Issues, Endorsements, and Vote Choice: A Panel Study of Congressional Primary and General Elections*

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Abstract

Why do congressional candidates' platforms diverge from the median voter? Prevailing theories blame general election voters' ignorance, extreme primary voters, and organized groups. We argue that *primary* voters face challenges electing policy-aligned candidates because primaries lack distinguishing party cues. We report an original four-wave panel survey ($N = 31,254$) spanning primary and general elections in 27 congressional districts in 2024, supplemented with candidate position and endorsement information. The findings support our argument. Both primary and general election voters are $\sim$14 percentage points more (less) likely to vote for a candidate after learning they (dis)agree with them on an issue. However, primary voters know less than general election voters about which candidate is closest to them. General election voters appear to more successfully select aligned candidates by inferring candidate positions from party reputations. Group endorsements may also affect choices. Our findings shed light on why candidates fail to converge to the median voter.

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The Cornell Center for Social Sciences verified that the data and replication code submitted to the AJPS Dataverse replicates the numerical results reported in the main text of this article.

Downs (1957) famously argued that political candidates have strong incentives to adopt policy platforms that converge to the median voter's preferences. At the same time, decades of political science research have sought to understand why congressional candidates often take positions that diverge from the median general election voter's preferences (e.g., Ansolabehere, Snyder and Stewart 2001; Grofman 2004; Hall 2019). Prevailing theories largely blame three different sets of actors: extremist organized groups that influence nominations (e.g., Bawn et al. 2012; 2019a; 2023), primary voters who closely follow politics and prefer extremists (e.g., Burden 2001), and/or general election voters who know too little about candidate positions or are too unflinchingly partisan to vote on issues (e.g., Achen and Bartels 2016).

In this paper, we shed new light on the ability of organized groups, primary voters, and general election voters to influence congressional election outcomes. Theoretically, we argue that *primary* voters face particularly steep barriers to selecting policy-aligned candidates. The absence of differing party cues between primary candidates and low campaign salience make it difficult for primary voters to identify differences in primary candidates' policy platforms, which likely leads primary voters to use other cues, such as from interest groups, to make decisions (e.g., Kirkland and Coppock 2018). By contrast, in an era of nationalized and sorted parties (Hopkins 2018), it should be much easier for general electorates to accurately infer candidate position differences from party labels.

Previous research has faced challenges investigating primary voters', general election voters', and organized groups' influence in congressional elections. Studies of voter knowledge and decision-making in congressional primaries are particularly rare—especially data which measures knowledge of the particular positions and endorsements that differentiate candidates in each district, and panel data which allows for drawing credible causal inferences.

We present an original study which sheds new light on these actors' role in congressional primary and general elections. We conducted a four-wave panel survey which interviewed the same respondents ($N = 31,254$) during both primary and general elections in 27 US House districts in

2024. These data allow us to measure voter knowledge and candidate preferences at multiple points in the electoral process. We supplement these panel data with extensive information on candidate issue positions and endorsements for 106 candidates in these districts. We tailored our questionnaires to observed differences between the candidates in each district, uncovered through extensive district-specific research. These data enable us to more credibly investigate to what extent voters know about, learn about, and vote based on relevant candidate positions and endorsements.

Our findings do not fully align with any of the prevailing explanations for candidate divergence, but are consistent with our argument. First, we show that, while primary voters' issue views are typically more extreme than general election voters' views, they are often not markedly so. Second, voter learning of candidate positions is widespread in both general and primary elections, but knowledge of candidate positions is meaningfully greater in general elections. Third, primary and general election voters both change their vote choice in response to learning candidate issue positions—general election voters even cross party lines to vote for outpartisan candidates who they learn agree with them more on issues. Fourth, general election voters are *more* likely to ultimately vote for candidates with similar policy positions than primary voters. Several pieces of evidence suggest that these patterns arise because voters can usually use parties' national positions to learn about candidate differences in general elections but not in party primaries.

We also find patterns consistent with organized group influence.

Our research has several broader implications for theories of political competition and voter behavior. Our findings challenge common theoretical perspectives in political behavior research about entirely uninformed general election voters or the overwhelming influence of partisanship (e.g., Achen and Bartels 2016; Lenz 2013). They also question accounts that blame candidate divergence on issue-activist primary voters. Instead, it is more likely that other factors such as interest groups (e.g., Bawn et al. 2012), policy-motivated candidates (e.g., Osborne and Slivinski 1996), or candidate supply constraints (Hall 2019) explain divergence.

Candidate Divergence and Voting Across Electoral Stages

Political scientists have long debated why candidates' policy platforms fail to converge to the median general election voter's preferences (e.g., Calvert 1985; Groseclose 2001; Osborne and Slivinski 1996; Woon 2018; for review, see Grofman 2004). We focus on three influential perspectives in recent work, summarized in Table 1.

Table 1: Theoretical Perspectives: Does Each Actor Contribute to Candidate Divergence?

Theoretical perspective	Interest groups in primary	Primary voters' policy preferences	General election voters' policy preferences
Issue-activist primary voters (e.g., Burden 2001; 2004; Jacobson 2004; Anderson, Butler and Harbridge-Yong 2020; 2023; Sinclair 2006)	**Not considered**.	**Yes**, prefer extreme candidates and weigh issues heavily in voting decisions.	**Yes**, less aware of candidate positions and weigh issues less than primary electorate, so fail to as effectively incentivize moderation.
UCLA theory of parties (e.g., Bawn et al. 2012; 2019a;b; 2023; Cohen et al. 2009; Masket 2007)	**Yes**, ensure extremists are nominated.	**No**, too unaware of candidate positions to select extremists.	**Yes**, usually too unaware of candidate positions to select moderates.
Two-stage election models (e.g., Aranson and Ordeshook 1972; Brady, Han and Pope 2007; Owen and Grofman 2006; McGann 2002)	**Not considered**.	**Yes**, prefer extreme candidates.	**No**, prefer moderate candidates.
This paper	**If groups are extreme, may help** preferred candidates win nominations through (at least) endorsements.	**Limited**, as more difficult to determine which candidate is most proximate than in general elections; and, views often not particularly extreme.	**No**, learn candidate positions even more than primary voters, and vote on issues, incentivizing moderation.

First, scholars associated with the "issue-activist primary voters" perspective attribute the failure of congressional candidates to converge to the median voter to the outsized influence of primary voters and the general electorate's limited ability to effectively encourage moderation. According to this perspective, relative to general electorates, primary electorates a) have far more extreme policy preferences, b) are more aware of candidate positions, and c) place greater emphasis on candidates' policy positions when making voting decisions (see Table 1 for citations). Although these assumptions about primary voters are widespread, there is relatively little empirical research that directly compares knowledge of candidates' positions or issue voting between primary and general election voters in actual congressional elections.

Second, an alternative perspective emphasizes the power of organized groups (e.g., Grossman and Helpman 2001). This view is most prominently articulated by scholars associated with the "UCLA Theory of Parties" (Bawn et al. 2012; 2019a;b; 2023). According to this perspective, groups represent "intense policy demanders" who recruit and vet candidates and control crucial electoral resources they use to elect aligned candidates. Primary voters largely rely on cues from groups (Bawn et al. 2019a; 2023), but primary voters' own policy attitudes play a limited role because they are generally unaware of candidate positions (Bawn et al. 2019b; Cohen et al. 2009). Empirically supporting this perspective, Bawn et al. (2019b) conducted exit polls in four US House primaries and found limited associations between voter policy dispositions and vote choices in most cases, as well as low overall knowledge.[1]

With respect to general elections, the issue-activist primary voter perspective and the UCLA School both point to a long line of political behavior research that doubts that general election voters can hold politicians accountable for issue positions due to low knowledge or partisan loyalties, even in competitive districts where their votes may be pivotal (e.g., Campbell et al. 1960; Lenz 2009; 2013; Achen and Bartels 2016). For example, according to the UCLA School, group-

[1]See also related work that emphasizes the parties' and groups' role in primary elections and downplays voters' (e.g., Masket 2007; 2009; Hassell 2017; Cowburn 2024).

backed candidates exploit voter ignorance in general elections in the form of an "electoral blind spot," within which "voters are unable to reliably ascertain policy positions" (Bawn et al. 2012, p. 571). But, as is reviewed elsewhere, the facts that many voters consistently vote for their party, that voters sometimes lack knowledge of general facts about politics, and that voters often adopt their party's positions on issues do not imply that voters fail to select candidates on the basis of issues they care about (Fowler 2020).

A final perspective theorizes congressional elections in entirely the opposite manner as the UCLA School, paying scant attention to groups but emphasizing the competing demands of issue-motivated primary *and* general election voters. Most prominently, Brady, Han and Pope (2007, p. 80) argue that candidates face a strategic dilemma of how to appeal to the "primary constituency enough to secure the nomination, but still maintain electability in the general election." This perspective draws on a rich history of formal models of two stage elections (e.g., Aranson and Ordeshook 1972; Owen and Grofman 2006; McGann 2002). In contrast to others, this perspective envisions general electorates placing meaningful constraints on candidate positions, but generally does not consider groups. The empirical evidence supporting this perspective is mainly drawn from cross-sectional data which finds that extreme candidates fare better in primaries but worse in general elections (Brady, Han and Pope 2007), although this work typically does not measure the positions of primary and general election voters (cf. Nielson and Visalvanich 2017).[2]

Our Argument

The crux of our disagreement with existing literature concerns how much we expect voters in primary and general elections to know about differing candidate positions on specific issues. As reviewed above, many perspectives in the literature and many political practitioners assume that primary voters are more knowledgeable about primary candidate positions than general election

[2]The ample research on voter decision-making in general elections typically does not draw a comparison to primary elections (e.g., Ansolabehere and Kuriwaki 2022; Hall 2015).

voters are about general election candidates' positions. However, while primary voters may be higher in *general* political knowledge than general election voters,[3] we argue that primary voters face marked obstacles to determining *which* primary election candidate of the same party most agrees with them on issues. Building on prior work on primaries (e.g., Hirano et al. 2015; Hirano and Snyder 2019; Lau 2013), we argue that the lack of differing party cues between the candidates in primaries make it especially difficult for primary voters to learn about primary candidate position differences. By contrast, in an era where the parties are nationalized and sorted, it is easier than ever for general electorates to (on average) accurately infer candidate position differences from party labels (Hopkins 2018; Levendusky 2010).

Research attributing candidate divergence to general election voters' limited knowledge or primary voters' greater political engagement may have overlooked this possibility because it typically focuses on knowledge of national politics rather than whether voters can discern differences between candidates. For example, Bawn et al. (2012, p. 576-577) write "How much should a party be expected to moderate its positions in deference to an electorate in which half the voters do not even know whether it or its opposition controls the government?" We argue that this perspective misses two things. First, the voters who do know party positions still represent a substantial, potentially pivotal, fraction of the general electorate. Second, these voters can often use party position knowledge to cast votes aligned with their issue preferences in general elections, but cannot do so in primary elections, where party cues do not vary. To be clear, primary voters may learn candidate position differences, but we expect fewer to do so than general election voters.

We also expect voters in the information-poor environment of primaries to rely on other cues, such as endorsements (e.g., Lupia 1994; Blum, Cowburn and Masket 2024). Endorsements are potentially informative and may also be easier to learn. Whereas understanding which candidate's position on an issue is closest to one's own requires learning multiple candidates' positions,

[3]For example, in our data we find that voter file validated primary voters are 6pp more likely to know the length of a US Senate term and 8pp more likely to know which party controls the US House than are voter file validated general election voters.

endorsements are typically exclusive, so learning which candidate a group endorsed is usually sufficient to infer all candidates' endorsement status. One could also imagine that endorsements help voters vote on issues, but prior research shows that voters tend to naively assume that most groups agree with them (Broockman, Kaufman and Lenz 2024). Later, we show voters appear to respond positively to learning about endorsements from groups they like, but generally fail to use disliked groups' endorsements as negative cues (cf., Arceneaux and Kolodny 2009).

The last row in Table 1 summarizes how our perspective differs from prior work. Compared to prior research, we expect more issue voting in general elections and less in primaries. However, we also allow that voters in an information-poor environment may rely on other cues, such as from groups. This could exacerbate winning primary candidates' extremity, depending on the preferences and strategies of groups.

Unfortunately, empirical data that could evaluate these competing predictions are scarce. Besides the few studies noted above, empirical research on primaries tends to focus on presidential primaries, where there is some evidence for ideological or issue voting, although limited variation limits inference (Aldrich and Alvarez 1994; Hopkins and Sigler 2025). In statewide primaries such as Senate and gubernatorial contests, Hirano et al. (2015) find meaningful voter learning and ideological voting, but these patterns are weaker in down-ballot statewide races (e.g., for attorney general), making the implications of their findings for congressional elections unclear (see also Hirano and Snyder 2019). There is only a small body of empirical research on congressional primaries. Ahler, Citrin and Lenz (2016) found that voters in 2012 California US House primaries knew little about candidate ideology, while, in a working paper, Colao (2024) found evidence of ideological voting in panel data gathered in 16 US House primaries in 2022. Neither study measures specific voter issue preferences or candidate positions on those issues, nor studies general elections for comparison (for one exception, see Hirano et al. 2010).[4]

[4]See also research on primary candidate race or gender (e.g., Porter and Treul 2025; Hassell and Visalvanich 2019), primary candidate entry (Boatright 2013), and choices between hypothetical primary candidates (e.g., Henderson et al. 2022).

The dearth of research that speaks to these competing accounts is understandable. Regular disciplinary surveys such as the ANES rarely collect data on primaries. National surveys with uniform questionnaires are unlikely to include questions that would detect voter knowledge, learning, and issue voting on the specific issues or endorsements that divide candidates in each district. Relevant data must also be collected in both primary and general election contexts to compare voter decision-making processes across these settings. Due to the potential for reverse causality, cross-sectional data is also insufficient to study issue voting. Panel data, though better suited for causal inference, introduces additional data collection complexities. In this paper, we report an original data collection effort which sought to address these challenges.

Data and Research Design

Our study examines to what extent voters know, learn, and vote based on candidate issue positions and endorsements in congressional elections—and compares these patterns across primary and general elections. To do so, we conducted an original four-wave panel survey in 27 diverse congressional districts in 2024. We supplement this with information we gathered on candidate issue positions and endorsements for 106 candidates in these districts.

The 27 districts in our study included 10 competitive Democratic primaries, 12 competitive Republican primaries, 17 competitive general elections, and 9 safe general elections. We aimed to include as many districts with competitive elections as possible, subject to constraints of timing, data availability, and budget. Appendix D.1 (p. A17) lists the selected districts and shows that they are broadly representative of all districts nationwide and competitive congressional districts in 2024, albeit with a modest Democratic tilt. Because district coverage varies across analyses, figure notes and tables report the relevant sample sizes.

Survey Recruitment. The four waves of our panel survey went into the field in these districts approximately 50 days before the primary election in each district (primary $t = 1$),[5] the day after each primary election (primary $t = 2$), in early August approximately three months before the general election (general $t = 1$), and on the day of the general election (general $t = 2$) (see Table OA12, p. A22).

We recruited respondents to the pre-primary wave by sending letters to voter file mailing addresses provided by the company L2 or emails to voter file email addresses provided by L2 and the New York Board of Elections. We chose prospective respondents using probability sampling based on district characteristics, partisanship, and likelihood to vote in the primary or general election (calculated using the proportion of eligible elections in which the individual voted). We over-sampled different types of voters depending on the expected competitiveness of the primary and general election in that district. Appendix D.2 (p. A20) provides details. Later, we show that primary- and general-election-specific survey weights which account for oversampling do not change the results.

Across the districts, we invited 185,777 voters by mail, 1,162,950 voters by email, and 3,319 voters by both to participate in the initial, pre-primary survey. 31,254 voters completed it. The survey also collected respondents' email address and cell phone number to invite them to participate in the remaining three surveys. 11,981 responded to the post-primary survey, 12,094 to the pre-general election survey, and 11,363 to the post-general election survey. Appendix D.3 (p. A22) provides the response rates by recruitment mode, incentive level, survey wave, and district.

Voter Knowledge and Issue Voting. To study voter knowledge and issue voting, in each wave we asked respondents about their intended vote choice, their positions on multiple issues, and their perception of each candidate's views on those issues. The issues varied by district and were based on extensive real-time district-specific research about the policy issues that differentiated candi-

[5] Based on an analysis of 2020 US House primaries, very few campaigns air TV ads prior to 50 days before the primary election.

dates in those districts (see below). For example, we asked respondents in the PA-10 Democratic primary election "Which comes closest to your view and each candidate's view on whether federal funding for local policing should be increased or decreased?" Response options were "Police funding should be increased"; "Police funding should be kept the same"; "Police funding should be decreased"; and "Not sure." Using a matrix grid, we asked respondents about their view on the issue and their perceptions of each of the candidates' positions on the issue. We requested responses, so skipped questions were rare; we consider skipped questions as missing. Across all 27 districts, we asked about 35 distinct issues analyzed in the primary election and 41 distinct issues in the general election (many issues were repeated across multiple districts). We rescale all issue position and perception variables to range from 0-1, with higher values being more conservative.

Our decisions about which issues to ask about in each district and our coding of the candidates' positions on those issues were based on extensive district-specific research. We conducted this research during the campaigns so that our surveys could capture divisions between the candidates in each specific district and election. In particular, we reviewed campaign websites, TV ads, social media, news articles, podcast interviews, and debate recordings to identify the positions held by each candidate. We also supplemented our real-time research with additional research after the election, only using sources available pre-election. Appendix D.4 (p. A26) provides additional details. Our procedure was conservative, and only recorded a candidate issue position if the candidate specifically espoused that position. We recorded 402 candidate issue positions.

Endorsements. To study endorsements, in each survey wave we asked respondents about their knowledge of endorsements from organized groups and prominent politicians. For example, in IN-6 we asked "Which of the following candidates has been endorsed by the Indiana Farm Bureau? Select all that apply." Response options included each of the candidates, none of these candidates, and not sure. Respondents could select multiple candidates. We selected which endorsements to ask about and coded actual endorsements following the same procedures we used for issue

positions. In the pre-election survey waves, we also measured 0-100 feeling thermometer ratings towards the various endorsers. Across all districts, we asked about 26 endorsers in the primary election and 23 in the general election, with some endorsers repeated across districts.

Other Data. The baseline survey also asked about respondents' demographics and background political views, including their party identification.

All respondents were matched to the L2 voter file, which we use to compute weights and measure turnout. We present unweighted data unless otherwise noted. For robustness, we also calculate district-specific survey weights separately for the primary and general electorate using entropy balancing by age, gender, race, partisanship, urban/suburban/rural, primary and general turnout in 2016, 2018, 2020, and 2022, and L2's home value estimate. We trim the survey weights at the 5th and 95th percentiles. Appendix Table OA1 (p. A8) compares the demographics of the survey respondents to those of the 2024 primary and general electorates before and after weighting. Differences prior to weighting partially reflect purposive oversampling.

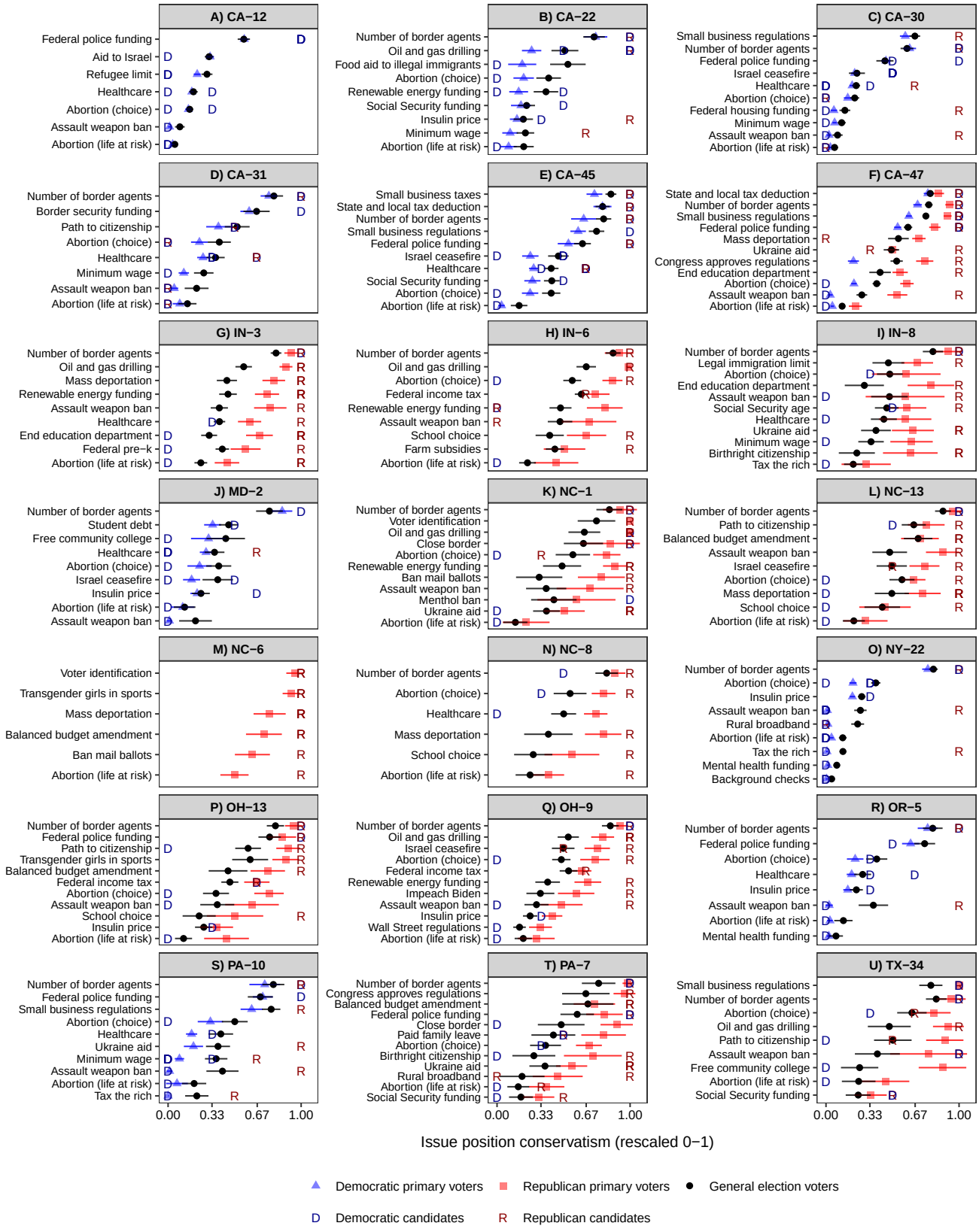
Results

Voter and Candidate Issue Positions

We begin with a brief overview of our data. Figure 1 shows the average positions of primary voters of each party and of general election voters in every district where we studied primary elections. (For space reasons, the figure excludes districts in which we studied only the general election.) In each district we show all issues on which we were able to locate at least one candidate position.

In addition to illustrating the scope of our data, these descriptive data also validate the premises of prior research that primary voters are typically more extreme than general election voters. However, these differences are not always large. For Democrats, in districts where we measure the general electorate and Democratic primary voters' preferences, there is an average difference of

Figure 1: Data Overview: Positions of Candidates, Primary, and General Electorates



Notes: Districts with only a competitive general election are not shown. Estimates and standard errors show weighted means of primary and general electorate voter preferences using pre-election expressed issue preferences and validated records of 2024 primary and general turnout. We only display primary electorates' preferences in districts where there was a competitive primary election for that party.

only 0.11 scale points between Democratic primary voters and the general electorate, compared to the 0.37 difference between each party's voters in the general electorate. On the Republican side, differences between the general electorate and Republican primary voters are greater (0.23 scale points), although this varies by district and issue.

Voter Knowledge and Learning

Our core results concern voter knowledge and learning about candidates' issue positions. We have data on both voter perceptions of candidate positions and candidates' actual positions for 122 candidate-issues in the primary and 296 candidate-issues in the general.

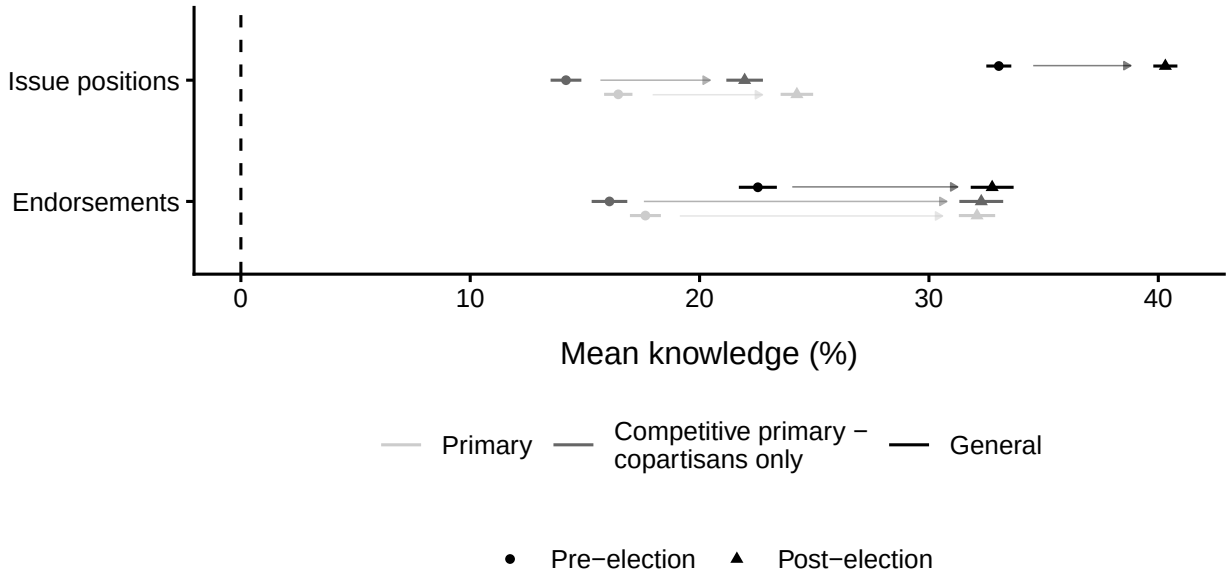
As described above, voter knowledge is a precondition for many forms of issue-based accountability: unless voters know the positions taken by the particular candidates running in each election, they cannot reward or punish candidates for those positions. However, as reviewed above, previous research expresses skepticism about voter knowledge, yet has surprisingly rarely measured voter knowledge of congressional candidates' issue positions, especially in primaries.

Figure 2 summarizes our evidence with respect to voter knowledge and learning. Each point in the Figure shows the average share of voters who correctly identified each candidates' issue position or endorsement across all the positions or endorsements we were able to record. The Figure splits these statistics by time point (pre- or post-election) and election type.[6]

The top-right-most point—the black triangle horizontally across from "Issue Positions"—shows that, in the post-general-election survey, respondents correctly identified 40% of the general election candidates' issue positions that we asked about and could also code candidate positions. This compares to 33% of these same issue positions that respondents correctly identified in the pre-general-election survey (the point to its left). The black arrow between these two points highlights that respondents on average became 7 points more knowledgeable about candidate policy positions

[6]These are not guess-corrected estimates, but random guessing *cannot* generate the average increases in accuracy we observe within respondents over time.

Figure 2: Voter Knowledge and Learning between Pre- to Post-Election Surveys in Primary and General Elections



Notes: Means are surrounded by 95% confidence intervals. Standard errors clustered at the respondent level. Incorrect, 'Don't know' and 'Not sure' responses are all counted as incorrect. Among respondents who completed both $t = 1$ and $t = 2$ surveys. Issue position Ns: 122 candidate-issues in 21 districts (primary); 296 candidate-issues in 26 districts (general). Endorsement Ns: 152 candidate-endorsers in 20 districts (primary); 62 candidate-endorsers in 20 districts (general). Arrows indicate change from pre- to post-election.

in the approximately 3 months between the pre- and post-general election survey.

The grey points for "Competitive Primary - Copartisans Only" subset to respondents who identified with the same party as primary candidates in competitive primaries. Among copartisans in competitive primaries, voter knowledge increased by 8 points from 14% to 22% between our pre- and post-surveys. Consistent with our argument, although primary voters do learn about as much over time, voter knowledge of candidate positions in primary elections starts and stays much lower than it is in general elections. Figure OA1 (p. A2) shows that voters learn about primary candidate positions even when the candidates' positions differ within party.[7]

[7]When we see differences between candidates of the same party, they are typically either 0.33 or 0.5 scale points apart on our scale. An example of candidate position differences we code as 0.33 is the difference between favoring a

Figure 3 disaggregates learning of candidate issue positions by issue. Voter learning of candidates' positions occurred for all issues with different magnitudes.

Figure OA2 (p. A3) shows that results are similar with weights and among validated primary and general election voters only. Table OA2 (p. A9) shows a crosstab of knowledge at each wave. Table OA3 (p. A10) shows that respondents in general elections were usually aware of whether candidates' positions were more extreme or more moderate than their views, but that primary voters usually were not, consistent with our argument. Figure OA4 (p. A5) shows that voter learning of candidate positions is similar across various groups of voters.

Issue Voting

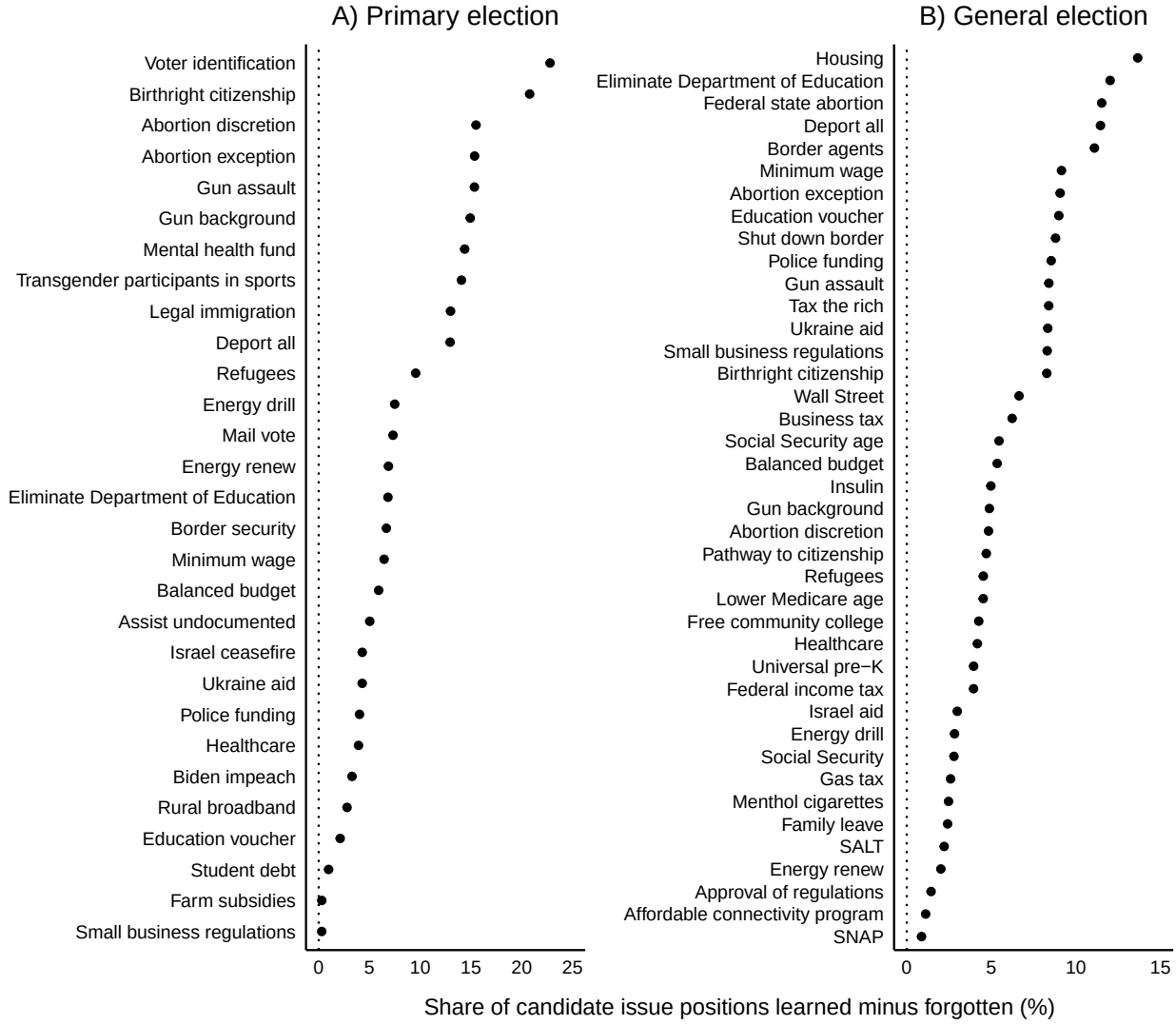
Even if primary voters know less about candidate positions than general election voters, it remains possible that issues have a greater effect on their vote choice. We therefore next examine issue voting. Our identification strategy, detailed below, follows Lenz (2009; 2013) in exploiting over-time variation in voter learning between survey waves, and estimating if this learning predicts changes in candidate support consistent with issue voting.

To perform our analysis, we stack the data at the respondent-candidate-issue level, separately for the primary and general election. Here, each observation records a candidate's actual position on an issue (which is constant over time), a respondent's view on that issue at $t = 1$, their perception of the candidate's position on that issue at $t = 1$ and $t = 2$, and whether they indicated that they intended to vote for that candidate at $t = 1$ and $t = 2$.

In our analyses in this section, we subset the data to respondent-issue cases where a) we were able to identify at least two candidates' positions on the issue in a race and the candidates' positions differ from each other (so that we can measure which candidate's position is closest to the

public health insurance option compared to the current system (example from CA-31, CA-45, and OR-5 Democratic primary); likewise, favoring Medicare for All over a public health insurance option is also coded as 0.33 (examples from CA-12 and CA-30 Democratic primary). An example of a candidate position difference we code as 0.5 on our 0-1 scale is the difference between making oil drilling easier or keeping regulations the same (example from CA-22 Democratic primary).

Figure 3: Net Learning by Issue



Note: Each point represents the average amount of net learning between waves by issue, where net learning is the amount of learning (moving from incorrect to correct) minus the amount of forgetting (moving from correct to incorrect). See Appendix Figure OA3 (p. A4) for mean levels of knowledge for each issue at the pre- and post-election waves. Ns: 122 candidate-issues in 21 districts (primary); 296 candidate-issues in 26 districts (general). Note that not all issues are asked about in both types of elections.

respondent's) and b) one of the candidates' positions is closest to the voters' own pre-election position (if candidates are equidistant, we do not have a clear prediction about how vote choice should change). Because we were able to confidently record only one candidate's position on many issues,

the first criteria limits our analysis to 16 district-issues in the primary and 50 district-issues in the general.

We first run baseline regressions of the following form:[8]

$$\Delta\text{vote}_{ic} = \beta \cdot \text{Closest}_{icj} + \alpha_c + \gamma_{ij} + \varepsilon_i \tag{1}$$

where our main outcome variable of interest, Δvote_{ic} ("change in vote"), is the change in voting intention for candidate c by respondent i between time $t = 1$ (pre-election for both primary and general) and $t = 2$ (post-election for both primary and general). We code this as +1 for respondent-candidate pairings when a respondent went from not voting for that candidate to voting for that candidate between the pre- and post-election survey waves; 0 for no change in voting intention towards that candidate; and -1 for respondents who moved away from voting for that candidate.[9] Closest_{icj} is a binary indicator for whether candidate c's position on issue j is closest to respondent i's position on issue j (as measured at $t = 1$). We emphasize that closeness is coded based on actual candidate positions, not perceived positions, meaning our results are not biased by respondents projecting issue agreement onto candidates they choose to support. α_c represents candidate fixed effects, γ_{ij} represents respondent-issue fixed effects, and ε_i is the error term with standard errors clustered at the respondent level.

Because our dependent variable, change in vote, is a within-person over-time difference, all within-person attributes are naturally held constant—a key advantage of our panel data. The presence of candidate fixed effects ensures that the coefficients do not capture correlations between our variables of interest and candidate-level variables such as momentum or quality. The presence of respondent-issue fixed effects focuses comparisons between candidates within person-issues (having accounted for candidate-level shocks), ensuring that the coefficients do not capture, e.g., increases in likelihood of voting for *any* candidate as the election approaches.

[8]We pre-registered our statistical approach at `https://osf.io/a7586?view_only=3b23945ccd2f496ba1f74d7b3e71e45a`. We use a dichotomized version of the distance measure we pre-specified for simplicity; the results are stronger when using our pre-registered continuous measure.

[9]We consider not voting and don't know responses as not voting for any of the candidates.

Following the identification strategy developed by Lenz (2009; 2013), to estimate issue voting we next interact Closest_{icj} with indicators for whether voters Always Knew, Never Knew, Learned, or Forgot candidates' issue positions between the pre- and post-election survey waves, disaggregating the coefficient on Closest_{icj} among these four groups:

$$\begin{aligned}\Delta\text{vote}_{ic} = \beta_1 \cdot (\text{Closest}_{icj} \times \text{Learned}_{icj}) + \beta_2 \cdot (\text{Closest}_{icj} \times \text{Forgot}_{icj}) + \\ \beta_3 \cdot (\text{Closest}_{icj} \times \text{AlwaysKnew}_{icj}) + \beta_4 \cdot (\text{Closest}_{icj} \times \text{NeverKnew}_{icj}) + \\ \beta_5 \cdot \text{Learned}_{icj} + \beta_6 \cdot \text{Forgot}_{icj} + \beta_7 \cdot \text{AlwaysKnew}_{icj} + \\ \alpha_c + \gamma_{ij} + \varepsilon_i\end{aligned} \tag{2}$$

where $\text{Learned}_{icj} = 1$ indicates that respondent i perceived candidate c's position on issue j correctly at t_2 but had not at t_1, $\text{Forgot}_{icj} = 1$ indicates the opposite, and so forth.[10]

The coefficient of interest in Equation 2 is β_1, which captures how much more likely voters were to vote for that candidate at $t = 2$ than at $t = 1$ if they both a) had views on an issue that were closest to a candidate's position on that issue and b) learned that candidate's position on that issue. Comparisons between β_1 and β_4 are also of interest, because they allow for focusing just on voters who did not know the candidate's position on that issue at baseline and comparing those who later learned that position (β_1) and those who did not (β_4).

Table 2 shows the results for primary (columns 1 and 2) and general elections (columns 3 and 4). The odd columns use Equation 1 and the even columns use Equation 2. Column 1 shows that, in primary elections, voters are 1.4 points more likely to vote for the closest candidate at $t = 2$ than at $t = 1$, although this difference is only significant at the 0.10 level. Breaking this out by whether voters learned a candidate's position, though, shows that voters are approximately 13 percentage points more likely to vote for a candidate at $t = 2$ than $t = 1$ if they both most agree with that candidate on the issue *and* learned the candidate's position on it between waves.

[10]The equation 2's specification completely partitions the effect of β in Equation 1 by knowledge category; there is no omitted category.

Table 2: Issue Voting Results

	Primary election		General election	
	(1)	(2)	(3)	(4)
Closest candidate to respondent on issue	0.014†		0.034**	
	(0.008)		(0.007)	
Closest candidate * Learned t=1 to t=2		0.133**		0.144**
		(0.035)		(0.018)
Closest candidate * Forgot t=1 to t=2		-0.009		-0.047†
		(0.050)		(0.024)
Closest candidate * Always knew		0.068		-0.016
		(0.046)		(0.010)
Closest candidate * Never knew		-0.004		0.052**
		(0.009)		(0.010)
Learned candidate position t=1 to t=2		-0.028		-0.073**
		(0.027)		(0.015)
Forgot candidate position t=1 to t=2		-0.088*		0.007
		(0.038)		(0.020)
Always knew candidate position		-0.091**		-0.011
		(0.030)		(0.013)
Respondent-issue fixed effects?	✓	✓	✓	✓
Candidate fixed effects?	✓	✓	✓	✓
R^2	0.357	0.361	0.422	0.427
N respondent-issue-candidates	14580	14580	27910	27910
N district-issues	16	16	50	50
N districts	13	13	25	25
Proportion voting for closest at t=2	.18		.78	

Notes: Data is at the respondent-issue-candidate level. Cluster robust standard errors at the respondent level are in parentheses. $\dagger p < .10$*;* * $p < .05$*;* ** $p < .01$.

Columns 3 and 4 repeat this exercise for the general election and yield similar but slightly stronger results. Column 3 shows that respondents were on average 3.4 points more likely to vote for a general election candidate at $t = 2$ than $t = 1$ if they most agreed with that candidate on an issue. Finally, Column 4 shows that the estimated effect of learning a candidate's position on an issue is closest to one's own view on voting is similar to the effect estimated in primary elections,

about 14 percentage points.

Overall, the pattern of results shown in Table 2 is consistent with our core argument about the relative difficulty of learning about candidate issues positions in each context. The average effect on change in vote choice of being aligned with a candidate is larger in general than primary elections, but indistinguishable across contexts conditional on respondents learning about this agreement, which is less common in primary elections. While these two estimates are not strictly comparable because they rely on data from different candidates, issues, and voters, their similarity is striking. At the bottom of Table 2, we also show the proportion of respondent-issue observations where respondents reported voting for the closest candidate on an issue in the post-election survey (Lau and Redlawsk 1997). Also consistent with our argument, we find that voters are *more* likely to ultimately vote for the closest candidate in general elections than primary elections.

In summary, both primary and general election voters appear to try to vote on issues, but general election voters do so more successfully.

For our estimates of issue voting, the main threat to causal inference is projection of voters' pre-existing issue positions onto candidates they decided to vote for between $t = 1$ and $t = 2$.[11] This could inflate our estimates. However, this is unlikely to explain our findings for four reasons. First, we find large average net learning; projection should not lead voters to have more accurate perceptions on average. Second, projection could not generate Column 1 and 3's results that respondents became likelier to vote for candidates actually aligned with their $t = 1$ issue views. Third, we found issue voting even for outpartisan candidates (see Table 3, Column 6). Fourth, our estimates of β_6, for those who "forgot" that they were aligned with a candidate, are either close to zero or negative. If changes in voter beliefs about candidate positions were driven by

[11] Some voters adopting the positions of candidate they support (e.g., Lenz 2009; 2013) would not bias our estimates because we use respondents' $t = 1$ issue positions to measure their proximity to candidate platforms. At the same time, our findings do not preclude the possibility of voters also sometimes adopting their chosen candidate or party's positions. Indeed, Appendix C (p. A16) reports such effects.

projection, voters who a) correctly perceived that they were *not* closest to a candidate at $t = 1$, b) did not plan to vote for that candidate at $t = 1$, but who c) later choose to vote for that candidate at $t = 2$, should d) project the incorrect positions onto candidates at $t = 2$ ("forgetting"). This would generate a positive coefficient on β_6. But we do not observe this. Similarly, projection would lead to large negative estimates of β_2, the coefficient for "forgetting", if people who decided to vote against a candidate closest to them now reported that candidate did not agree with them ("forgot"), which we also do not observe.

We also note several reasons that these estimates may underestimate the extent of issue voting. First, our estimates are defined at the respondent-candidate-issue level; therefore, if a given voter were to learn each of two candidates' positions on two issues (for a total of four candidate-issues), our estimates imply potential vote choice changes much larger than these point estimates. Second, because our analysis examines differences between $t = 1$ and $t = 2$, any issue voting already occurring at $t = 1$ would not be reflected in the estimates. Third, our measures of voter positions and voter knowledge contain measurement error which likely attenuate our estimates. For example, although we discouraged respondents from looking up candidate positions, if respondents did so when we asked them about their perceptions of the candidate's positions, this would bias our estimates towards zero (recall that we asked these questions only after we asked for their vote intentions). Strategic voting could also depress our estimates.[12] Finally, since we use change models, our estimates likely represent lower bounds due to regression to the mean (Angrist and Pischke 2009).[13]

Table OA4 (p. A11) shows a crosstab of the data at the respondent-issue level which shows similar results. In primary elections respondents with and without a candidate preference at $t = 1$ both change their vote choice when they learn, whereas in the general election, vote choice change

[12] However, 93% of respondents said they voted for the same candidate as who they would vote for if they "could wave a magic wand that would make any of the candidates below the next representative to the US House of Representatives from [their] area."

[13] Results are also consistent when removing long-shot candidates, such as those who spend no or minimal sums of money, from the analyses.

is driven by respondents who were undecided at baseline. This pattern may reflect indifference among partisans in a within-party primary, whereas indifference in the general election is more likely the case among those who are undecided between the parties.

Heterogeneous Effects. We next examine how our key coefficient of interest β_1, for Closest$_{icj}$ $\times$ Learned$_{icj}$, varies in several theoretically-motivated subgroups. Table 3 shows these results.

Column 1 shows that our results regarding issue voting in primaries are similar when we limit the sample to respondents in districts with a competitive primary for their party. Similarly, Column 2 shows that the results also hold in general elections in competitive districts.

Next, columns 3-5 examine voting in general elections and disaggregate results by whether respondents identified as Independents (excluding leaners), Democrats, or Republicans at baseline. The point estimates are imprecise but suggest that issue voting in general elections occurs among voters of all partisan affiliations.

Critically, Column 6 shows that voters still "issue vote" when the closest candidate to them on an issue is an outpartisan. Moreover, the bottom row of Column 6 shows that, in these cases, respondents voted for an outparty candidate over half the time.[14] These results are inconsistent with perspectives that argue partisan voters are unwilling or unable to vote for out-party candidates who share their issue positions (for review, see Fowler 2020).

Finally, Column 7 shows that we estimate less issue voting when the closest candidate is a copartisan, potentially due to ceiling effects.

Robustness Checks. Table OA5 (p. A12) reports several robustness checks based on matching our survey respondents to the voter file. This allows for: a) relying on administrative records of whether respondents voted and b) weighting our sample to the primary and general electorates. For both primary and general elections, Table OA5 (p. A12) compares the estimates from a) the

[14] As an additional robustness test, we have also estimated a general election voting model that includes a control for copartisanship. This accounts for partisans "coming home" to their party (e.g., Berelson, Lazarsfeld and McPhee 1954). Doing so does not meaningfully change the issue voting results (β_1 = 0.11).

Table 3: Issue Voting Results - Subsets of Interest

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Election type	Primary	General	General	General	General	General	General
Respondent subset	Copartisans in competitive districts	Competitive general	Independents	Democrats	Republicans	Closest candidate is outpartisan	Closest candidate is copartisan
Closest candidate * Learned t=1 to t=2	0.143** (0.042)	0.105** (0.021)	0.134 (0.096)	0.086** (0.020)	0.103* (0.042)	0.085* (0.037)	0.049 (0.033)
Closest candidate * Forgot t=1 to t=2	-0.006 (0.061)	-0.041 (0.029)	-0.087 (0.103)	-0.114** (0.026)	-0.076 (0.061)	-0.084 (0.053)	-0.156** (0.037)
Closest candidate * Always knew	0.042 (0.059)	0.006 (0.011)	0.105* (0.049)	-0.132** (0.016)	0.035 (0.026)	0.024 (0.024)	-0.177** (0.031)
Closest candidate * Never knew	-0.005 (0.011)	0.038** (0.013)	0.069† (0.038)	0.019 (0.013)	-0.000 (0.022)	-0.031 (0.019)	-0.006 (0.027)
Learned candidate position t=1 to t=2	-0.016 (0.034)	-0.059** (0.017)	-0.164* (0.079)	-0.048** (0.016)	-0.077* (0.037)	-0.075* (0.030)	-0.042* (0.017)
Forgot candidate position t=1 to t=2	-0.107* (0.050)	0.028 (0.024)	0.049 (0.089)	0.021 (0.021)	0.014 (0.051)	0.014 (0.044)	0.026 (0.022)
Always knew candidate position	-0.089† (0.049)	0.000 (0.015)	-0.075 (0.064)	0.033* (0.014)	-0.006 (0.031)	-0.022 (0.027)	0.043** (0.015)
Respondent-issue FEs?	✓	✓	✓	✓	✓	✓	✓
Candidate FEs?	✓	✓	✓	✓	✓	✓	✓
Proportion voting for closest at t=2	.21	.79	.59	.84	.63	.51	.90
N	11533	16708	1718	20456	5726	7390	18800
R^2	0.363	0.379	0.425	0.469	0.359	0.355	0.478

Notes: Every column shows the results of estimating Equation 2 in the subset of the data shown at top. Data is at the respondent-issue-candidate level. Cluster robust standard errors at the respondent level are in parentheses. $\dagger p < .10$*;* $* p < .05$*;* $** p < .01$.

baseline specification from Table 2 reported in the main text with results with b) a specification where we recode participants' $t = 2$ outcome as "Not Voting" if they did not vote, and remove any respondents from the analysis who did not match to the voter file, c) a specification where those who do not match are coded as not voting, and d) a specification identical to b) except where we weight the sample to the actual primary or general electorate that turned out in 2024 in each district. The results are nearly identical in all of these cases.

In summary, we find that when voters learn that they (dis)agree with a congressional candidate on an issue, they are meaningfully more (less) likely to vote for that candidate. Furthermore, contrary to stereotypes of primary voters as especially issue-motivated, or of general election voters as more motivated by other considerations, our issue voting estimates are strikingly similar in

primary and general elections. Additionally, consistent with our argument, voter knowledge of candidate positions is lower in primary than in general elections, and primary voters are less likely to ultimately vote for candidates who agree with them on policy.

Evidence for Likely Mechanism: National Partisan Reputations

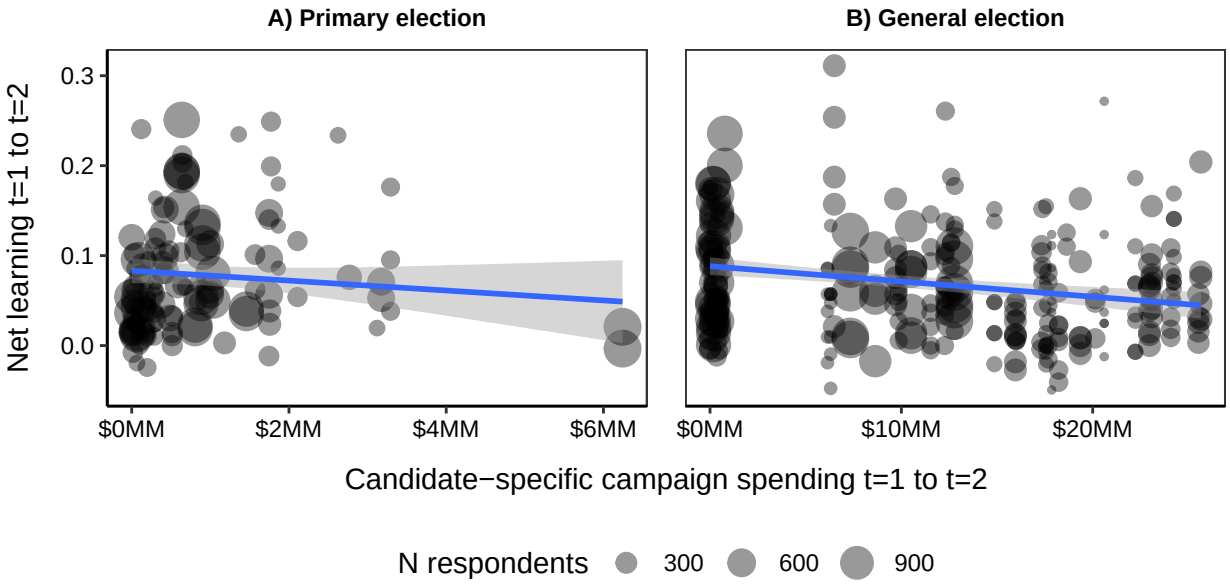
We next present additional evidence consistent with the mechanism we posited for the differences we observed in knowledge between primary and general election voters: that voter knowledge and learning of candidate positions is driven in part by national partisan reputations, but that these reputations do not help voters differentiate *between* candidates in primaries because the candidates are from the same party.

First, we examine the relationship between candidate spending and voter learning of candidate positions. Figure 4 shows this relationship. The x-axis measures spending by candidates and outside groups that occurred between our pre- and post-election surveys (measured using FEC data). The y-axis shows respondents' net learning of issue positions between our pre- and post-election surveys. Each point shows one issue-candidate observation.

The most noteworthy finding of Figure 4 is that voters learned so much between survey waves about candidates who spent essentially *nothing* during this period. As spending is likely correlated with candidate viability and other forms of attention, it is striking that voters learned so much about long-shot candidates about whom they likely heard little to nothing. A potential explanation is that much of the voter learning about these candidates actually reflected learning about national party reputations from national campaigns and news coverage (Hopkins 2018). Appendix Figure OA5 (p. A6) shows similar results at the district level.

It is also noteworthy that there is no positive slope between spending and net learning, although this relationship is observational and should be interpreted cautiously. However, the lack of this relationship suggests that the greater funding that general elections receive does not appear to drive our finding that general election voters know more about candidates.

Figure 4: Voter Learning and Candidate Spending



We next examine how voter learning varies by the *partisan stereotypicality* of candidate positions. By partisan stereotypicality, we mean whether a position is in line with the popular perception of the candidate's party's reputation. We test how voter learning varies by our coding of whether each position is stereotypical or counterstereotypical for members of that candidate's party.[15] We coded 18% (22) of primary candidate positions and 24% (71) of general election candidate positions as counterstereotypical. If voters "learn" about individual candidates in part by learning national party reputations and then inferring that local candidates likely hold the positions stereotypically associated with their party, then we should see greater learning of stereotypical than counterstereotypical positions. At the same time, if we find evidence that voters can learn about counterstereotypical positions, it implies voters can still serve as a check on candidates.

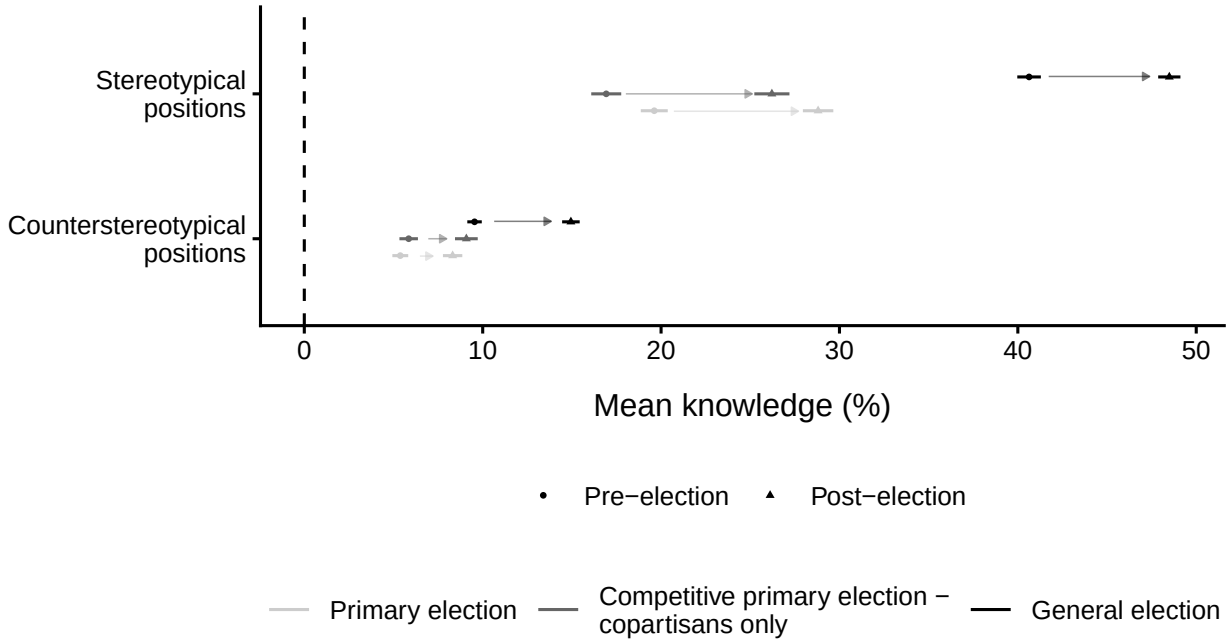
[15] We coded these by hand blind to the results. For example, on healthcare, we coded "The government should directly provide insurance coverage for all Americans free of charge." and "The government should provide a government-run insurance option to all Americans, but should allow private insurance to remain." as the stereotypical positions for Democrats, and "The current system should remain, meaning the government provides insurance to many low-income Americans and other Americans use private insurance." and "The government should spend less money on providing insurance for low-income Americans." as counterstereotypical for Democrats.

Figure 5 plots voter learning by whether candidate positions are stereotypical and type of contest. It shows that, in primaries, voters are almost three times likelier to know about candidates' partisan-stereotypical than counterstereotypical positions on election day (26% vs. 9% of the time for co-partisans in competitive primaries), and they are also about three times as likely to learn these positions during campaigns (3 vs. 9 points). In general elections, they are likewise three times more likely to know stereotypical than counterstereotypical candidate positions (49% vs. 15% of the time), and more likely to learn stereotypical positions (5 vs. 8 points). The greater level of knowledge of stereotypical positions is consistent with the use of party heuristics, while the fact that counterstereotypical positions still become known to voters shows that not all learning is due to these cues.

It matters if voters are learning about candidates from the parties' national reputations because of what that implies for voters' ability to *differentiate* between candidates in primary and general elections. National partisan reputations vary between candidates in general elections, but do not vary between candidates in primary elections—the candidates are of the same party. As a result, these reputations have no value for determining which candidate is closest in primary elections. For example, learning that Democrats typically want to increase government spending on healthcare would improve how accurately a voter perceives Democratic primary candidates on average, but it would not improve knowledge of *which* Democratic primary candidate is *closest* to the voter's position. As a result, despite our earlier finding that primary and general election voters learn similar amounts about candidate positions in primary and general elections, we expect voters to learn and ultimately know less about *which candidate's stance is closest to theirs* in primary than in general elections.

Table 4 confirms this expectation. The Table shows regressions at the respondent-issue-candidate level, similar to Equation 1 and Table 2. However, the dependent variable in these regressions is changes between the pre- and post-election wave in voters' perceptions of whether a candidate's position on issue j is closest to their own: the dependent variable is 1 if a respondent went from not

Figure 5: Voter Learning by Candidate Position Stereotypicality



Notes: Means are surrounded by 95% confidence intervals. Standard errors clustered at the respondent level. Incorrect, 'Don't know' and 'Not sure' responses are all counted as incorrect. All estimates subset to respondents who completed both $t = 1$ and $t = 2$. Issue position Ns: 99 candidate-issues in 21 districts (primary, stereotypical positions); 22 candidate-issues in 11 districts (primary, counterstereotypical positions); 225 candidate-issues in 26 districts (general, stereotypical positions); 71 candidate-issues in 25 districts (general, counterstereotypical positions). Arrows indicate change from pre- to post-election.

perceiving a candidate as closest on j at $t = 1$ to perceiving them as closest at $t = 2$,[16] -1 if they did the reverse, and 0 if there was no change in perceptions of closeness. A comparison of Columns 1 and 2 confirms our expectations: between the pre- and post-primary election waves, respondents were 2.6 percentage points more likely to think that the closest candidate to them was, in fact, closest to them. However, in the general election, this difference is 6.1 percentage points. Consistent with our expectations, learning *which candidate is closest* was twice as common during the general than primary election campaigns we studied—despite observing fairly similar rates of candidate

[16]To avoid bias caused by people adopting the positions of a previously not-preferred candidate at $t = 2$, perceived closeness remains defined by comparing $t = 2$ perceptions of candidate positions with voters' own $t = 1$ expressed issue preferences.

position learning in these primary and general elections. Furthermore, Column 1 and 2's bottom row shows that, on election day, general election voters were also over twice as likely to know that the closest candidate is closest to them on issues than are primary election voters. Column 3 shows similar learning results and high levels of knowledge in competitive general elections.

Table 4: Pre- to Post-Election Changes in Perceptions of Whether a Candidate's Position is Closest

	(1)	(2)	(3)	(4)	(5)	(6)
Election stage	Primary	General	Compet. general	Primary	General	Compet. general
Closest candidate	0.026**	0.061**	0.040**	-0.003	-0.072	-0.054
	(0.006)	(0.008)	(0.011)	(0.014)	(0.047)	(0.048)
Candidate position is stereotypical				-0.012	-0.015	-0.007
				(0.022)	(0.045)	(0.045)
Closest candidate * Candidate position is stereotypical				0.039*	0.145**	0.108*
				(0.017)	(0.049)	(0.052)
Respondent-issue fixed effects?	✓	✓	✓	✓	✓	✓
Candidate fixed effects?	✓	✓	✓	✓	✓	✓
R^2	0.655	0.395	0.321	0.655	0.396	0.321
N respondent-issue-candidates	17760	27910	16708	17760	27910	16708
N district-issues	16	50	33	16	50	33
N districts	13	25	16	13	25	16
Proportion thinks closest candidate is closest candidate at t=2	.30	.65	.72			

Notes: Each column shows a regression where the dependent variable is coded as 1 if the respondent thought the candidate was the closest to them on the issue at $t = 2$ but not $t = 1$, -1 for the reverse, and 0 if there was no change in perceived closeness. Regressions subset to issues with multiple candidate positions where one candidate is closest to the respondent. Data is at the respondent-issue-candidate level. Cluster robust standard errors at the respondent level are in parentheses. $\dagger p < .10$*;* * $p < .05$*;* ** $p < .01$.

Columns 4 and 5 show further evidence consistent with the role of national partisan reputations in contributing to these findings. We interact the indicator for closest candidate with an indicator for whether the position is stereotypical. In the presence of this interaction, the coefficient on

Closest Candidate shows the difference in perceptions of closeness between closest and other candidates *when the closest candidate has a counterstereotypical position*. The first coefficient in Column 4 thus shows that primary voters did not on average learn that closest candidates with counterstereotypical positions were in fact closest to them. The first row in Column 5 shows that general election voters if anything may on average *unlearn* that candidates with counterstereotypical positions are close to them, perhaps because they are imputing incorrect stereotypical positions to these counterstereotypical candidates (Dancey and Sheagley 2013, see also Halberstam and Montagnes (2015); Peskowitz (2019)). However, the last row in Columns 4 and 5 show different results for stereotypical positions, where there is more evidence of learning. Column 6 shows that the results are similar in competitive general elections. This evidence is consistent with learning of national partisan reputations allowing voters to often accurately infer which candidates are likely close to them in general elections, but these cues being a) largely unhelpful in primary elections, leaving voters less able to distinguish between candidates, and b) generally helping voters in general elections, although leading them astray on average when candidates deviate from national partisan reputations.[17]

In summary, our findings regarding the kinds of candidates and positions that voters learn about suggest that voter learning or knowledge of national partisan reputations is an important mechanism that contributes to the voter learning we observed. However, this form of learning cannot help voters differentiate *between* primary candidates, helping understand why primary voters are less knowledgeable about which candidate is closest to them on policy.

[17]When estimating issue voting (β_1 in Equation 2) separately by whether candidate c's position on issue i is stereotypical, estimated issue voting is larger for counterstereotypical than stereotypical positions in both primary and general elections, but the standard errors are large. This difference could arise for a variety of reasons, such as voters sometimes being less confident in their assessments of stereotypical positions.

Group Influence via Endorsements

Our data collection effort also measured how organized groups might be able to influence voter choices through endorsements.[18] As described previously, we measured respondents' views towards various endorsing interest groups and people, as well as their perceptions of which candidates they endorsed. Most of the endorsers were organized groups, such as unions, parties, or police associations, while some were politicians.

Figure 2 demonstrated that knowledge and learning of endorsements is widespread: between our $t = 1$ and $t = 2$ surveys, learning of the endorsements we measured increased by 14pp (82%) in the primary and 10pp (45%) in the general. Figure OA6 (p. A7) shows the amount of learning by endorsing person or group.

Next, we test for endorsement-based voting. We use the same approach as we used for identifying issue voting (Equations 1 and 2 and Table 2). The one change is that we now study 'endorsement closeness' rather than 'issue closeness.' Being the "Closest" candidate in terms of endorsements is defined as either being endorsed by a group that the respondent expressed positive affect towards at baseline or another candidate being endorsed by a group that the respondent expressed negative affect towards at baseline.[19] As in Table 2, the dependent variable is change in vote.

Table 5's Column 1 shows that primary election respondents were 0.5 percentage points more likely to vote for a candidate close to them in terms of a given endorsement at $t = 2$ than $t = 1$ than they were other candidates, a statistically insignificant difference. However, Column 2 shows that, when focusing on respondents who learn about endorsements between waves, respondents were about 13 percentage points more likely to vote for 'endorsement-close' candidates ($p < 0.001$). A caveat about this result is that, unlike in the case of our issue voting results, the coefficients on β_2 and β_6 are consistent with what we might expect from projection (see above discussion). Columns

[18] We also examined the effect of name recognition, which could arise if, among other reasons, group spending facilitated name recognition. See Appendix B, p. A14.

[19] To measure affect at baseline, we trichotimize the 0-100 feeling thermometer into -1 (0-49), 0 (50), and +1 (51-100), corresponding with endorsers that the respondent dislikes, is indifferent towards, or likes, respectively.

Table 5: Endorsements Regression Results

	Primary		General	
	(1)	(2)	(3)	(4)
Closest candidate to respondent on endorsement	0.005		0.020*	
	(0.006)		(0.009)	
Closest candidate * Learned t=1 to t=2		0.132**		0.106**
		(0.013)		(0.020)
Closest candidate * Forgot t=1 to t=2		-0.128**		-0.083**
		(0.023)		(0.025)
Closest candidate * Always knew		-0.073**		-0.052**
		(0.015)		(0.015)
Closest candidate * Never knew		-0.008		0.039**
		(0.007)		(0.013)
Learned candidate endorsement t=1 to t=2		-0.086**		-0.007
		(0.013)		(0.072)
Forgot candidate endorsement t=1 to t=2		0.065**		0.200**
		(0.019)		(0.076)
Always knew candidate endorsement		0.025		0.196*
		(0.016)		(0.090)
Respondent-endorser fixed effects?	✓	✓	✓	✓
Candidate fixed effects?	✓	✓	✓	✓
R^2	0.258	0.265	0.412	0.418
N respondent-endorser-candidates	43210	43210	13032	13032
N district-endorsers	33	33	31	31
N districts	19	19	20	20
Proportion voting for closest at t=2	.25		.68	

Notes: Data is at the respondent-endorser-candidate level. Cluster robust standard errors at the respondent level are in parentheses. $\dagger p < .10$*;* * $p < .05$*;* ** $p < .01$.

3 and 4 show the results in the general election. Table OA6 (p. A13) shows a crosstab at the respondent-endorsement level.

Table 6 estimates Equation 2 in several theoretically relevant subsets of the data for primary elections (we have insufficient data in the general election for many of these subsets). The entire Table subsets to cases where respondents are in districts with competitive primaries and identify with the same party as the candidates facing the competitive primary. Column 1 shows that the results persist in these cases, with modestly larger magnitudes.

Table 6's Columns 2 and 3 further subset the data by whether the respondent liked or disliked the relevant endorser at baseline. The results suggest that our estimates are entirely driven by voters taking cues from liked endorsers. (Note also the much smaller sample size because many fewer groups are disliked.) There is little evidence of voters taking negative cues from disliked endorsers—if anything, the point estimate is negative, suggesting voters might even be if anything *more* likely to vote for a candidate when they learn they are endorsed by a disliked group (cf. Arceneaux and Kolodny 2009). (The way the 'Closest' variable is coded, were respondents to use cues from disliked groups as negative cues, the coefficient should be positive.) These results are consistent with Broockman, Kaufman and Lenz (2024). They are significant for interest group influence because they suggest that interest groups can use endorsements to direct their supporters' votes to their favored candidates without, it seems, losing their detractors' votes.

Finally, Columns 4 and 5 split out the data by whether the endorser is a group (e.g., the Indiana Farm Bureau) or a person (e.g., Katie Porter). The results are similar for both.

In summary, the results in this section provide clear evidence that many voters learn about endorsements during primary and general elections, and some evidence that this learning allows organized groups and politicians to influence voter choice.

Table 6: Endorsements – Additional Regression Results (Competitive Primaries – Same Party Only)

	All endorsers (1)	Disliked endorsers (2)	Liked endorsers (3)	Endorser is group (4)	Endorser is person (5)
Closest candidate * Learned t=1 to t=2	0.172**	-0.057	0.177**	0.184**	0.142**
	(0.018)	(0.049)	(0.023)	(0.022)	(0.033)
Closest candidate * Forgot t=1 to t=2	-0.174**	0.109	-0.251**	-0.140**	-0.228**
	(0.039)	(0.094)	(0.045)	(0.050)	(0.065)
Closest candidate * Always knew	-0.059*	0.026	-0.098**	-0.072**	-0.009
	(0.024)	(0.067)	(0.028)	(0.028)	(0.050)
Closest candidate * Never knew	-0.021†	-0.019	-0.053**	-0.010	-0.041*
	(0.011)	(0.032)	(0.015)	(0.015)	(0.017)
Learned endorsement t=1 to t=2	-0.108**	-0.031	-0.098**	-0.103**	-0.120**
	(0.020)	(0.066)	(0.021)	(0.024)	(0.039)
Forgot endorsement t=1 to t=2	0.095**	-0.138	0.097**	0.104**	0.072
	(0.032)	(0.106)	(0.034)	(0.039)	(0.053)
Always knew endorsement	-0.000	-0.066	0.007	0.004	-0.020
	(0.027)	(0.088)	(0.028)	(0.034)	(0.048)
Respondent-endorser fixed effects?	✓	✓	✓	✓	✓
Candidate fixed effects?	✓	✓	✓	✓	✓
R^2	0.309	0.288	0.320	0.344	0.218
N respondent-endorser-candidates	23840	3494	20346	17127	6713
N district-endorsers	33	33	33	16	17
N districts	19	19	19	10	11
Proportion voting for closest at t=2	.35	.16	.43	.38	.29

Notes: Data is at the respondent-endorser-candidate level. Cluster robust standard errors at the respondent level are in parentheses. †$p < 0.10$, * $p < 0.05$, ** $p < 0.01$.

Discussion

What explains why congressional candidates adopt platforms that diverge from the median voter's policy preferences? Some argue that general election voters are too unaware of candidate positions to encourage candidates to moderate their positions, or that issue-activist primary voters are chiefly responsible for incentivizing divergence. We argued that *primary* voters actually face greater barri-

ers to voting on issues than general election voters given the lack of differentiating partisan cues in primaries—and that primary voters would likely rely on other cues, such as endorsements, which might empower groups. This suggests that factors beyond issue-activist primary voters or ignorant general election voters are likelier to blame for candidate divergence.

We collected novel evidence that supported this argument. We drew this evidence from an original survey effort involving a four-wave panel study spanning both primary and general elections in 27 congressional districts during the 2024 electoral cycle. Our questionnaires were tailored to the particular divisions and candidates in each district. By studying voter knowledge, issue voting, and endorsement effects across electoral stages, we offer a more comprehensive assessment of how different constituencies shape congressional elections than previous research, which has typically focused on only one constituency or electoral stage. Our panel design also allows for drawing stronger causal inferences regarding the effects of voter learning on vote choice.

The evidence from this effort supported our argument. First, voter learning is widespread, but general election voters are both more likely to know candidate positions on election day and learn more about which candidate's positions are closer to them during campaigns. Second, voters who learn a candidate is closer to them are more likely to vote for them, even when that candidate is an outpartisan. But, because primary voters are less likely to learn which candidate is closer to them, they are less likely to vote for the closest candidate on election day. Voter learning of national partisan reputations, which help voters determine which candidate is closer to them in general but not primary elections, appear to contribute to these patterns. Finally, many voters learn about endorsements, which also may influence these voters' choices.

We note several potential limitations of our study that may help inform future work. A first set of limitations relate to internal validity. First, while our panel design allows us to draw more persuasive causal inferences about issue voting than previous work, observational data cannot definitively establish causal relationships. The presence of candidate fixed effects in our regressions rule out alternative explanations related to candidate-level variables such as quality or momentum.

But projection between survey waves remains a threat to causal inference, although we discussed why this is unlikely to entirely generate our issue voting findings. Future work could build on our research by experimentally manipulating voter knowledge (e.g., Fowler and Margolis 2014). Second, as described previously, prior voter knowledge of candidate positions and measurement error in our measures of voter issue positions or of voter perceptions of candidate issue positions may attenuate our estimates of issue voting. Third, because candidates differ along multiple dimensions, we do not know if other factors that affect vote choice might obscure issue voting that would occur following voter learning if candidates were otherwise equivalent.[20]

We also note several limitations related to the generalizability and broader implications of our findings. First, our focus on 27 congressional districts in 2024, while more comprehensive than previous studies, may not capture the full variation in congressional elections across time and geography (although see Appendix D.1, p. A17). Second, it is possible that primary voters could contribute to extremism by being especially averse to compromise with the other party (e.g., Anderson, Butler and Harbridge-Yong 2020), which we did not study. Third, as with all surveys, the external validity of our conclusions depend on the representativeness of our sample. However, we recruited using a random sample from the voter file and our results persist when using weights (see Table OA5, p. A12). Fourth, our results could be different when examining candidate ideology rather than specific issue positions (Ahler, Citrin and Lenz 2016; Colao 2024). Fifth, while our results cast doubt on uninformed general electorates or extreme primary electorates driving candidate divergence, we note that other forces we did not study may contribute to it, such as candidate supply constraints (e.g., Hall 2019, see Grofman 2004 for further review).

Relatedly, despite the meaningful number of respondents, districts, candidates, and issues in our study, our results for issue voting and whether voters learn which candidate is closest to them

[20]For example, suppose there are large differences in candidate quality. Then voters might either not bother to learn about candidate issue positions or, if they do, vote on the basis of quality rather than issues. While such effects are absorbed in our candidate fixed effects, they do suggest that the observed disciplining effects of issue voting are potentially lower bound estimates that would be larger if candidates were otherwise identical.

in primaries depend on the 16 district-issue cases where we could clearly document position differences between primary candidates. Likewise, we do not know if there are issues that would divide primary voters, but where competing candidates do not differ meaningfully. Similarly, we do not have a complete accounting of voter and candidate issue preferences that would allow us to ascertain whether primary electorates are systematically excluding moderate candidates that (median) general election voters might prefer over realized primary winners.

Finally, the implications of our findings regarding the potential influence of group endorsements depend on the extent to which groups prefer candidates with positions that diverge from the median voters' position—a common assumption in the literature (e.g., Bawn et al. 2012), but which deserves further study.

Our findings also suggest several broader implications and directions for future research. First, our findings provide some evidence consistent with the UCLA Theory of Parties' claim that groups operating in primary elections may contribute to candidate divergence: primary voters learn about group endorsements, and this may influence their votes. However, our findings are more sanguine with respect to issue voting by both primary and general election voters than the UCLA School. This poses puzzles: Especially in competitive districts, would groups support extreme candidates if these candidates are likelier to lose general elections? Likewise, to the extent that some groups support more extreme candidates, why do many not-particularly-extreme primary voters appear to trust these groups (Bawn et al. 2023)? Future research should investigate these questions further. It may be that group strategies are different in districts that are unlikely to be competitive in the general election.

Second, future research could apply structural modeling to data like ours to better understand how rational candidates and voters navigate conflicts between interest groups, primary voters, and general election voters. Such a model could leverage our reduced form estimates to more precisely estimate the general equilibrium implications of our findings. Such a model could examine why competitive primaries arise (i.e., challenger entry) and also consider how issues and endorsements

that divide candidates in each district arise endogenously, and the implications of this endogeneity for interpreting patterns of voter knowledge, learning, turnout, and vote choice in partial equilibrium.[21]

Our research also raises questions about voter, candidate, and party incentives. Our work reinforces potential explanations for recent findings that the returns to *individual* candidate moderation appear to be declining in down-ballot general elections (e.g., Handan-Nader, Myers and Hall 2025). In particular, nationalized media could make it more difficult for voters to learn about candidate positions (Djourelova, Durante and Martin 2024; Moskowitz 2021), but easier for them to learn about national party positions, leading them to increasingly use party labels to infer candidate positions rather than relying on candidate-specific information (Sniderman and Stiglitz 2012). In addition, to the extent politicians are increasingly homogeneous within parties or different across parties, general election voters may have more incentive to focus on the effects of their vote on which party controls the House (i.e., the chamber median's positions) rather than their own representative's positions.[22] If voters are less able to learn about individual candidates' positions, or less interested in using such information when voting, this could weaken individual candidates' incentive to moderate.

Nevertheless, we emphasize that we still found evidence that voters learned about candidates' positions that could not be predicted based on their party. For example, some primary voters become aware of even modest within-party differences in candidate positions, and general election voters sometimes learned counter-stereotypical positions. These findings, along with our issue voting results, are consistent with other research that the returns to candidate moderation remain

[21] Reassuringly, we were not meaningfully less likely to observe candidate divergence on issues that were more important to voters. In primary elections, voters said 14% of issues where we observed candidate divergence were important, versus 16% of issues where we did not observe divergence, a small difference. In general elections these figures are 16% and 16%, respectively. However, this comparison still conditions on the issues we chose to ask about (i.e., mostly when candidates diverged) and where we had importance measures.

[22] Indeed, models of congressional policymaking disagree on the extent to which the position of a party's median member versus solely the position of the chamber's median member influence policy outcomes (e.g., Cox and McCubbins 1993; Krehbiel 1998).

positive (e.g., Hall 2015; Handan-Nader, Myers and Hall 2025).

Our results also underscore that any declines in *individual* candidates' return to moderation do not imply that voters are less interested in using their votes to secure their preferred policy outcomes (c.f., Achen and Bartels 2016; Bawn et al. 2012; Lenz 2013). They instead suggest that, in the presence of nationalized media and nationalized parties, voters' perception of which *party* is closest to them on policy may increasingly influence their vote choices (see also Dancey and Sheagley 2013; Fernandez-Vazquez and Theodoridis 2020; Halberstam and Montagnes 2015; Tausanovitch and Warshaw 2018). Our evidence that voter learning about candidate positions was largely driven by learning about party positions but that this learning sometimes led them to cross party lines to vote for the other party is consistent with this view.

This suggests that parties face a difficult challenge. Winning moderate districts—and thus chamber control—might require parties to cultivate a *nationwide* reputation for moderation. Yet because most congressional districts are not competitive, most Members of Congress and the groups who support them have limited individual incentive to moderate for the sake of the national party's reputation—a classic collective action problem (e.g., Cox and McCubbins 1993). Future research should further investigate this hypothesis, and how voters learn about these national party brands (e.g., Butler and Powell 2014).

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