to remove these incentives to extreme voting in the future.

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Appendix

Table A1: Descriptive Statistics for House Data

	Mean	St. Dev.	Min.	Max
Member Extremity	0.44	0.14	0.07	0.913
Pct. White	0.64	0.23	0.02	0.96
District Extremity	0.25	0.19	0.00	1.09
Republican	0.55	–	0	1
Ideological Heterogeneity	1.32	0.10	0.86	1.57
South	0.31	–	0	1

Table A2: Descriptive Statistics for Senate Data

	Mean	St. Dev.	Min.	Max
Member Extremity	0.38	0.16	0.03	0.92
Pct. White	0.71	0.15	0.23	0.95
District Extremity	0.16	0.10	0.01	0.39
Republican	0.46	–	0	1
Ideological Heterogeneity	1.31	0.06	1.21	1.53
South	0.22	–	0	1

Table A3: OLS Regression Results of Redistricting Analysis

	(1)	(2)
Δ Pct. White	0.06	0.04
	(0.05)	(0.05)
Δ District Opinion		0.05*
		(0.03)
Republican		0.00
		(0.00)
Δ Ideological Heterogeneity		0.09
		(0.05)
South		-0.01
		(0.01)
Constant	0.00	-0.00
	(0.00)	(0.01)
N	348	348
Adj. R^2	0.00	0.02

Note: *p<0.05. Significance tests are two-tailed.

Table A4: Descriptive Statistics for State Legislator Data

	Mean	St. Dev.	Min.	Max
Legislator Extremity	0.80	0.42	0	2.72
Pct. White	0.73	0.24	0.01	0.995
District Extremity	0.22	0.17	0.00	1.21
Republican	0.45	–	0	1
South	0.24	–	0	1
Ideological Heterogeneity	0.14	0.04	0.04	0.24
Multimember District	0.15	–	0	1
Upper Chamber	0.26	–	0	1
District Population (in 100,000s)	0.89	1.12	0.03	11.69

Table A7: District Racial Composition and State Legislator Data with Missing Data Imputed, 2015-2016

	(1)	(2)
Pct. White	-0.14	-0.13
	(0.08)	(0.09)
Republican	0.05	0.08
	(0.06)	(0.14)
Republican X Pct. White		-0.04
		(0.16)
District Extremity	0.58*	0.58*
	(0.07)	(0.07)
Ideological Heterogeneity	-0.45	-0.45
	(0.26)	(0.25)
South	-0.06	-0.07
	(0.07)	(0.07)
Upper Chamber	-0.04*	-0.04*
	(0.02)	(0.02)
Constant	0.91*	0.91*
	(0.06)	(0.07)
N	7289	7289

Note: Robust clustered standard errors, clustered by state, in parentheses. *p<0.05. Significance tests are two-tailed.

Table A6: Descriptive Statistics for Chamber Polarization Data

	Mean	St. Dev.	Min.	Max
Interparty Distance	1.57	0.52	0.53	3.17
Dem. Median	-0.82	0.38	-1.66	0.22
Rep. Median	0.76	0.35	-0.10	1.65
Pct. White	0.71	0.15	0.23	0.95
Ideological Heterogeneity	0.99	0.08	0.79	1.25
Party Competition in Govt.	0.88	0.08	0.72	0.999
Electoral Competition	39.04	11.26	16.19	61.57
Upper Chamber	0.5	–	0	1
Term Limits	0.29	–	0	1
Mean District Population (in 100,000s)	1.08	1.42	0.03	9.52
South	0.22	0.42	0	1

Table A7: Party Polarization in State Legislatures and State Racial Composition, 2010-2014

	(1)	(2)
Pct. White	-0.00*	-0.01
	(0.00)	(0.00)
Ideological Heterogeneity		0.27
		(0.34)
Party Competition in Government		0.68
		(0.48)
Electoral Competition		0.01*
		(0.00)
Upper Chamber		-0.05
		(0.03)
Term Limits		0.09
		(0.10)
Mean District Population		0.04
		(0.03)
South		0.02
		(0.11)
State RE	No	Yes
Term FE	No	Yes
Constant	1.41*	0.69
	(0.14)	(0.63)
N	267	267
Adj. R^2	0.01	
BIC		21.61

Note: Model 1 presents the results of an OLS regression with classic standard errors in parentheses. Model 2 presents the results of a multilevel model with bootstrap clustered standard errors, clustered by state, in parentheses. *p<0.05. Significance tests are two-tailed.