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ORIGINAL PAPER

Do Moderate Voters Weigh Candidates' Ideologies? Voters' Decision Rules in the 2010 Congressional Elections

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Abstract Models of voting behavior typically specify that all voters employ identical criteria to evaluate candidates. We argue that moderate voters weigh candidates' policy/ideological positions far less than non-moderate voters, and we report analyses of survey data from the 2010 Cooperative Congressional Election Study that substantiate these arguments. Across a wide range of models and measurement strategies, we find consistent evidence that liberal and conservative voters are substantially more responsive to candidate ideology than more centrist voters. Simply put, moderate voters appear qualitatively different from liberals and conservatives, a finding that has important implications for candidate strategies and for political representation.

Keywords Voting · Elections · Congress

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Introduction

Spatial models of elections typically posit that all voters prefer candidates who share their policy beliefs, so that liberal voters prefer liberal candidates, conservative voters prefer conservative candidates, and moderates prefer moderate candidates. Research by political scientists and psychologists into the nature of attitudes, however, challenges the assumption that all voters weigh candidate ideology equally .

We present theoretical and empirical analyses that moderate voters de-emphasize policy and ideology in their voting decisions, compared to non-moderate voters. Analyzing data in a large sample of House districts during the 2010 congressional elections, we find that while liberal and conservative voters heavily weigh the candidates' ideologies—specifically, these voters weigh their relative ideological distances to the Democratic and Republican candidates contesting their district—self-identified moderate voters do not. We demonstrate, moreover, that important differences obtain regardless of whether we use a "symbolic" ideology measure based on the one to seven liberal-conservative scale included in voter surveys, or an "operational" ideology measure based on survey respondents' expressed views on multiple policy-based questions.

Our findings have implications for voting behavior and political representation. Our findings extend previous studies that conclude that politically-knowledgeable voters weigh policy more heavily than the less knowledgeable (e.g., Goren 1997), to argue that policy salience also depends on voters' policy positions (Warwick 2004).[1] With respect to political representation, our findings pertain to the growing policy polarization between Democratic and Republican congressional elites (e.g., Fiorina et al. 2004; McCarty et al. 2006; Poole and Rosenthal 1997). To the numerous explanations that scholars have advanced for elite polarization, including the influence of partisan media (Levendusky 2013), party activists, special interest groups, and primary voters (Bafumi and Herron 2010; Burden 2004), we add another factor: namely, that members of Congress have more leeway to compile sharply liberal or conservative legislative voting records because these positions do not alienate moderate voters.

Why Moderate Voters May Discount Candidates' Ideological Positions

Research in psychology and political science raises questions about whether all voters weigh ideology equally. Psychology research suggests that as individuals' preferences become more extreme, their views intensify (e.g., Allport 1935; Key

[1] We note that the proposition that voters' issue intensity correlates with their position is consistent with the directional model of issue voting (Macdonald et al. 2007; Rabinowitz and Macdonald 1989), which posits that citizens who self-place at the center of the policy/ideology scale are "neutral" and thus do not decide based on the parties'/candidates' positions on the focal issue. Warwick (2004) has argued that this intensity component of the model should be tested separately from the directional component. This is what we do here although our purpose is not to test the directional model, nor is it to assess the relative merits of the directional versus proximity models. As noted by Lewis and King (1999), it is difficult to parse out these competing models using election survey data.

1963; Krosnick and Schuman 1988). This finding has been replicated in many contexts, leading Suchman (1950) to conclude that the link between opinion extremity and intensity is universal. Similarly, Tesser and his co-author (Millar and Tesser 1986; Tesser 1978) show that the mere act of thinking about an issue tends to generate more extreme attitudes, so that to the extent that individuals spend more time thinking about dimensions they perceive as salient, attitude extremity should correlate with intensity. Additional research concludes that individuals who are preoccupied with an issue tend to screen out information that conflicts with their predispositions, which should strengthen the association between attitude intensity and extremity (Sherif and Hoyland 1961).

A growing body of research shows that the link between attitude extremity and intensity applies to political ideology. Liu and Latane (1998, Table 1) report that college students' ideological extremity correlates positively with the importance they attached to ideology, while Van Houweling and Sniderman (2005) report experimental election results in which subjects who reported moderate ideologies discounted the candidates' ideologies compared to subjects who reported non-centrist positions. Related research concludes that many citizens are "motivated reasoners" who seek out information that reinforces their pre-existing political attitudes, and that the more intense their attitudes the stronger their tendencies to engage in motivated reasoning (see, e.g., Redlawsk 2002; Taber and Lodge 2006). Furthermore, research on group polarization suggests that group discussion promotes more extreme attitudes, which may increase the salience of political issues and also push individuals towards more extreme viewpoints (Liu and Latane 1998). In this regard, cross-national research documents that citizens interact disproportionately with co-partisans (Huckfeldt et al. 2005), so that the information partisans receive via these political networks should push them towards more liberal viewpoints (for Democrats) or conservative viewpoints (for Republicans), while also increasing the salience of ideology.

Finally, research in comparative politics suggests that centrist voters differ systematically from non-centrists. Students of French elections conclude that self-reported ideological centrists are less influenced by parties' positions than are non-centrist voters (Converse and Pierce 1986; Deutsch et al. 1966). These authors report that French citizens who reported centrist policy and ideological positions were less politically knowledgeable than the general voting population, and, furthermore, that the voting decisions of low-information, centrist, survey respondents—a group that Deutsch et al. (1966) dubbed *le marais* (the swamp)—were unrelated to their reported ideologies.

Design and Measures

The considerations outlined above prompt us to ask: are moderate voters responsive to congressional candidates' ideologies in the same way as non-moderate voters? Using data from the 2010 Cooperative Congressional Election Study (CCES), we employ two complementary approaches to address this research question. The first measures what is often labeled "symbolic ideology." Here we use survey

respondents' self-placements along a seven-point scale ranging from "very liberal" (1) to "very conservative" (7), with self-identified moderates occupying the scale mid-point (4). This item asks respondents to summarize their preferences by associating with broad categories of "liberal" or "conservative." Respondents could also use ideological labels such as "liberal," "conservative," and "moderate" to describe their sense of identification with, or attachment to, those groups (Conover and Feldman 1981). Just as party labels may conjure social images of Democrats, Republicans, and Independents such that individuals self-identify with a political party based on these images (Green et al. 2002), self-identification as, for instance, a "conservative" could imply some sense of belonging with other conservatives. Results from analyses using the symbolic ideology measure, then, have different substantive implications depending on whether respondents use the ideological self-identification scale as a summary measure of overall preferences or to convey group attachments.

Thus, as a second strategy, we use estimates of ideology based upon survey respondents' answers to policy-oriented questions, which are often referred to as "latent" or "operational" ideology measures (cf. Ellis and Stimson 2012; Jacoby 1991; Jessee 2012). This measure is drawn from recent work by Shor and Rogowski (Forthcoming), and uses responses to policy-based survey questions to create an overall summary of respondents' latent ideology.[2] We created these measures using the policy questions that appeared on the CCES, which we recoded into 37 binary-choice items. We then used the Bayesian item-response model described by Clinton et al. (2004) to generate measures of respondent ideology.[3] As is standard in the literature, we used a single ideological dimension, and the statistical model was identified by normalizing the estimates to have mean zero and unit variance. Liberal voters have negative estimates, and conservative voters have positive estimates.

We also use two different strategies to locate the candidates' ideological positions relative to voters. First, to complement our measure of voters' symbolic ideology, we measure candidate ideology using a survey of expert informants in a random sample of 100 House districts—supplemented with a purposive sample of 55 districts anticipated to be competitive—where the experts were asked to place candidates on the same one to seven liberal-conservative scale presented to the CCES survey respondents.[4] In each district, we surveyed "expert" residents to provide informed judgments about the candidates running for the U.S. House. These experts included delegates to the 2008 national party conventions, state legislators, and others screened for their information about the politics of their district. The district-wide mean of the experts' candidate placements provides a measure of the

[2] Ansolabehere et al. (2008) show that this approach significantly reduces measurement error in characterizing respondents' preferences.

[3] We estimated 50,000 iterations after a burnin period of 10,000, and thinned by 100 to generate a posterior distribution of respondent ideology with sample size 500.

[4] The 2010 phase of the study was based on the same districts sampled in the 2006 study. For more information about the study, see the project website: [Identifying reference removed]. Below we report results on all 155 districts, although our results replicate when we restrict the analysis to the random sample.

candidates' ideological placements.[5] Because the items used on the constituent and expert surveys were identical, we assume that the district experts' candidate placements are on a scale equivalent to the item used to place individual constituents.[6] We then use these expert placements on the symbolic ideology scale to compare the candidates' ideologies to the more than 12,000 CCES respondents who placed themselves on the symbolic ideology scale and who reported voting in the 2010 elections in 150 districts in which opposing candidates from each party contested the seat.

Using district experts to place the candidates on the symbolic ideology scale confers important benefits compared to most previous measures that use either the average of respondents' candidates placements, or respondent-specific candidate placements (Adams et al. 2004; Merrill and Grofman 1999), each of which confront methodological issues relating to assimilation/contrast effects (see, e.g., Grynaviski and Corrigan 2006; Macdonald et al. 2007). By contrast our design uses candidate placements external to voter placements and thereby avoids these otherwise serious measurement issues.[7] Our expert-based measures of candidate positions are highly reliable using the approaches advocated by Brown and Hauenstein (2005), yielding $a_{wg} > 0.80$, and Jones and Norrander (1996) and O'Brien (1990), with $E\rho^2 > 0.70$. Our measure also correlates at 0.96 with a combined DW-NOMINATE and ADA measure (for more information on the reliability and validity of informant-based measures of candidate placements, see Maestas et al. (2014)).[8] For those unpersuaded by these arguments, however, below we describe robustness checks using CCES survey respondents' mean candidate placements in place of the expert placements, which continue to support our substantive conclusions.

We used a second data source to locate candidates using an operational ideology measure that we calibrate against our operational ideology measure for rank and file voters. We collected data on candidates' policy preferences from surveys conducted by Project Vote Smart, which administers surveys with large batteries of policy questions to all candidates for federal and state office.[9] The Project Vote Smart data

[5] Because the study surveyed experts in both political parties, we correct for partisan bias in individual expert informants' candidate placements. Individual informants' ratings were corrected for partisan bias by regressing the candidate rating on the partisanship of the informant relative to the candidate ("same party" = 1; "independent" = 0; "opposite party" = −1), and then subtracting the resulting coefficient on partisanship from the individual informant's rating of the candidate. We note that we also estimated models where we did not correct for experts' partisan bias, and these estimates supported the same substantive conclusions we report below. This is not surprising given that Maestas et al. (2014) demonstrate that correcting for partisan bias has only a small effect on estimates based on informant samples of the size used in this study.

[6] In assuming that the positions of mass and district-expert responses on the liberal-conservative scale are equivalent, we follow a long line of scholarship comparing the positions of activists and others with those of ordinary voters (Kirkpatrick 1975; McClosky et al. 1960; Miller and Jennings 1987).

[7] Elsewhere we have reported analyses supporting the reliability and validity of our district-expert candidate ideological placements [author cites].

[8] This relationship is not due simply to partisan polarization: the correlation between the informant placements and a composite DW-NOMINATE/ADA ratings among Democratic incumbents is 0.70; among Republicans it is 0.56.

[9] For examples of research that uses Project Vote Smart to characterize candidate ideology, see Ansolabehere et al. (2001), Rogowski (2014), and Shor and McCarty (2011).

provide information on both major-party candidates' policy positions in 288 districts.[10] Fortuitously, many of these questions—15 in all—matched (or nearly matched) the text of questions that appeared on the CCES, which allowed us to generate joint estimates of operational ideology for both citizens and candidates in a common space using the estimation procedure described above.[11] Table A-1 in the supplementary appendix reports the 15 overlapping items from the Project Vote Smart and CCES surveys.

Our symbolic and operational ideology measures appear to tap into similar underlying features. Voters' self-placements on the seven-point symbolic ideology scale are highly correlated ($r = 0.75$) with our operational, policy-based estimates of their ideologies; within parties, the correlations are 0.39 for Democratic partisans, 0.43 for Republicans, and 0.54 for Independents. With respect to candidates, our experts' candidate placements on the symbolic ideology scale correlate at 0.92 with our operational measures derived from the Project Vote Smart data; within parties, the correlations are 0.59 for Democratic candidates and 0.35 for Republicans.

Testing Moderate Voters' Behavior

Figure 1 plots the distribution of survey respondents' and candidates' ideologies. Figure 1a displays respondents' self-placements along the seven-point symbolic ideology scale, along with the average location of Democratic and Republican candidates based on the expert placements on the seven-point scale. First, note that 27 % of CCES respondents self-place at the scale midpoint (4), which is the modal category. Among non-centrist respondents, self-identified conservatives outnumber liberals by a roughly three-to-two margin, a pattern consistent with the patterns in recent National Election Study surveys. Figure 1b displays the distribution of our measure of operational ideology, based on survey respondents' answers to the policy-based questions in the CCES (for voters) and on the Project Vote Smart data (for candidates). The solid line shows the distribution for the sample of CCES respondents, which appears basically unimodal, with most respondents clustered around the ideological center. Both measures of citizen ideology thereby paint a portrait of an electorate with moderate central tendencies.

In contrast to the voter distribution, the distribution of candidate positions is distinctly polarized. For symbolic ideology (Fig. 1a) the average Democratic

[10] In 2010, about a quarter (196) of major-party House candidates completed the survey. We used two supplementary sources of information for those candidates who did not complete the survey. First, Project Vote Smart researched issue positions for candidates who did not complete the survey, and displayed these positions (along with their research sources) on their website (http://www.votesmart.org/voteeasy). Second, under the assumption that political elites are ideologically consistent across time, we also used a candidate's prior responses to the Vote Smart surveys. For instance, if a candidate completed the survey in 2008, we also used those responses to generate our estimates.

[11] We emphasize, however, that while these 15 questions allowed us to create a common space for candidates and voters, we used available data on candidates' and voters' policy positions to generate the estimates. Thus, our estimates have a high degree of precision, particularly in comparison with other research that uses relatively few roll call voters or implied policy positions to jointly scale voters and politicians (e.g., Bafumi and Herron 2010; Jessee 2010).

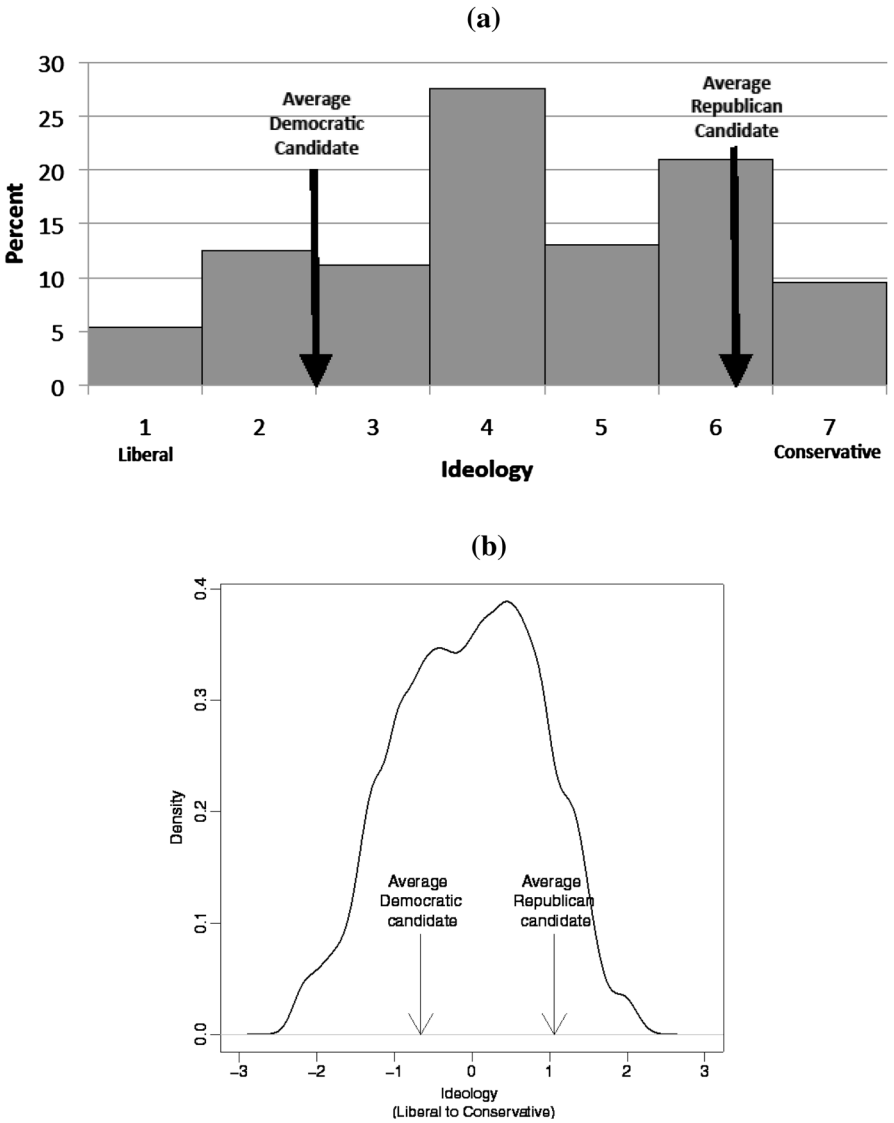


Fig. 1 Ideological placements of voters and candidates. **a** Symbolic ideology measures. **b** Operational ideology measures. *Notes* In **a**, *bar heights* correspond to the percent of respondents in our sample who self-identify as each of the seven ideology categories ranging from very liberal (1) to very conservative (7). The arrows indicate the average Democratic candidate location (2.47) and the average Republican candidate location (6.10), based on experts' candidate placements. In **b** the *solid line* plots the distribution of respondents' ideology based on respondents' answers to policy-based questions in the CCES. The arrows indicate the average Democratic candidate location (−0.66) and average Republican candidate location (1.06), based on the Project Vote Smart data

candidate location is 2.47 and the average Republican location is 6.10 on the one to seven scale (based on the experts' candidate placements). In all districts, the Republican candidate clearly was to the right of the Democrat. Moreover, the

experts placed all Republican candidates to the right of the scale midpoint (4) and all but three Democrats to the left.[12] Figure 1b, which plots the candidates' positions on the operational ideology measure derived from the Project Vote Smart data, displays a similar pattern. The arrows indicate the placements of the average Democratic and Republican candidates, which are polarized relative to the voter distribution: the mean Democratic candidate position (−0.66) is located at the 27th percentile of the voter distribution, while the mean Republican candidate position (1.06) is at the 88th percentile of the voter distribution. In every district, the Republican candidate's estimate is to the right of the Democratic candidate.[13]

The distribution of voters and candidates in Fig. 1 indicates that though the modal voter is moderate, congressional candidates present ideologies that are more congruent with voters who appear to be distinctly non-moderate. We further explore this issue in Fig. 2, which compares—using our symbolic ideology measure—self-identified moderate versus non-moderate survey respondents' political sophistication,[14] the strength of their partisan attachments,[15] and awareness of the candidates in their district.[16] The figure also displays patterns for respondents who selected the "don't know" option when asked to self-place on the ideology scale. We see that compared to non-moderate respondents, moderates—defined as those who self-placed at the center point (4) of the one to seven scale—display less political knowledge (on average) and weaker partisan attachments, are more likely to place neither candidate from their district, and are less likely to correctly place the candidates. However, self-identified moderates also differ from respondents who were unable (or unwilling) to place themselves on the ideological scale: compared to respondents who declined to state their ideology, moderates are more politically knowledgeable, more likely to place the candidates correctly, and less likely to place neither candidate. Using our measure of operational ideology, we find similar patterns when examining the correlations between ideological extremity and sophistication ($r = 0.10$), partisan strength ($r = 0.20$), inability or unwillingness to place the candidates ($r = -0.13$), and correctly placing the candidates ($r = 0.13$). Thus, these comparisons demonstrate that ideological moderation is not synonymous with political ignorance; to the contrary, moderate voters appear to be responding to many of the same political stimuli as voters with more extreme policy preferences.

[12] The standard deviation for Democratic and Republican candidates was 0.56 and 0.34, respectively. The locations for Democrats ranged from 1.38 to 4.30, and Republican locations from 4.88 to 6.72.

[13] The standard deviation for Democratic and Republican candidates was 0.48 and 0.40, respectively. The locations for Democrats ranged from −2.04 to 1.28, Republican locations from −0.41 to 1.90.

[14] Sophistication is measured using a battery of eight political knowledge questions relating to the party in control of state and federal institutions (U.S. Senate, U.S. House of Representatives, state senate, and state lower house) and name recognition of state and federal representatives (U.S. Senators, governor, and U.S. House Representative). Respondents who answered all eight questions correctly are classified as politically sophisticated.

[15] Strong partisans were defined as those who placed themselves at the extremes of the one to seven party identification scale (1 or 7).

[16] Respondents who were unwilling to assess the ideology of both candidates using the one to seven ideological scale were categorized as placing neither candidate. Respondents were considered to have placed both candidates correctly if they placed the Republican candidate to the ideological right of the Democratic candidate.

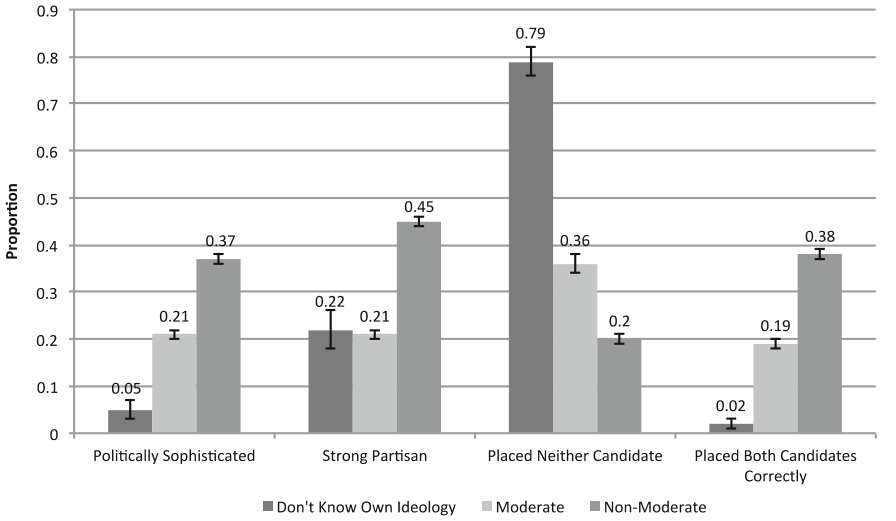


Fig. 2 Comparing moderates, non-moderates, and "Don't Know" respondents. *Notes* The figure displays the proportions of survey respondents who were politically sophisticated; who were strong partisans; who were unwilling to place the congressional candidates in their district; and who placed the candidates correctly, computed over three different groups of respondents: those who were unwilling to place themselves on the 1–7 liberal-conservative scale ('Don't Know Own Ideology'); those who self-placed at the midpoint (4) of the ideological scale ('Moderate'); those who self-placed away from the scale midpoint ('Non-moderate'). Political sophistication is measured using a battery of eight political knowledge questions relating to the party in control of state and federal institutions (U.S. Senate, U.S. House of Representatives, state senate, and state lower house) and name recognition of state and federal representatives (U.S. Senators, governor, and U.S. House Representative). Those who responded to all eight questions correctly are considered politically sophisticated respondents. Strong partisans were defined as those who placed themselves at the extremes of the 1–7 party identification scale (1 or 7). Respondents were considered to have placed both candidates correctly if they placed the Republican candidate to the right of the Democratic candidate

We employ the following general specification, which we label Eq. 1, to evaluate whether moderate voters differentially weigh candidate locations, compared with non-moderates:

$$\begin{aligned}\Pr(\text{Vote Republican}) = \text{logit}\{&\beta_0 + \beta_1(\text{Relative Proximity}) + \beta_2(\text{Non} - \text{Moderate}) \\ &+ \beta_3(\text{Non} - \text{Moderate} \ * \ \text{Relative Proximity}) + \varepsilon\}^{-1}\end{aligned} \tag{1}$$

The dependent variable denotes whether the respondent reported voting for the Republican congressional candidate, computed over the set of respondents who reported voting for a major party candidate. The first independent variable (Relative Proximity) is the respondent's relative ideological proximity to the candidates, defined as the difference between the respondent's distance from the Democratic candidate and his/her distance from the Republican candidate.[17]

[17] Analyses based on a quadratic loss function $[(v_{ij} - D_j)^2 - (v_{ij} - R_j)^2]$ support the same substantive conclusions that we report below.

$$\text{Relative Proximity}: \left|v_{ij} - D_j\right| - \left|v_{ij} - R_j\right|,$$

where, for our measure of symbolic ideology, v_{ij} represents the liberal-conservative self-placement of respondent i residing in district j, and D_j and R_j represent the (expert perceptions of the) positions of the Democratic and Republican candidates running in district j, respectively. Using our measure of operational ideology, v_{ij} represents the operational, policy-based estimate of respondent i's ideology, and D_j and R_j represent the estimated locations of the major-party candidates based on Project Vote Smart data. When $|v_{ij} - D_j| < |v_{ij} - R_j|$ the Democratic candidate is closer to the voter and the expression is negative, while when relative proximity is positive the Republican candidate is closer to the voter.

The second independent variable (Non-Moderate) is a dummy variable that equals one if the respondent's ideological position is non-moderate, and zero if the respondent identifies as a moderate. For the symbolic ideology measure respondents are defined as non-moderate if they self-placed away from the center point (4) of the one to seven liberal-conservative scale, so that the dummy variable (Non-Moderate) equals 0 for the 27 % of the CCES respondents in our study who self-placed at 4, and equals 1 for the 73 % of respondents who self-placed away from the center, i.e., at 1, 2, 3, 5, 6, or 7 on the scale. For our operational ideology measure the definition of non-moderates is less straightforward since—unlike our symbolic ideology measure—operational ideology is a continuous variable, hence there is no clear dividing line between moderates and non-moderates. Here we defined "operational non-moderates" as survey respondents whose operational ideology position was located more than 0.5 standard deviations away from the midpoint (zero) of our operational ideology scale, a cut-off that resulted in 67 % of our CCES respondents being classified as non-moderates—a similar proportion to that for our symbolic ideology measure (73 %). We note that we have explored models using alternative definitions of operational non-moderates, all of which support the same substantive conclusions that we report below.

We note that for our symbolic ideology measure, the variation in moderate respondents' relative proximities to the candidates is due entirely to variation in candidates' positioning across districts, since symbolic moderates are defined as those who self-place at the midpoint (4) on the one to seven liberal-conservative scale. By contrast, variation in non-moderates' relative proximities to the candidates is driven by variation in both candidate positioning and respondents' ideological self-placements, since non-moderates are defined as those who self-placed at 1, 2, 3, 5, 6, or 7 on the ideological scale. Below we address the implications of this distinction, in particular how it may affect our estimates of possible differences in how moderates respond to relative proximity compared to non-moderates.

In our model we also include controls for factors that past research has shown influence voters in congressional elections. Republican spending advantage is defined as the Republican candidate's spending as a proportion of the Republican and Democratic candidates' spending in the district. Republican incumbency advantage is a trichotomous variable where −1 denotes a Democratic incumbent, 0

no incumbent, and +1 a Republican incumbent.[18] Republican seat is a dichotomous variable coded 1 if the congressional seat is occupied by a Republican—regardless of whether the Republican ran for reelection or not—and 0 otherwise. Party identification is measured on a seven-point scale with 1 denoting Democrats and 7 denoting Republicans. Finally, we control for several additional respondent characteristics that plausibly influence their reported vote choice including age, race, gender, income, education, church attendance, and home ownership. For space reasons we do not report the parameter estimates on these variables in the tables we present below, but we present them in the supplementary materials memo.

In Eq. 1 the coefficient (β_1) on Relative Proximity denotes the extent to which moderate voters weigh their relative ideological proximities to the candidates. For non-moderate voters, the weight on relative proximity is given by the sum of the coefficients (β_1) and (β_3), where (β_3) is the coefficient on the interacted variable, [Non-Moderate *x* Relative Proximity]. Thus a positive and statistically significant estimate on (β_3) will denote that non-moderate voters weigh the candidates' ideological positions more strongly than moderate voters.

Table 1 presents our coefficient estimates on Eq. 1, estimated using the symbolic ideology measure (column 1) and the operational ideology measure (column 2).[19] We note first that, as expected, both sets of estimates imply that congressional voters are moved by party identification and also by candidate spending, while the estimates provide mixed support for an incumbency advantage effect (this effect is supported in the symbolic ideology model but not in the operational ideology model). Most important, both sets of estimates support our hypothesis that non-moderate voters weigh candidates' ideological positions more strongly than moderate voters. Using our symbolic ideology measure, the coefficient (β_1) on the relative proximity variable, 0.05, is close to zero and statistically insignificant, denoting that there is no evidence that self-identified moderates respond to candidates' relative proximities. We emphasize that we do not draw the non-sensical conclusion that moderate voters are unmoved by candidate positioning: absence of evidence that moderates *do* respond to relative proximity is not proof that moderates *do not* respond to this variable. Nevertheless, the fact remains that, using our symbolic ideology measures, we do not detect moderate voters' responses to candidate ideology. By contrast, our coefficient estimate on the interacted variable [Relative Proximity × Non-Moderate], +0.48, is positive and significant ($p < .01$), indicating that non-moderates are more responsive to candidates' ideological proximity than moderates. Non-moderates' overall responsiveness to relative proximity, which is the sum of the coefficients on the Relative Proximity variable and the interacted variable [Relative Proximity × Non-Moderate], is

[18] We note that we also re-estimated our models while including separate dummy variables for Democratic and Republican incumbents, and these analyses supported the same substantive conclusions that we report below.

[19] We note that the 288 House races for which we have measures of operational ideology do not perfectly overlap with the 155 House races for which we have measures of symbolic ideology. However, we obtain results substantively identical to those shown in Tables 1, 2 and 3 when using our measure of operational ideology for just those races for which both measures were available. These results are shown in Table A-2 in the supplementary appendix.

Table 1 Relative proximity, moderates, and vote choice

Independent variables	Symbolic ideology		Operational ideology	
	Coefficient (SE)	Estimated effect	Coefficient (SE)	Estimated effect
Relative proximity	0.05	NS	0.74***	0.17
	(0.15)		(0.10)	
Non-moderate	0.17	NS	0.01	NS
	(0.13)		(0.09)	
Relative proximity × non-moderate	0.48**	0.31	0.54***	0.31
	(0.15)		(0.12)	
Republican incumbency advantage	0.34*	0.05	−0.16	NS
	(0.15)		(0.15)	
Republican seat	−0.28	NS	0.30	NS
	(0.26)		(0.26)	
Republican spending advantage	0.16**	0.12	0.23***	0.04
	(0.05)		(0.04)	
Party identification	0.91***	0.52	0.96***	0.67
	(0.04)		(0.03)	
Intercept	−0.16		−3.55***	
	(0.28)		(0.24)	
N	12,244		23990	
Number of races	155		288	
Log-likelihood	−2506.60		−5202.22	
Pseudo-R^2	0.660		0.645	

Data The dependent variable is the survey respondent's self-reported vote choice in the congressional election (1 = voted Republican, 0 = voted Democrat). Entries are logistic regression coefficient estimates and standard errors, clustered by congressional race. Independent variables are defined in the text. Controls included in model estimation, but not listed in table for space reasons. Data are weighted to national population parameters. Estimated effects for continuous variables calculated from 25th to 75th percentile values, and for dichotomous variables calculated from zero to one. NS indicates variable is not statistically significant

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests)

$[0.05 + 0.48] = 0.53$, which is again positive and statistically significant ($p < .01$). Moreover, this estimate is also substantively significant. As we report in Table 1, the estimated effect of shifting from the 25th percentile value of the relative proximity variable to the 75th percentile value of this variable increases the non-moderate respondent's estimated probability of voting Republican by 0.31.[20]

For operational ideology, the coefficient (β_1) on the Relative Proximity variable, 0.74, is positive and statistically significant ($p < .001$), denoting that—unlike our estimates for symbolic ideology—there is evidence that moderate voters respond to

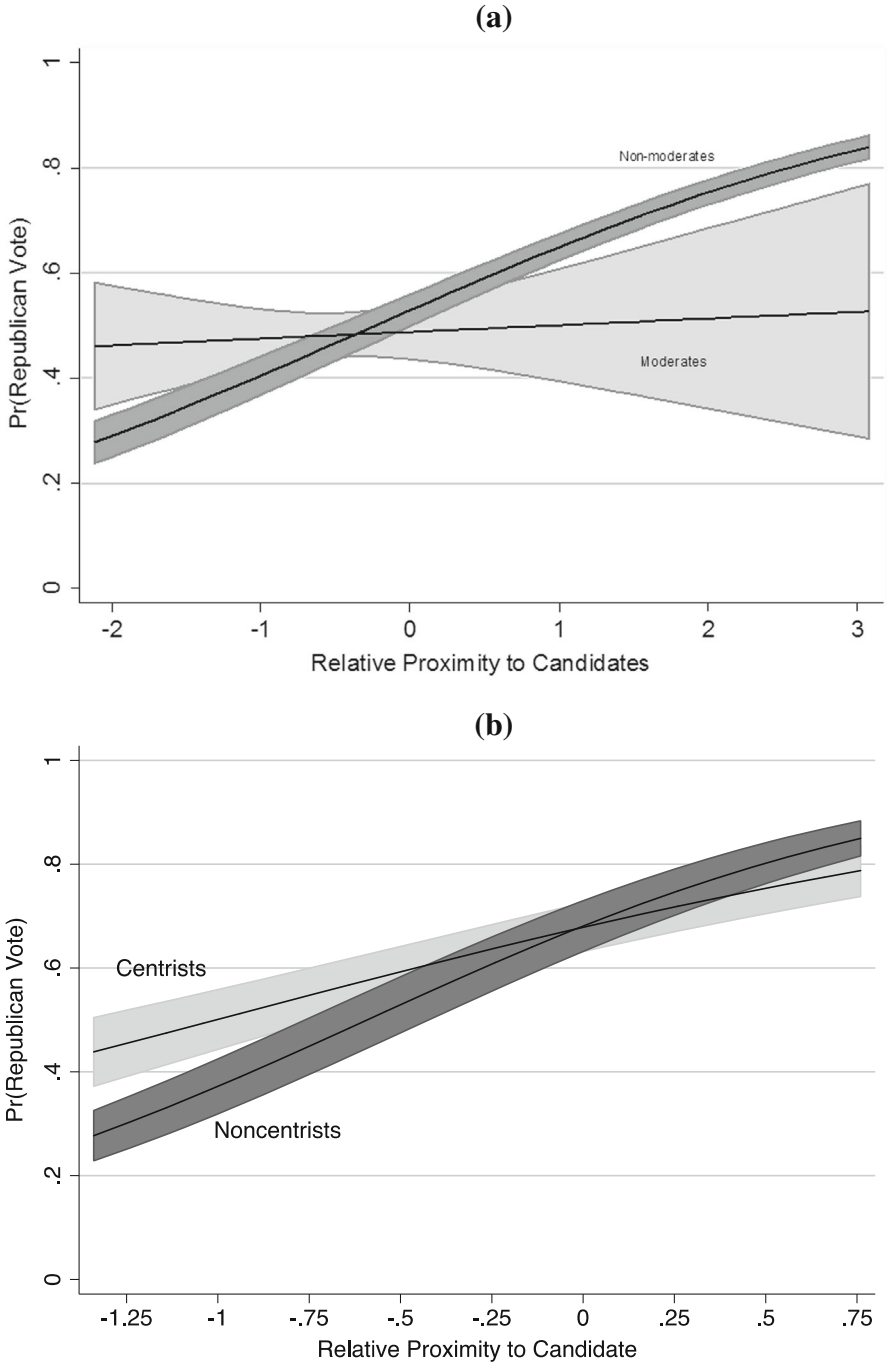
[20] This effect is calculated for an independent voter residing in an open-seat district, where the Democratic and Republican candidates spend equally, and all other variables in the model are set to their mean or modal values, as appropriate.

the candidates' relative proximities. It is possible that operational ideology is a more reliable measure of voters' policy-based ideological preferences, while symbolic ideology captures voters' self-images about whether they perceive themselves as moderate voters who take a middle ground on the ideological debate between liberals and conservatives. More importantly, however, the estimate on the interacted variable [Relative Proximity × Non-Moderate], +0.54, is also positive and significant ($p < .001$), denoting that non-moderate voters are more responsive to candidates' ideological proximity than moderate voters. The coefficient estimates on non-moderates' overall responsiveness to relative proximity, $[0.74 + 0.54] = 1.28$, is close to double that for moderates (0.74).

Figures 3a, b present computations on the CCES respondents' vote probabilities, that illustrate the differing effects of candidate positioning implied by our parameter estimates. The figures display respondents' probabilities of voting for the Republican candidate (the vertical axis)—along with 95 % confidence intervals on these estimates—as a function of relative distance to the Democratic and Republican candidates (across a range running from the 25th to the 75th percentile of the observed values of the relative distance variable), based on the coefficient estimates reported in Table 1, and computed for an independent voter residing in an open-seat district where the candidates spend equally. Figure 3a presents the effect of relative proximity for self-identified moderate and non-moderate voters (where negative scores indicate the Democratic candidate is ideologically closer to the voter than the Republican, while positive scores indicate the Republican candidate is closer). Figure 3a illustrates that non-moderates respond to ideological differences between the candidates, whereas these differences have no estimated effect for self-declared moderates. The effects on the operational measure indicate that voters who are relatively centrist on that measure are less responsive than voters who are less centrist.

The differences between our estimates based on symbolic versus operational ideology—namely, that the operational ideology analyses uncover significant evidence that moderate voters respond to candidate positioning, whereas the symbolic ideology analyses do not—raise the question: what substantive conclusions should we draw about moderate voters' behavior? We note first that both ideological measures support the conclusion that moderate voters are less responsive to candidate positioning than non-moderate voters, which is the key hypothesis we evaluate in this paper. Second, as emphasized above, our estimates based on the symbolic ideology measure do not provide statistically-significant evidence that moderates *are not* responsive to candidates' symbolic ideological positioning; they merely provide insufficient evidence to accept the hypothesis that moderates *are* responsive to symbolic ideology. Hence, the differences in our symbolic versus operational-based analyses do not necessarily support different substantive conclusions about moderate voters' behavior.

Several studies of proximity voting have noted that party identification has the potential to distort or significantly reduce the effects of ideological proximity on voting choice (Jessee 2010, 2012; Shor and Rogowski, forthcoming; Simas 2013), due to the substantial overlap between ideological proximity to candidates and party identification, especially when parties and their candidates are highly polarized and


(a)
Pr(Republican Vote)
0
.2
.4
.6
.8
1
Non-moderates
Moderates
-2
-1
0
1
2
3
Relative Proximity to Candidates
(b)
Pr(Republican Vote)
0
.2
.4
.6
.8
1
Centrists
Noncentrists
-1.25
-1
-.75
-.5
-.25
0
.25
.5
.75
Relative Proximity to Candidate

◀**Fig. 3** Citizens' vote probabilities, as a function of relative distance to the candidates. **a** Symbolic ideology. **b** Operational ideology. *Notes* The figure displays respondents' probabilities of voting for the Republican candidate (*the vertical axis*) as a function of the respondent's relative proximity to the Democratic and Republican candidates (*the horizontal axis*), where higher values on relative proximity denote that the voter is located closer to the Republican candidate relative to the Democrat. These probabilities are computed based on the coefficient estimates reported in Table 1, for an independent voter residing in a district where the candidates spend equally; all other variables in the model are set to the mean or mode, as appropriate

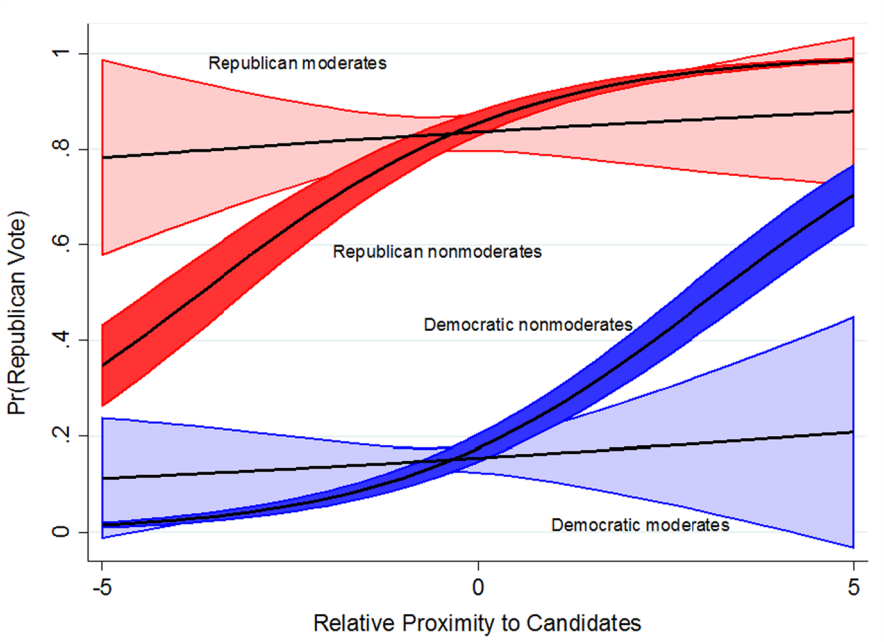
voters are sorted by party into appropriate ideological camps. Under these conditions, few Republican (Democratic) voters are ideologically closer to the Democratic (Republican) candidate in their district. It is apparent from the coefficient estimates in Table 1 that the effects of party identification are strong. The question is, how do moderates and non-moderates compare in their proximity voting among Republican and Democratic identifiers?

Figure 4 shows the effects of ideological proximity among partisans estimated from the symbolic and operational ideology models in Table 1. The strong effects of partisanship are apparent in the figure: Democrats—whether moderate or non-moderate—strongly tended to vote Democratic, while Republicans were very likely to vote Republican. Despite these partisan effects, the differences between moderates (centrists) and non-moderates (non-centrists) in their responses to ideological proximities are apparent. In Fig. 4a, there is no evident effect of ideological proximity among self-declared moderates, although there is a very substantial intercept shift associated with party. Among non-moderate partisans, the effects of ideological proximity are apparent, although Republican identifiers are always much more likely to vote Republican than Democratic identifiers, regardless of their relative proximity to the candidates. In Fig. 4b, the estimated partisan effects are also strong, while the previously observed difference in proximity effects between voters classified as centrists and non-centrists persist: centrists are less responsive to relative proximity than non-centrists.

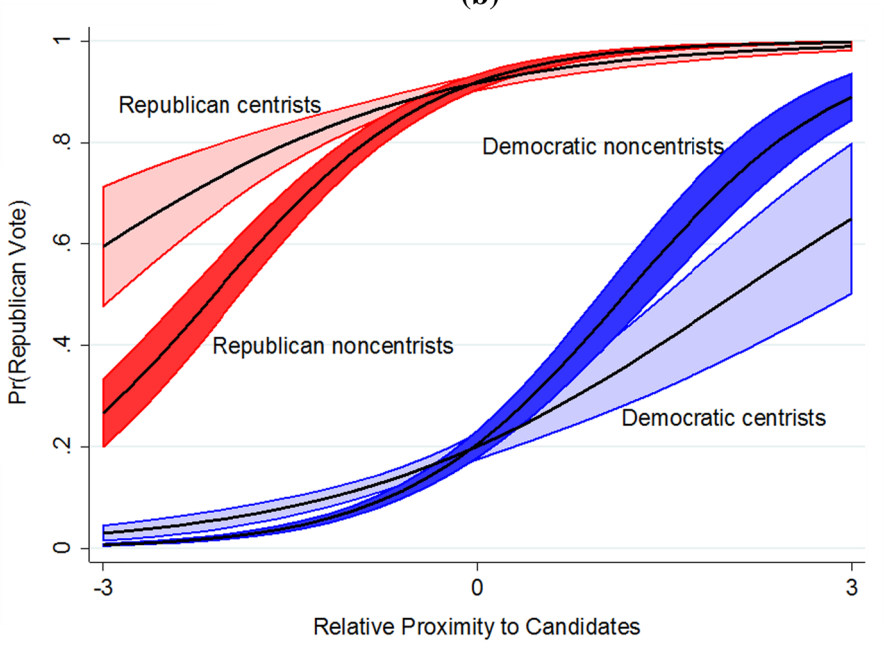
While our computations support our hypothesis that moderate voters discount candidate ideology compared to non-moderate voters, several factors may confound this conclusion. First, moderates may be less knowledgeable about the candidates' positions, so that differences between moderates and non-moderates voting behavior may reflect non-moderates' greater political awareness, rather than their greater ideological intensity (e.g., Abramson et al. 2012, Erikson and Tedin 2011). As displayed earlier in Fig. 2, the non-moderate CCES respondents were indeed more likely than moderates to correctly order the candidates' positions on the one to seven symbolic ideology scale: 38 % of non-moderates placed the Republican candidate to the right of the Democrat, compared to only 19 % of self-identified moderates.

Table 2 displays results when we re-estimated our models on the subset of respondents who correctly ordered the candidates' ideological positions. Column 1, which reports estimates using our symbolic ideology measure, displays patterns similar to those reported earlier in Table 1: the coefficient estimate on relative proximity, −0.15, is again statistically insignificant (and in fact has the wrong sign),

(a)


Republican moderates
Republican nonmoderates
Democratic nonmoderates
Democratic moderates
Pr(Republican Vote)
0
.2
.4
.6
.8
1
-5
0
5
Relative Proximity to Candidates

(b)


Republican centrists
Democratic noncentrists
Republican noncentrists
Democratic centrists
Pr(Republican Vote)
0
.2
.4
.6
.8
1
-3
0
3
Relative Proximity to Candidates

◀**Fig. 4** Proximity effect for party identifiers. **a** Symbolic ideology. **b** Operational ideology. *Notes* The figure displays respondents' probabilities of voting for the Republican candidate (*the vertical axis*) as a function of the respondent's relative proximity to the Democratic and Republican candidates (*the horizontal axis*), where higher values on relative proximity denote that the voter is located closer to the Republican candidate relative to the Democrat. These probabilities are computed based on the coefficient estimates reported in Table 1, for a voter residing in an open-seat district where the candidates spend equally; all other variables in the model are set to the mean or mode, as appropriate

providing no evidence that moderate voters respond to their relative proximity to the candidates, while the coefficient estimate on the interacted variable [Relative Proximity × Non-Moderate], +0.86, is positive and significant ($p < .001$), denoting that non-moderate voters are more responsive to relative proximity than are moderates. The estimated overall effect of relative proximity on non-moderates' vote choices, i.e., the sum of the relative proximity coefficient (−0.15) and the interaction coefficient (+0.86) is +0.71, which is again positive and significant ($p < .01$). This estimate on the non-moderate respondents who correctly placed the candidates is modestly higher than the estimate over all non-moderate respondents—i.e., both those who correctly placed the candidates' relative positions and those who did not—reported earlier in Table 1. This difference makes intuitive sense, since voters' responses to relative proximity should be stronger among voters who more accurately perceive the candidates' positions.

For operational ideology (column 2 of Table 2), the coefficient estimate (β_1) on the Relative Proximity variable, +0.95, is positive and statistically significant ($p < .001$), providing evidence that moderate voters respond to the candidates' relative proximities. Moreover the estimate on the interacted variable [Relative Proximity × Non-Moderate], +0.63, is also positive and significant ($p < .001$), denoting that non-moderate voters are more responsive to candidates' ideological proximity than moderate voters. The coefficient estimate on non-moderates' overall responsiveness to relative proximity, $[0.95 + 0.63] = 1.58$, is also statistically significant ($p < .01$). Note that these coefficient estimates on respondents who accurately perceived the candidates' relative positions again exceed our estimates over all respondents, reported earlier in Table 1. More important, however, our substantive conclusion that non-moderate voters weigh the candidates' ideologies more heavily than moderate voters persists when we limit our analyses to respondents who recognized the candidates' relative positions.

A second potential confounding issue is that moderate respondents may appear less responsive to candidate ideology because they are typically located between the ideological positions of the Democratic and Republican candidates contesting their district, and may therefore face a more difficult decision problem than voters on the extremes in judging which candidate is more ideologically proximate. To address this issue, we re-estimated our models on the subset of respondents whose ideological positions were located between the positions of the candidates contesting their districts. Our estimates, reported in Table 3, continue to support our substantive conclusions. For the symbolic ideology measure (column 1) the coefficient estimate on the Relative Proximity variable is near zero and statistically insignificant, while our estimate on the interacted variable [Relative

Table 2 Relative proximity, moderates, and vote choice for those who correctly placed the candidates' relative positions

Independent variables	Symbolic ideology		Operational ideology	
	Coefficient (SE)	Estimated effect	Coefficient (SE)	Estimated effect
Relative proximity	−0.15	NS	0.95***	0.23
	(0.23)		(0.14)	
Non-moderate	0.23	NS	−0.10	NS
	(0.21)		(0.12)	
Relative proximity × non-moderate	0.86***	0.45	0.63***	0.39
	(0.23)		(0.16)	
Republican incumbency advantage	0.10	NS	−0.51*	−0.06
	(0.19)		(0.25)	
Republican seat	−0.34	NS	0.60	NS
	(0.29)		(0.43)	
Republican spending advantage	0.16	NS	0.29***	0.04
	(0.09)		(0.06)	
Party identification	0.83***	0.39	1.00***	0.63
	(0.07)		(0.04)	
Intercept	−0.37		−3.73***	
	(0.43)		(0.36)	
N	6325		16,612	
Number of races	155		288	
Log-likelihood	−926.40		−2877.90	
Pseudo-R^2	0.715		0.697	

Data The dependent variable is the survey respondent's self-reported vote choice in the congressional election (1 = voted Republican, 0 = voted Democrat). The models were estimated on all CCES respondents who placed the Republican House candidate at a more conservative position than the Democratic candidate on the 1–7 liberal-conservative scale. Entries are logistic regression coefficient estimates and standard errors, clustered by congressional race. Independent variables are defined in the text. Controls included in model estimation, but not listed in table for space reasons. Data are weighted to national population parameters. Estimated effects for continuous variables calculated from 25th to 75th percentile values, and for dichotomous variables calculated from zero to one. NS indicates variable is not statistically significant

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests)

Proximity × Non-Moderate] is again positive and significant. For our operational ideology measure (column 2), the coefficient estimates on the Relative Proximity variable and the [Relative Proximity × Non-Moderate] variable are again both positive and significant.

Finally, we conducted four additional robustness checks that we report in a supplementary materials memo posted on our web site. First, to address the possibility that CCES respondents and our political experts interpret the one to seven symbolic ideology scale differently, we re-estimated our symbolic ideology models using CCES respondents' mean placements of each candidate in place of the experts' candidate placements that we employ in this paper. Second, because

Table 3 Relative proximity, moderates, and vote choice among voters internal to the candidates

Independent variables	Symbolic ideology		Operational ideology	
	Coefficient (SE)	Estimated effect	Coefficient (SE)	Estimated effect
Relative proximity	0.10	NS	0.73***	0.17
	(0.15)		(0.11)	
Non-moderate	0.16	NS	0.20	NS
	(0.13)		(0.11)	
Relative proximity × non-moderate	0.46**	0.20	0.30*	0.23
	(0.16)		(0.13)	
Republican incumbency advantage	0.39*	0.07	−0.50*	NS
	(0.17)		(0.20)	
Republican seat	−0.25	NS	0.76*	0.06
	(0.30)		(0.36)	
Republican spending advantage	0.14**	0.13	0.26***	0.05
	(0.05)		(0.05)	
Party identification	0.92**	0.56	1.00***	0.75
	(0.05)		(0.03)	
Intercept	−0.04		−3.89***	
	(0.31)		(0.28)	
N	6967		14,380	
Number of races	155		287	
Log-likelihood	−1974.20		−3716.79	
Pseudo-R^2	0.590		0.593	

Data The dependent variable is the survey respondent's self-reported vote choice in the congressional election (1 = voted Republican, 0 = voted Democrat). Entries are logistic regression coefficient estimates and standard errors, clustered by congressional race. Independent variables are defined in the text. Controls included in model estimation, but not listed in the table for space reasons. Data are weighted to national population parameters. Estimated effects for continuous variables calculated from 25th to 75th percentile values, and for dichotomous variables calculated from zero to one

NS indicates variable is not statistically significant

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (two-tailed tests)

our definition of moderation for the operational ideology variable is necessarily arbitrary—since operational ideology is a continuous variable for which there is no obvious cut-off point for moderation—we re-estimated our models using a continuous measure of the degree to which each respondent was non-moderate, defined as the respondent's absolute distance to the center-point of the operational ideology scale. Third, we estimated models in which we characterized respondents' proximity to the candidates using the operational ideology measure, but defined "non-moderates" based on respondents' self-placements. Thus, the interaction term characterizes responsiveness to the candidates' positions (based on the operational measure) among voters who did not place themselves at the midpoint of the symbolic ideology scale. In each case, the analyses continued to support our substantive conclusions. Finally, we tested for additional differences

between moderate and non-moderate respondents by estimating the parameters of models that included interactions between respondent moderation and all of our independent variables including respondents' party identification, incumbency effects, and candidate spending. These analyses do not identify any meaningful differences in moderates' versus non-moderates' decision rules except that non-moderates are more responsive to candidate positioning. That is, while our empirical analyses identify important differences in how these two types of voters respond to candidate positioning, it is not the case that moderates choose candidates randomly; moderates are simply less moved by candidate positioning than are non-moderate voters.

In toto, our analyses of voting in the 2010 congressional elections consistently support our hypothesis that non-moderate survey respondents weigh congressional candidates' ideological proximity more heavily than moderate respondents. Our findings extend to analyses based on the "symbolic" one to seven liberal-conservative scale included in voter (and expert) surveys, and also to an "operational" ideology measure based on survey respondents' answers to multiple issue-based questions (and on Project Vote Smart data for candidates); analyses limited to survey respondents who correctly placed the candidates' relative ideological positions; analyses of respondents located between the positions of the candidates in their district; and, to measures of candidate positions derived from experts, from Project Vote Smart data, and from rank-and-file voters' candidate placements.

Conclusion

Political scientists and psychologists have long recognized that attitude intensity is linked to attitude extremity. However there is little empirical research that applies this insight to voting behavior. Our analyses of voting in a large sample of House districts from the 2010 congressional elections suggest that compared to non-moderate voters, moderates are less influenced by candidates' ideological positions.

We believe our findings on individual-level voting pertain to the elite-level polarization of American politics within the past 30 years. While we do not claim to explain why elite polarization has increased so dramatically since the 1970s, our findings cast light on how the American party system can be both polarized and stable. From the perspective of the Downsian spatial model of elections, the current American party system is a puzzle because, with the parties polarized, one might intuitively expect both parties (and their congressional candidates) to have overwhelming strategic incentives to moderate their policies in order to appeal to the moderate voting bloc that often holds the balance of power in competitive districts. Indeed, we suspect the proliferation of arguments designed to "explain" party and candidate polarization[21] are motivated in part by the belief that polarized

[21] As summarized by Grofman (2004), this includes a focus on redistricting; primary elections; politicians' policy objectives; candidates' desire to deter entry by extreme protest candidates;

American candidates and parties trade off considerable support from moderate general election voters in exchange for alternative benefits associated with non-centrist policies. However our argument and empirical findings, that moderate voters discount candidates' ideologies, imply that parties' and candidates' electoral incentives to moderate their policies are weaker than many analysts assume.

In future research we hope to extend our analyses from the U.S. House to senatorial, gubernatorial, and presidential elections, and also to parliamentary elections outside the United States. In addition, we hope to evaluate whether moderate voters discount ideology in congressional primary elections in the same way they do in the general election. To the extent that we find support for this effect, it may illuminate the findings of scholars who identify the phenomenon of "excess polarization," i.e., that the candidates in congressional and presidential elections at times take more extreme positions than those of their primary electorates (see, e.g., Bafumi and Herron 2010; Jessee 2010). This excess polarization conflicts with spatial modeling research on two-stage elections beginning with a primary, which predicts that office-seeking candidates will locate strictly between their primary and general electorates (e.g., Adams and Merrill 2008; Aranson and Ordeshook 1972; Owen and Grofman 2006). However if moderate primary voters discount candidate ideology—in the same way they do in the general election—then the positions of those primary voters who weigh ideology are more extreme (on average) than the primary electorate as a whole, a consideration that may prompt candidates to adopt "excessively polarized" positions.

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Footnote 21 continued
incumbents' desires to achieve party leadership positions; candidates' needs to motivate turnout among their core supporters; and, the desire to generate campaign contributions from interest groups with noncentrist policy views.

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