

Do Open Primaries Help Moderate Candidates? An Experimental Test on the 2012 California Primary

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Abstract

Do open primaries help moderate candidates? While many theorize that allowing voters to choose candidates from any party in primaries will alleviate polarization, evidence has been mixed. To further address this question, we conducted a statewide experiment just prior to California's June 2012 primaries, the first conducted under the Top-Two Primaries Act. We randomly assigned 2839 registered voters in districts where moderate candidates faced extreme candidates to be asked about their vote choice on either the new ballot or on the ballot they would have seen absent the reform. We find that moderate candidates for the House of Representatives and California's State Senate fared no better under the open primary. The top-two primary failed to improve moderates' electoral fortunes because of voters' scant knowledge of the candidates. While voters are generally quite moderate, they largely failed to discern ideological differences between extreme and moderate candidates of the same party, particularly among non-incumbents. Although these results cannot speak to how elected officials will behave in office post-reform, they suggest that voters lack the knowledge necessary to incentivize moderateness in a top-two primary.

Polarization and gridlock characterize modern American politics. The daily news from Capitol Hill brims with stories of partisan standoffs and extreme legislators who appear more concerned with posturing than producing substantive policies. Legislators' institutional incentives lead them to behave as partisan team players first (Lee 2009; Mann and Ornstein 2012), and as a result, the parties in the House and Senate are now more ideologically divided than they have been in nearly a century (McCarty, Poole, and Rosenthal 2006). The ramifications have been striking. In the past four years, gridlock in the Senate has left eighteen federal judgeships unfilled ("Filibustering Nominees Must End") and partisan brinkmanship led Standard and Poor's to downgrade the nation's credit rating for the first time in history. Since voters primarily desire effective policy above all else (Fiorina, Abrams, and Pope 2005), the rise of dogmatic legislative behavior signals a breakdown of representation.

Many advocate primary election reform as a solution. Reform takes many shapes, the boldest of which is the top-two, or runoff, format. Designed to reduce the role that party organizations play in the nominating process, these primaries send the two most popular candidates to the general election, regardless of party. Top-two primaries also allow candidates without any party affiliation greater access to the ballot. As the argument goes, allowing voters from any party to vote for candidates from any party will increase participation by moderate, independent voters and force candidates to converge to the ideological center of the whole district rather than their districts' partisan bases. This should privilege centrist candidates who are willing to work toward common solutions and are more broadly representative of their constituencies. This was the pitch made to California voters – and, indeed, to Colbert Nation (*The Colbert Report*) – in 2010 by Abel Maldonado, then the state's lieutenant governor and

author of the Top Two Primaries Act. 54% of voters approved the act via Proposition 14, making the June 2012 primaries the first statewide elections held under the new rules.¹

Is primary reform the solution? To determine whether the top-two primary actually helped moderate candidates, we fielded an experiment just prior to that election. The 2012 primary provided an extraordinary opportunity in that California implemented the Top-Two Primaries Act rapidly and with little fanfare. Voters were mostly unaware of the new ballot format² and strategic candidates could only take educated guesses as to how it would play out. By contrast, what voters and politicians learn from this election will likely affect behavior in future elections under the top-two system. Thus, this experiment lends a relatively pure look at how electoral institutions affect voters' choices and political outcomes.

Previous studies of primary reform have produced mixed results. On one side, a handful of studies find that open primaries moderate political outcomes. Data from 1982-1990 show that Members of Congress' (MCs) ADA scores hew more closely to their districts' ideological leanings in states with semi-closed or open primaries than in states with traditional party primaries (Gerber and Morton 1998). And, examining California's first attempt at primary reform in 1998, Gerber (2002) argues, "the overall net effect of the blanket primary was to produce more moderate candidates" (210). Moderates were more likely to advance to the general election in state legislature races in 1998 than in 1996, controlling for race-specific characteristics. Gerber (2002) therefore builds on Gerber and Morton (1998) by arguing that

¹ This was not California's first attempt at instituting primary reform. In 1996, voters approved a ballot initiative mandating blanket primaries, in which any registered voter could choose to vote in the party primary of her choice. This format was used on a statewide scale in 1998 prior to

² Only 40% of our respondents had heard of the rules change.

primary rules make a difference because voters are able to identify and select moderate candidates.³

On the other hand, several studies have argued that primary reform fails to moderate political outcomes. In possibly the most unfavorable study on primary reform, McGhee et al. (2010) conclude that states' primary rules fail to systematically affect legislative polarization, as measured by state legislators' roll call voting from 1996-2006. Statehouse polarization appears to be related to state-specific factors more than anything else, implying that primary reform is not likely to be the panacea for gridlock its advocates claim. And in another study of the 1998 California blanket primaries, Bullock and Clinton (2011) find that MCs elected in 1998 were no more moderate in their roll call voting than those elected in 1996, on average. When comparing the change in moderateness in California's delegation to other states (which did not enact reforms), however, they do see evidence that California's reform mattered in highly competitive districts: MCs from closely divided California districts became significantly more moderate relative to the rest of the House of Representatives in the two years following the blanket primary.

The literature on primary reform has made progress but produced mixed findings. The studies in this literature have relied on pretest-posttest designs, which have limitations (Campbell

³ An alternative explanation is that strategic candidates react to the rules change by hedging, i.e., moderating somewhat in the term following the passage and implementation of primary reform. At least in the short run, this does not require voters to be able to identify moderate candidates, but rather requires that candidates believe voters can do this. Studies that only use legislative behavior, rather than electoral outcomes, as a dependent variable cannot rule out that this elite behavior entirely drives an apparent moderating effect.

and Stanley 1963).⁴ With partisan polarization in Congress at its highest point in a century, determining which solutions work is crucial.

In the hope of furthering knowledge on this important topic, we conducted an experiment. We randomly assigned a large sample of registered voters to a ballot identical to the one they would see in the June 6 primary (treatment), and the other half to the ballot they would have seen had Proposition 14 failed (control). We then assess whether the reform helped moderate candidates for Congress and the California State Senate.⁵ While some might argue that the actual election outcomes demonstrate that the new system failed because few moderate candidates advanced to the general election (Mishak and York 2012), candidates' failure to advance cannot be the final word. With an individual-level experiment, we can determine whether or not moderate candidates performed better under the top-two system, and thus whether the new rules have altered politicians' incentives to be moderate.

⁴ These potential internal validity problems could produce results that support or refute the moderation hypothesis. As McGhee et al. (2010) note, states may adopt open primaries to combat particularly high levels of polarization, which could produce a false negative in a cross-sectional study of state-level polarization. (McGhee et al. nicely utilize cases in which courts struck down blanket primaries as exogenous shocks for a robustness check supporting their results.) On the other hand, an influx of strategic moderate politicians in a state might advocate for primary reform, hoping that it will improve their own electoral fortunes. This would result in a false positive.

⁵ An experimental approach was particularly necessary for studying primary reform in California in 2012 because the June 2012 election was also the first conducted with the Citizens' Redistricting Committee's new electoral map. Although redistricting always causes problems of equivalence in pre-post studies of primary reform, it would have been especially troubling in this instance because the Citizens' Redistricting Committee, like the Top-Two Primaries Act, was passed with the explicit goal of reducing polarization and gridlock. Thus, any study comparing moderates' electoral fortunes in 2012 versus 2010 would be ill-equipped to attribute an apparent effect to primary reform, as opposed to redistricting reform or simply a shift in Californians' attitudes. An experiment allows us to do so because we can assume that the two randomly assigned groups are balanced on all covariates, in expectation, aside from the ballot they receive.

By conducting an individual-level experiment, we also shed light on why primary reform does or does not moderate political outcomes. Researchers have posited mechanisms for both possibilities but have yet to investigate them in much depth. By measuring respondents' perceptions of candidates' ideological positions (in addition to their vote choices), we can further investigate whether voters know enough about candidates to reward moderateness.

Previewing our results, we find that voters know little about most candidates and are largely unable to distinguish between extreme and moderate candidates from the same party. We also find that moderate candidates do not appear to benefit, on average, from the top-two format. Although these results cannot speak to how elected officials will behave in office post-reform, taken together, they suggest that voters lack the knowledge to incentivize moderateness in candidates.

Research Design and Data

In the 10 days before the 2012 California primary, we polled 4773 registered California voters recruited through Survey Sampling International (SSI). Although the sampling method was non-random, the sample represents the population on age, party registration, race, and moderateness.⁶ Furthermore, our survey's election results closely mirror the actual election results. (See the appendix, which also presents demographics.)

We randomly assigned participants to one of two conditions: the new open ballot or a closed ballot. Participants assigned to the treatment condition received the open ballot, which listed all candidates running in the participants' district. In the control condition, we only

⁶ A potential concern is that our sample was not moderate enough for centrist candidates to benefit from the top-two ballot. We present evidence to the contrary. Participants' modal 7-point ideological self-placement was "4" (26.1% of respondents), and 46.1% of participants identify as moderate (compared to 24.2% as liberal and 29.7% as conservative).

allowed participants to choose candidates from the party with whom they were registered.⁷ See Figure 1 for a comparison of these two conditions.

Of course, the open ballot can only help moderate candidates when such candidates appear on the ballot and compete against extreme candidates. About one month before the election, we classified districts into three categories: (1) no chance the reform could help a moderate, (2) a slight chance it could help, (3) a better than slight chance it could help (see appendix for details). We conducted the ballot experiment only in the 33 of California's 53 congressional districts that fell into categories 2 and 3. In these districts, 2839 registered voters participated in this experiment, and cast votes for one of 150 candidates, 85 of whom we considered viable.^{8,9} Our analysis mostly focuses on the 20 category 3 races, which had 99 candidates, 53 of whom we considered viable.

The main dependent variable in our analysis is the vote share candidates received under the different ballot formats. We also asked participants about their experience with the ballot and their perceptions of whether they could identify moderate candidates.

To determine whether moderate candidates benefit, we need to know which candidates were moderates. We collected several measures. First, to learn about participants' perceptions of

⁷ Consistent with the rules under California's previous closed-ballot system, participants registered with neither the Democratic or Republican parties were asked if they would like a Democratic Party ballot. 61.6% of these independent respondents chose to participate with the Democratic ballot. As one might expect, independent participants who opted for the Democratic ballot were significantly more liberal: Their mean 7-point ideological self-placement was 3.66, compared to 4.57 for those who refused the Democratic ballot ($p < .01$). However, this did not compromise the overall ideological similarity between independents in the treatment and control groups. Independents in the treatment group averaged a 3.97 self-placement, compared to 4.11 for independents in the control group ($p = 0.31$).

⁸ Our concept of viability was (X). The reliability of our coding of viability was (Y).

⁹ We originally planned to conduct the experiment in 35 districts with 3030 participants. Due to technical errors in assigning 172 participants to their proper districts, and human errors in creating ballots for district 10 and district 37, we were left with 2839 number of participants across 33 districts for this experiment.

Figure 1: An Example of Treatment and Control Ballots (District 24)

Treatment - Open Ballot

Which primary candidate for The House of Representatives do you plan to vote for?

- ☐ **Chris Mitchum**
Party Preference: Republican
Occupation: Actor/Writer/Businessman
- ☐ **Abel Maldonado**
Party Preference: Republican
Occupation: Farmer/Business Owner
- ☐ **Lois Capps**
Party Preference: Democratic
Occupation: Congresswoman/Nurse
- ☐ **Matte Boutté**
Party Preference: None
Occupation: Law Student
- ☐ Don't know yet

Control - Democratic Ballot

Which primary candidate for The House of Representatives do you plan to vote for?

- ☐ **Lois Capps**
Party Preference: Democratic
Occupation: Congresswoman/Nurse
- ☐ Don't know yet

Control - Republican Ballot

Which primary candidate for The House of Representatives do you plan to vote for?

- ☐ **Abel Maldonado**
Party Preference: Republican
Occupation: Farmer/Business Owner
- ☐ **Chris Mitchum**
Party Preference: Republican
Occupation: Actor/Writer/Businessman
- ☐ Don't know yet

the candidates, we instructed them to rate the ideology of their districts' candidates using a traditional seven-point scale after they reported their intended vote choice.¹⁰ Second, we visited candidates' websites and scoured media coverage of the races and then attempted to rate the candidates with the seven-point scale. Due to a lack of website content and media coverage, we were unable to rate 12 candidates. Third, we hired 204 Mechanical Turk workers to visit websites for viable candidates in the 20 category 3 districts. These workers used the seven-point scale to place candidates on the liberal-conservative spectrum. We used ratings from workers who passed a series of political knowledge and attentiveness questions to generate a mean ideological rating for each candidate (Cronbach's $\alpha = 0.92$; see appendix for procedures).

Results for Congressional Elections

Did the reform help centrists? A first cut implies that it did. As shown by the scatterplot in Figure 2a, moderate candidates appear to win more votes under the new rules than under the old rules. The vertical axis presents the difference in vote share between the open and closed ballot conditions for each candidate, while the horizontal axis places candidates according to how moderate they seemed to participants. To operationalize moderateness, we folded the seven-point ideology scale and recoded it so that higher values indicate a more moderate average perception of the candidate by participants in the candidates' districts. If the open ballot helped moderate candidates, we should see an upward slope in the scatterplot – that is, we should see more moderate candidates receiving more votes with the open ballot than with the closed ballot. The slope of the best-fit line shown in the scatterplot is indeed positive. Its value of 0.315 implies that an extreme candidate, located at 1 or 7 on the ideology scale, would improve her vote share by

¹⁰ To prevent respondent fatigue, we directed participants in districts with over six candidates to rate all viable candidates and a randomly assigned portion of the nonviable candidates.

Figure 2a: Did the Open Ballot Help Moderate Candidates?

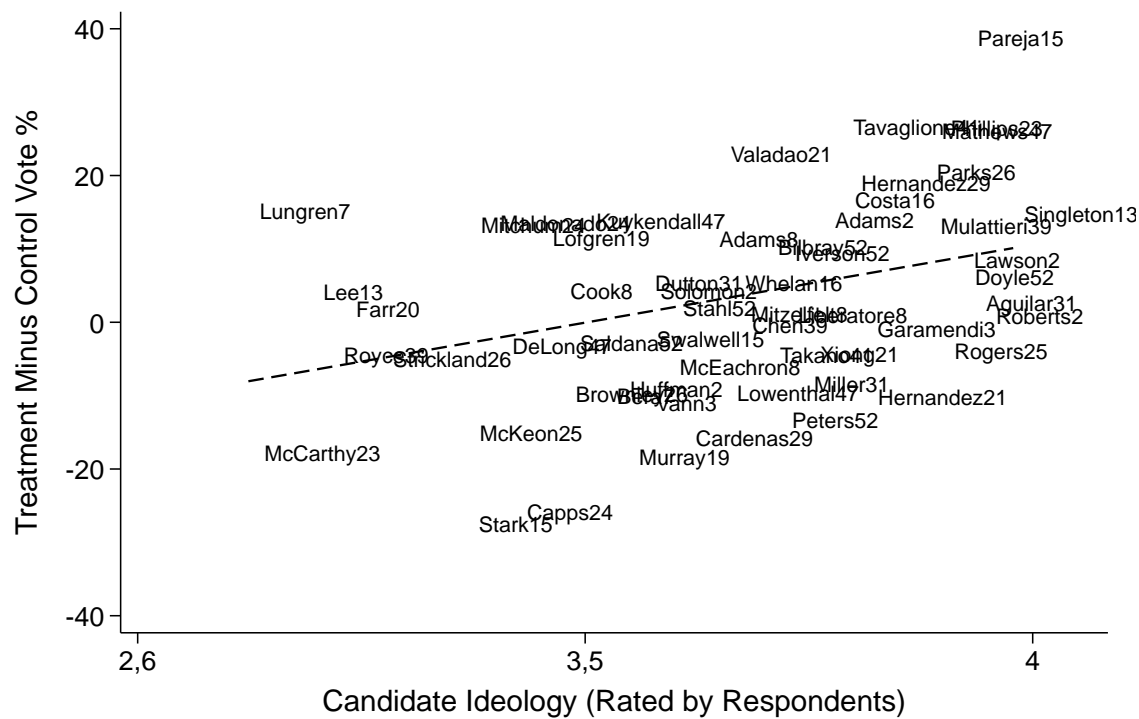


Figure 2b: Did the Open Ballot Help Moderate Partisan Candidates?

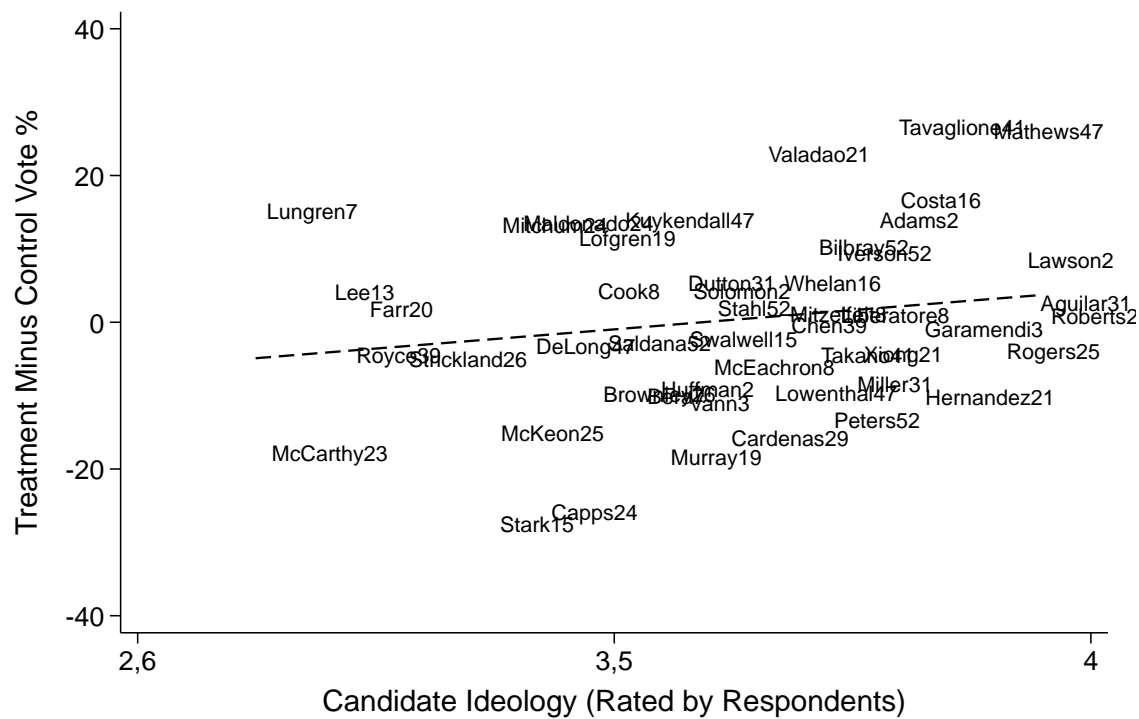


Table 1: Did the Top-Two Primary Help Moderate Candidates?

	(1)	(2)	(3)	(4)
	Respondent ratings	Respondent ratings No NPP	MTurk and our ratings	MTurk and our ratings No NPP
DV:	Treatment minus control vote share			
Candidate ideological moderateness	0.315*** (0.107)	0.156 (0.118)	0.091 (0.074)	0.016 (0.082)
Constant	-0.240*** (0.081)	-0.144 (0.086)	-0.047 (0.037)	-0.039 (0.037)
Observations	57	49	57	49
R-squared	0.135	0.036	0.027	0.001

Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

31.5% were she to relocate at 4 (with the open ballot compared to the closed ballot). Following the logic of Figure 2a, the first column of Table 1 presents the regression of the difference in vote share between ballot formats on candidates' perceived moderateness. The regression analysis shows that the trend in the scatterplot is statistically significant ($p=.005$).¹¹

If this finding were true, candidates would have a strong incentive to moderate if states adopted open primaries, and we would have a prescription for legislative polarization.

Unfortunately, skepticism is justified. The first reason for doubt is purely mechanical. Some moderates benefitting the most in Figure 2a are “No Party Preference” candidates (Anthony Adams of the 8th District, Marilyn Singleton of the 13th, Chris Pareja of the 15th, Linda Parks of the 26th, David Hernandez in the 29th, D'Marie Mulattieri of the 39th, and Jack Doyle of the 52nd). Because the partisan ballot would have excluded these candidates, we omitted them from the ballot in our control condition. Do these seven candidates drive our preliminary finding? The

¹¹ While this analysis is performed at the aggregate level – candidates' vote share – the results are also consistent at the individual level. These results are reported in the appendix.

second column in Table 1 shows that they do. When we exclude the seven NPP candidates, the slope halves and is no longer statistically significant, falling from 0.315 to 0.156. The top-two system, therefore, appears to have improved the fortunes of moderate candidates, but primarily because it increased vote share (from zero votes) for candidates not affiliated with the major parties.

A second potential problem with Figure 2a (and Figure 2b) is that it measures candidate moderateness with participants' average perceptions. An examination of Figures 2a and 2b reveals startling inaccuracies in these perceptions. For example, participants from the 24th District did not view Abel Maldonado, the moderate Republican who spearheaded primary reform, as appreciably more moderate than either of his viable opponents, incumbent Democrat Lois Capps and conservative Republican actor Chris Mitchum. As one of the few Republican lawmakers to break the Taxpayer Protection Pledge, Maldonado faced considerable backlash from the right, culminating in the local GOP's decision to endorse the inexperienced and Tea Party affiliated Mitchum in the primary instead of Maldonado.

We could point to many other examples of average misperceptions by participants. In part, these misperceptions may simply reflect ignorance, but they could also reflect another tendency that is more problematic for our analysis: projection. Citizens sometimes project their own policy views onto candidates (Kinder 1978; Granberg and Brent 1980; Dalager 1996; but also see Krosnick 1990). Since citizens also tend to be relatively moderate, especially in comparison to political elites (Fiorina and Abrams 2009), they may project their centrist positions onto their preferred politicians. Moreover, they may especially do so when they are willing to cross party lines in the open ballot condition and vote for candidate of another party. If

so, the remaining apparent effect of the top-two format may simply be an artifact of this tendency.

To address projection and other potential problems with respondents' average ideological perceptions, we substitute the average of our own ratings and MTurk ratings of candidate ideology. We collected these ratings before the primary election and they correspond much more closely to what experts would consider the correct placement. For example, instead of placing the Republican Maldonado and his tea party rival Mitchum as holding similar ideological positions (5.21 and 5.26, respectively), the MTurk-author rating correctly places Mitchum as much more conservative (6.33). Figure 3a and Column 3 of Table 1 show that we continue to find a small effect with these ratings when we include NPP candidates: the coefficient is 0.091. When we exclude NPP candidates, however, the effect vanishes, dropping to 0.016, as reported in column 4 of Table 1, and shown in Figure 3b. These results suggest little sign that the open ballot helped moderate candidates.

No measure of candidate ideology is perfect, so we now estimate the effect with several other measures. Table 2 presents the estimates. It simplifies the presentation of many models by only showing the key coefficient from Table 1, which is from the regression of treatment minus control vote share on candidate moderateness. Across multiple measures of candidate moderateness, we find the same result: the open ballot failed to help moderates.

Table 2 begins by showing the results separately for the MTurk ratings and the authors' ratings, showing that both produce similar estimates. Next, we examine roll call measures. For the 13 incumbent House members who competed in the 20 category 3 districts, we use DW-NOMINATE scores from the 112th Congress. For challengers, we collected Capitol Weekly Legislative Scorecards for nine challengers who had previously served in the California

Figure 3a: Did the Open Ballot Help Moderate Candidates? (Measured with Author-MTurk Ratings)

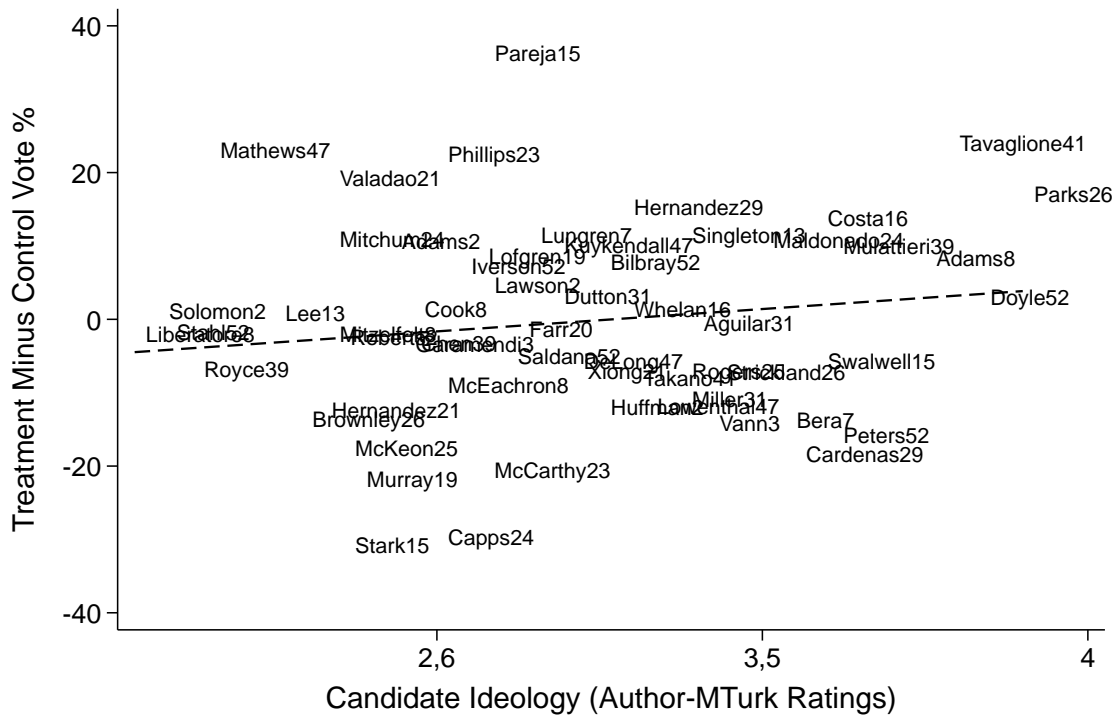


Table 2: Did the New Ballot Help Moderate Candidates? Other Measures of Moderateness

Best case districts for moderates (20 districts)	Candidate ideological moderateness coefficient (SE)	n candidate	n participant
Candidate ideology measured with average of MTurk ratings			
All candidates	0.077(0.068)	56	873
Excluding NPP	0.004(0.071)	49	837
Candidate ideology measured with average of author ratings			
All candidates	0.059(0.058)	57	873
Excluding NPP	0.018(0.065)	49	837
Candidate ideology measured with average of DW nominate/CW ratings			
All candidates	0.275(0.221)	22	343
Excluding NPP	0.300(0.202)	21	319
All candidates excluding Maldonado	0.043(0.248)	21	339
Excluding NPP and Maldonado	0.068(0.202)	20	315
Candidate ideology measured with knowledgeable respondents' ratings			
All candidates	0.191(0.070)	56	865
Excluding NPP	0.102(0.085)	49	837
All districts (33 districts)			
Candidate ideology measured with average respondents ratings			
All candidates	0.183(0.097)	85	1425
Excluding NPP	0.031(0.111)	73	1381
Candidate ideology measured with average of Mturk and our ratings			
All candidates	-0.022(0.066)	87	1425
Excluding NPP	-0.116 (0.077)	76	1381
Candidate ideology measured with average of MTurk ratings			
All candidates	No ratings		
Excluding NPP	No ratings		
Candidate ideology measured with average of author ratings			
All candidates	-0.012 (0.055)	87	1425
Excluding NPP	-0.079(0.067)	76	1381
Candidate ideology measured with average of DW nominate/CW ratings			
All candidates	0.236(0.166)	37	554
Excluding NPP	0.261(0.155)	36	550
All candidates excluding Maldonado	0.085(0.176)	36	530
Excluding NPP and Maldonado	0.111(0.163)	35	526
Candidate ideology measured with knowledgeable respondents' ratings			
All candidates	0.114(0.071)	85	1394
Excluding NPP	0.001(0.088)	74	1358

Notes: Viable or NPP candidates only. These races have 90 viable candidates. For respondent ratings we have only 85 candidates because we failed to ask respondents about their perceptions of four candidates in district 51 (Michael Crimmins, Denise Moreno Ducheny, Xanthi Gionis, Juan Vargas), and Nick Popaditch in district 53. For author coding we have a total of 87 ratings because we could not discern the ideology of 3 candidates (Gloria Negrete McLeod from district 35, Alan Schlar from district 48, and Connie Frankowiak from district 50).

legislature. Capitol Weekly (CW) scores votes on key bills, using a 0-100 scale, where 100 is a perfect liberal score and zero is a perfect conservative score. We rescaled the DW nominate and CW scores to the same scale, which assumes comparability, folded it so that higher values indicate a more moderate voting record, and recoded it to vary between zero and one. For the (13+9 =) 22 candidates for whom we have these measures, the ballot appears to have helped moderates, with coefficients of 0.275 and 0.300 for all and for only non-NPP candidates, respectively. However, these fail to reach statistical significance (0.10 level), and one candidate, Maldonado, is entirely responsible for these sizable coefficients. The next two rows exclude him from the analysis and the effect falls to essentially zero.

So far, we have only examined the 20 districts where we judged (before the election) that the open ballot would most benefit moderate candidates. Table 2 next repeats these analyses for all 33 districts where we conducted the ballot experiment. We would expect the open ballot to benefit moderates even less in this larger set of districts, which is precisely what we find. The estimates vary from -0.116 to 0.261.

Additional robustness checks: Awareness of the ballot and likely voters

Our failure to find that moderate candidates benefited from the open ballot survives a host of additional robustness checks, which we report in Table 3. This table only reports the key coefficient from the models in Table 1, which is from the regression of treatment minus control vote share on candidate moderateness (measured with the average of our ratings and MTurk ratings).

One concern is that respondents may have behaved unusually in our control group. In particular, if respondents were aware of the new ballot format and planned to take advantage of it by voting for a candidate of another party, they may have been confused when they failed to see

that candidate on the ballot in the control condition. To address this concern, we asked participants after the vote intent and ideology questions, “Had you heard about the new ballot format before this survey?” About half reported being unaware. Table 3 shows that the effect is also absent among this half (-0.056) and is small among those who report being aware (0.0747), suggesting that awareness or unawareness of the new ballot fails to substantially alter results.¹² We can also address this concern by examining “don't know” responses to the vote question. Respondents who did not see their preferred candidate on the ballot in the control condition may have chosen the “don't know” response at higher rates. If so, we should see more “don't know” responses in the control condition, but we do not. The “don't know” response rate is 32.3% in the control group and 32.8% in the treatment group ($p = 0.806$).

Another concern is that turnout in this primary was light and our sample may over-represent individuals who failed to vote and who may therefore be less likely to recognize and reward moderate candidates on the open ballot. To a degree, we already addressed this concern by only interviewing registered voters and by excluding from all analyses voters who said they would not vote. To further address this concern, Table 3 shows that we continue to fail to find an effect among the 70% of respondents who said they would “definitely vote in the primary.” It then shows that we fail to find an effect among 64% of respondents who correctly answered three of four questions on a general political knowledge scale (see appendix).

¹² Assignment to the open ballot increased the percent saying they were “not aware” by about three percentage points ($p = 0.44$). Since we asked this question post-treatment, results need to be interpreted with caution. In the control condition, we included this statement before the question: “As you may or may not know, California will be using a new ballot format this year, in which voters will be able to choose candidates from any party in the primary election.” These statistics are only for respondents in the 20 category 3 districts. Across all districts, only 41% reported being aware of the ballot and the treatment decreased this response by about seven percentage points ($p = 0.000$).

Table 3: Additional Robustness Checks

MTurk and our ratings (No NPP, no weights) 20 category 3 districts	Candidate ideological moderateness coefficient (SE)	n candidate	n participant
Full sample	0.016(0.082)	49	837
Unaware of open ballot change	-0.056(0.146)	47	395
Aware of open ballot change	0.075 (0.107)	47	414
Very likely voters only	0.041 (0.077)	48	734
Knowledgeable voters (3/4 > of knowledge Qs)	-0.113(0.102)	49	632
Districts with no NPP	0.142(0.165)	18	238
Centrist districts (Dem-Rep registration within 10%)	0.049(0.100)	27	508
Districts with open seats	0.011(0.118)	21	234
Districts with an incumbent	0.040(0.117)	28	603
Districts with only one moderate (ideo 2.5-5.5)	-0.068(0.114)	34	598
33 category 2 & 3 districts			
Full sample	-0.122(0.078)	76	1381
Unaware of open ballot change	-0.193(0.110)	74	673
Aware of open ballot change	0.024(0.110)	72	653
Very likely voters only (district 32 driving negative trend)	-0.091(0.075)	75	1002
Knowledgeable voters (3/4 > of knowledge Qs)	-0.187(0.083)	76	874
Districts with no NPP	-0.192(0.120)	39	669
Centrist districts (Dem-Rep registration within 10%)	0.049(0.100)	27	508
Districts with open seats	-0.020(0.104)	25	257
Districts with an incumbent	-0.148(0.104)	51	1124
Districts with only one moderate (ideo 2.5-5.5)	-0.285(0.101)	56	1022

Did the reform affect election outcomes?

Although we fail to reject the null hypothesis that the open primary has no effect on moderate candidates' vote share, our analyses tend to produce slightly positive coefficients, especially

when limited to districts in which we believed the ballot could matter most. Do we have further evidence that the top-two primary failed? If we are correct, then even aside from the question of vote share, we should expect that the top-two ballot does not moderate electoral outcomes. To test this, we compare the overall moderateness of candidates who would have advanced to the general election in our control condition to that of the top-two finishers in our treatment condition. Even without excluding NPP candidates, we find that candidates who advanced in the treatment condition are no more moderate than those in the control condition. Regardless of whether we specify ideology according to respondents' perceptions or based on the ratings we generated, and regardless of whether or not we restrict the analysis to the 20 districts in which we thought the ballot would matter most, we find no effect. (See Table 4 for statistics.)

As an additional robustness check, we compare the moderateness of candidates who would have advanced in our control condition to the moderateness of the candidates who actually advanced in the June 6 elections. Again using both sets of ideology ratings and conducting the analysis with and without restrictions for targeted districts, we fail to find an effect.¹³

Of course, we can only approximate the proper counterfactual in this case. In a world without the top-two reform, it is likely that some of the NPP candidates would have run in a partisan primary and, thus, would have appeared on the list of candidates who would have advanced from our control condition. But this likely works against the findings discussed in this section. Were we able to compare the outcomes from a true counterfactual partisan primary, rather than the approximation we constructed, to the outcomes from the top-two primary, there would likely be more similarity between the two groups of advancing candidates since the NPP

¹³ To further confirm the validity of our treatment condition, we also compared the moderateness of candidates who would have advanced from the top-two ballot in our experiment to that of candidates who actually advanced in the June 6 primaries. We find no significant difference.

Table 4: Average Moderateness of Advancing Candidates in Treatment and Control Groups, and of the Actual Top Two Finishers

	<i>Treatment</i>	<i>Control</i>	<i>June 6, 2012 Top Two</i>
20 districts			
Respondent ratings	3.2(0.1)	3.1(0.1)	3.1(0.1)
Author-MTurk ratings	2.2(0.1)	2.3(0.1)	2.3(0.1)
33 districts			
Respondent ratings	3.1(0.1)	3.1(0.1)	3.1(0.1)
Author-MTurk ratings	2.2(0.1)	2.2(0.1)	2.2(0.1)

Moderateness measured using a folded 7-point ideological scale. Standard errors in parentheses.

Table 5: Did the Reform Help Among Subgroups?

	Candidate ideological moderateness coefficient (SE)	n candidate	n participant
MTurk and our ratings (No NPP, 20 best case districts)			
Full sample	0.014(0.076)	49	837
Ideologically moderate participants (4s on 7-point scale)	0.193(0.195)	45	172
Ideologically moderate participants (3-5s on 7-point scale)	0.041(0.162)	46	320
Independent voters (3-5 pid_7pt)	-0.060(0.328)	42	125
Democratic voters (1-2pid_7pt)	-0.040(0.119)	35	378
Republican voters (6-7 pid_7pt)	0.056(0.168)	33	258
Respondents who identified most moderate candidate	-0.032(0.174)		348
Younger respondents (below median = 1958)	-0.009(0.137)	47	433
Older respondents (below median = 1958)	-0.081 (0.118)	48	404
White voters	0.049(0.090)	49	717
Districts with 4+ candidates	0.003(0.086)	32	414
Districts with 4+ viable candidates	-0.175(0.102)	18	161
Districts with 3 candidates or less	-0.106(0.197)	10	240
Districts with 2 viable candidates	0.359(0.218)	13	316
Non-viable candidates included	-0.011(0.050)	81	998

candidates who advanced might also have appeared on a partisan ballot. Furthermore, the NPP candidates were generally more moderate, and were certainly perceived as such by respondents, so their exclusion from the ballot in the control condition should bias the results of the above analyses against a null finding. Thus, our failure to find that the ballot had an effect on which candidates advanced stands as a powerful robustness check.

Did the reform help among subgroups?

According to our experiment, moderate candidates failed to benefit from the open primary both in terms of average vote share and advancing to the general election. Although our focus is on the average effect on vote share—it is what ultimately matters for representation—moderates may still have benefited in certain kinds of races or among certain kinds of respondents (though not enough to noticeably increase average vote share for moderate candidates). Surprisingly, however, we generally fail to find much sign of a benefit in subgroups.

Table 5 begins by searching for an effect among respondents who report being moderate on a seven-point ideological scale and among those who report an independent party affiliation. The first coefficient shows the finding only for participants who say they are a 4 – that is, a strict moderate – on the seven-point ideology scale. The coefficients for these individuals, 0.19 is suggestive of an effect, but the sample size is small (only 213 respondents), and the effect is imprecisely estimated. Individuals who locate themselves at 3 or 5 on the ideology scale also identify as moderates, albeit moderates who lean one way or the other. To increase our sample of moderates, we include these individuals in a subgroup with the strict moderates and still fail to find evidence of an effect. We also fail to find clear evidence of an effect among voters who do not identify with party. For the sake of completion, we also show the results for Democratic and Republican voters, who also fail to favor moderate candidates on the open ballot.

For individuals to vote for the moderate candidate on the ballot, they must know who that moderate candidate is. We restrict our analysis to participants whose candidate ratings identified as “most moderate” the same candidate as the author-MTurk ratings. Although these participants correctly identified the most moderate candidates, they did not vote for these candidates any more under the open ballot than under the partisan ballot.

Finally, we show the results by the number of candidates and viable candidates in districts. The number of candidates could affect the results for several reasons—e.g., more candidates presumably increases the informational demands on voters leading to greater uncertainty (Lau, Andersen, and Redlawsk 2008) or more candidates alters the incentive to converge or diverge from the median voter (Osborne 1995; Cox 1987). Table 5 shows that we continue to fail to find an effect regardless of the number of candidates in the district, whether it be four or more candidates or only two candidates. It also shows that the results are similar when we include all non-viable candidates.

Why Did the Top-Two Reform Fail?

The above results provide evidence that California’s top-two primary failed to produce the sweeping effect its backers hoped for. Why was this so? McGhee et al. speculate on two possible reasons for primary reform’s underwhelming capacity to moderate political outcomes: 1) voters’ unwillingness to cross party lines and 2) voters’ inability to identify moderate candidates. Our results can speak to both of these potential sources of the 2012 top-two primary’s failure.

Crossover voting

15.9% of partisan participants assigned to the open ballot chose to vote for a candidate from a party other than their own. The rate of crossover voting increases to 17.8% in districts we

identified as most likely to be affected by primary reform.¹⁴ Of course, voting for a NPP candidate technically constitutes a crossover vote, but this form of crossover voting is also less likely to affect election outcomes because of NPP candidates' generally low levels of success. We find, however, that NPP candidates do not entirely drive crossover voting. 11.5% of participants who voted for a major party candidate did so for a cross-partisan.¹⁵ These results are consistent with studies of crossover voting in the 1998 blanket primary in California (Sides, Cohen, and Citrin 2002).

While the rate of crossover voting is perhaps smaller than advocates of primary reform might have hoped, it is important to remember that a top two finisher advanced with less than 30% of the vote in 35 of the 53 districts. Furthermore, the difference between the second and third place candidates was less than 10% in 21 districts, with a number of districts coming down to razor-thin margins. In these cases, crossover voting had the potential to affect electoral outcomes.

One concern about this argument is that crossover voting may have primarily benefitted incumbents, who have far more advertising and credit-claiming opportunities than challengers (Mayhew 1974). Surprisingly, we find that crossover voting negatively predicts voting for incumbents. Challengers receive nearly a quarter of their support from voters who are not their copartisans, versus 9% of votes for incumbents coming by crossover. This is primarily because a fair amount of crossover voting benefitted NPP candidates, none of whom were incumbents.

¹⁴ These figures measure crossover voting as voting for a candidate listed with a party different from one's own party identification. Using registration, rather than identification, produces similar levels of crossover voting. 15.6% of registered partisans cast a crossover vote across all races, while 19.0% of registered partisans did so in districts in which we thought the new ballot would be more likely to make a difference.

¹⁵ This does not differ significantly if the analysis is restricted to category 3 districts (those in which we believed the ballot could most matter).

Nevertheless, when we restrict the analysis to subjects who voted for partisan candidates, we find that crossover votes comprise 14.8% of challengers' vote share, versus 9.0% of incumbents' vote share.¹⁶ This is further evidence that crossover voting has the potential to shake up electoral outcomes. Since crossover voting happened and favored challengers, we should look elsewhere to determine why primary reform fell flat.

Voters' Knowledge of Candidate Ideology

The major alternative explanation lies in voters' inability to identify and vote for moderate candidates. We find some validity in this. First, participants could respond, "Don't know" to questions about candidate ideology.¹⁷ Across all districts, 32.8% of ideological ratings given to incumbents were "don't know." Participants knew even less about challengers: 62.4% of ratings given to challengers, and 55.7% to viable challengers, were "don't know." Therefore, even if participants who attempted to place the candidates did so reasonably well, a large segment of the voting population knows very little about candidate ideology, particularly when it comes to challengers. Further limiting the effectiveness of the top-two reform, moderate voters were more likely to report not knowing candidates' ideological positions. 55.2% of ratings from moderate participants were "don't know," compared to 49.7% of ratings from more extreme participants ($p=.002$).¹⁸

Furthermore, participants who did attempt to place candidates were not especially accurate. Figure 4 plots participants' perceptions of Democratic and Republican candidates against the author-MTurk ratings. The scatterplot shows no apparent relationship between the

¹⁶ A chi-square test confirms that this 5.8% difference in vote share is statistically significant ($p<.05$).

¹⁷ Participants could also skip any or all of these rating questions without responding. These responses are counted as "don't know" for the purposes of this analysis.

¹⁸ Moderateness is based on self-placement at 3, 4, or 5 on the 7-point ideological scale.

Figure 4a: Participants' Perceptions of 7-Point Candidate Ideology, Democratic Candidates

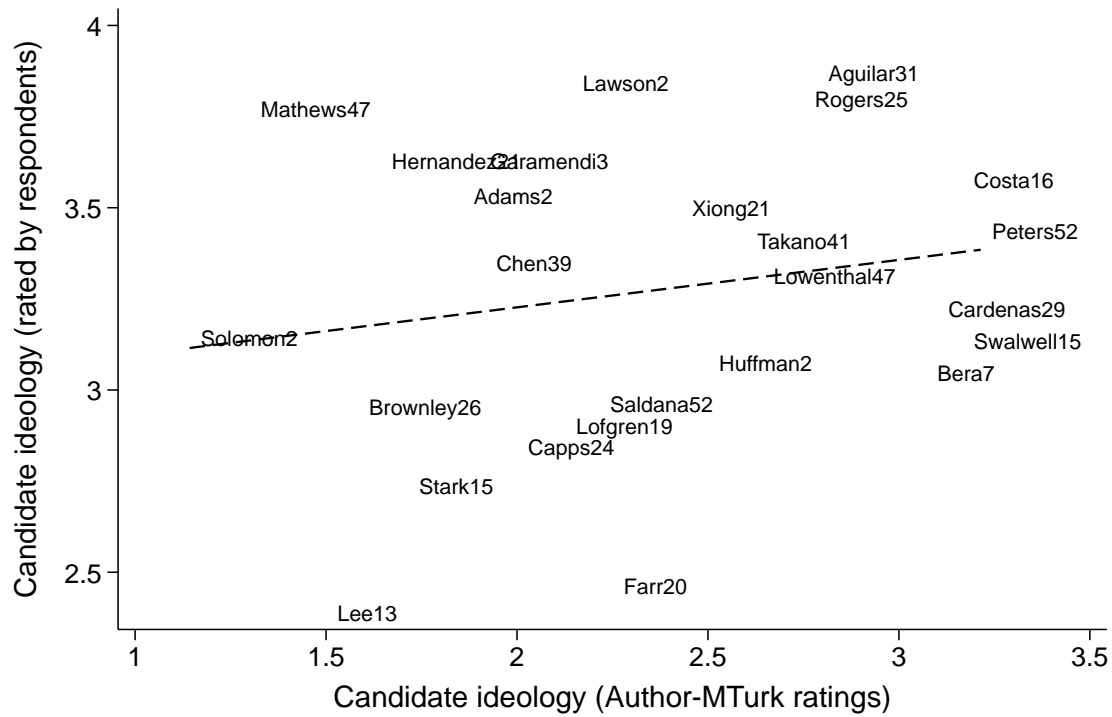
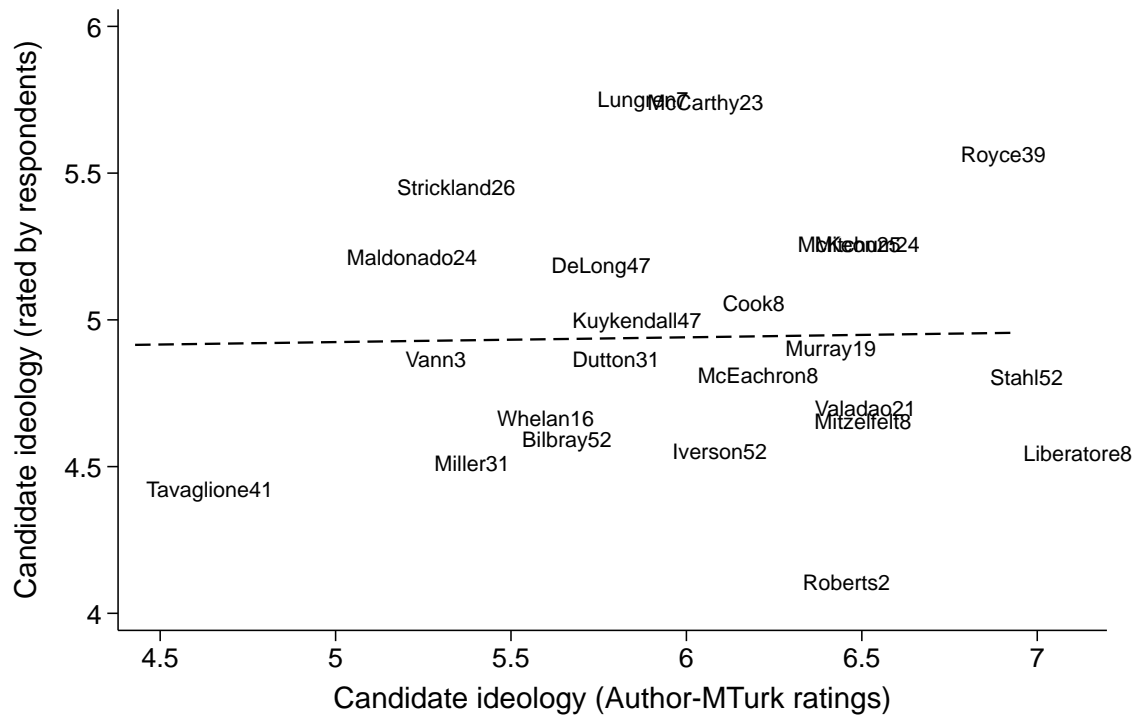


Figure 4b: Participants' Perceptions of 7-Point Candidate Ideology, Republican Candidates



two ratings, and regression analysis confirms that no significant association exists.¹⁹ Thus, while participants were able to use party labels as a heuristic to determine candidates' general left-right leanings, most lacked the precision needed to identify ideological differences among candidates within parties. Voters require this knowledge for the top-two system to work as its advocates argue it should.²⁰

If voters' knowledge of candidates is incomplete, we might expect that they are not equally knowledgeable of incumbents and challengers. We find evidence that this is true. We create a variable measuring the absolute difference between participants' average placement of a candidate on the 7-point scale and the author-MTurk rating for that candidate. This placement gap is significantly larger for viable challengers than for incumbents. On average, participants placed incumbents 0.572 points closer to our ratings than they did for challengers ($p=.001$). Our finding that participants were significantly less likely to even attempt to place challengers makes us skeptical that participants knew something about these challengers that both the MTurk raters and we missed.

Perhaps most troubling for advocates of primary reform, voters who should be most likely to support centrist candidates are unable to distinguish between extreme and moderate challengers from the same party. Figure 5 shows that while self-identified moderate voters can

¹⁹ See table in the appendix.

²⁰ Of course, participants may have actually been knowledgeable about candidate ideology and our ratings wrong. We find this doubtful for a number of reasons. First, our ratings were more predictive of incumbents' DW-NOMINATE scores than were participants' ratings. See the appendix for the correlation of DW-NOMINATE scores with both ratings (all ratings rescaled 0-1). Second, we also find that participants' accuracy in rating incumbents is highly dependent on partisanship. While Democratic voters are quite accurate at rating all incumbents, they are more precise when rating their copartisans. Republicans, while performing respectably at rating copartisan incumbents, fail to properly locate Democratic incumbents. These trends become more pronounced when examining the rating behavior of strong partisan identifiers. (Again, see the appendix for tables and figures.) We should expect crossover voting to have limited impact in helping moderates if partisanship acts as a perceptual screen for candidate ideology.

place incumbents on the 7-point scale, albeit with noise, they struggle with viable challengers. And Figure 6 demonstrates that this pattern also holds with self-identified independent voters, the very group included in the primary electorate by the top-two format.²¹

On the whole, voters appear to have a vague sense of where incumbent MCs stand. Although the trend is quite noisy,²² author-MTurk ratings of candidate ideology predict respondents' assessments. The same cannot be said regarding challengers. This should be troubling for advocates of primary reform; if respondents cannot accurately determine where multiple candidates stand, then the new ballot is limited in its ability to help moderate candidates win. The evidence presented above demonstrates that the average voter does not know enough about the set of candidates in House races to engage in true ideological voting, and that voters who should be most supportive of moderate candidates struggle to identify centrist challengers. Was this really what limited the effectiveness of the open primary? We can point to a handful of races in which perceptions of candidates were conspicuously off-the-mark and in which a moderate candidate underachieved.

The open-seat election in the 21st District is a prime case. One-term Republican Assembly member David Valadao ran against two Democrats, Fresno city councilman Blong Xiong and David Hernandez, CEO of the Central California Hispanic Chamber of Commerce. A local newspaper's detailed interviews with the candidates revealed clear ideological divisions between them. Valadao professed his belief in a government "as limited as possible," Xiong attempted to portray himself as a pragmatist with a deep connection to the constituency, and

²¹ We define moderates as respondents who place themselves between 3 and 5 on an ideological scale. We define independents as respondents who are coded as 3-5 on a party identification scale, meaning that they choose "independent" on the 3-point party identification question.

²² When we regress respondent ratings on author-MTurk ratings for incumbents of the two parties, we obtain $R^2 = 0.07$ for Democratic candidates and $R^2 = 0.32$ for Republican candidates, indicating relatively poor fit.

Figure 5a: Moderate Respondents' Perceptions of Viable Democratic Candidates

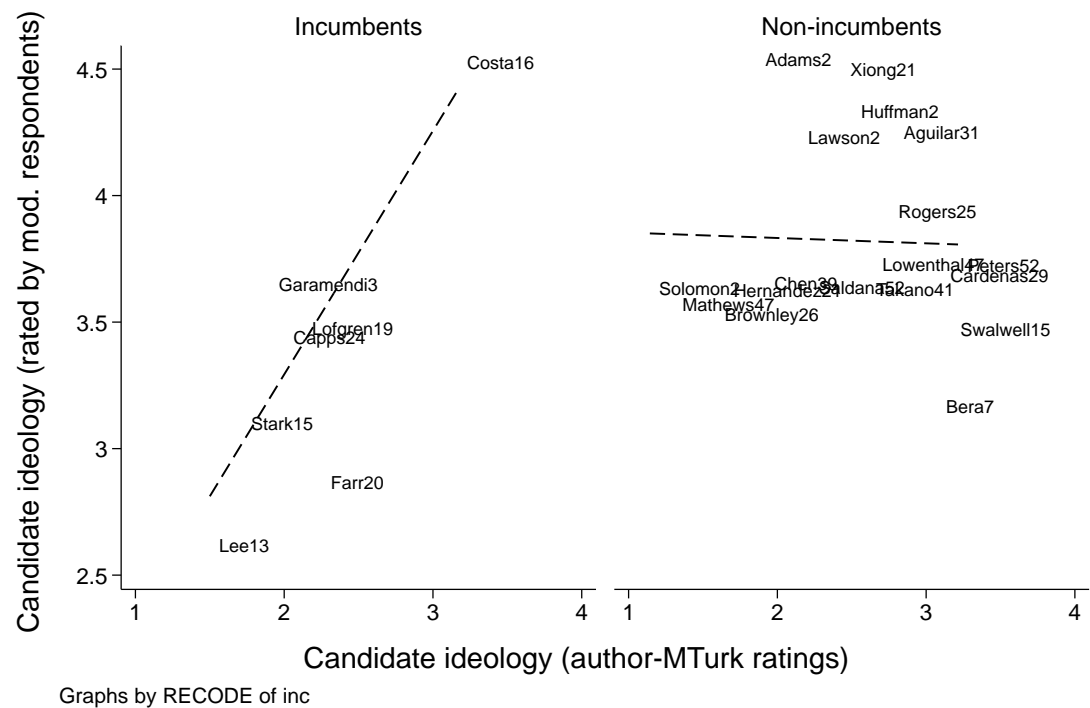


Figure 5b: Moderate Respondents' Perceptions of Viable Republican Candidates

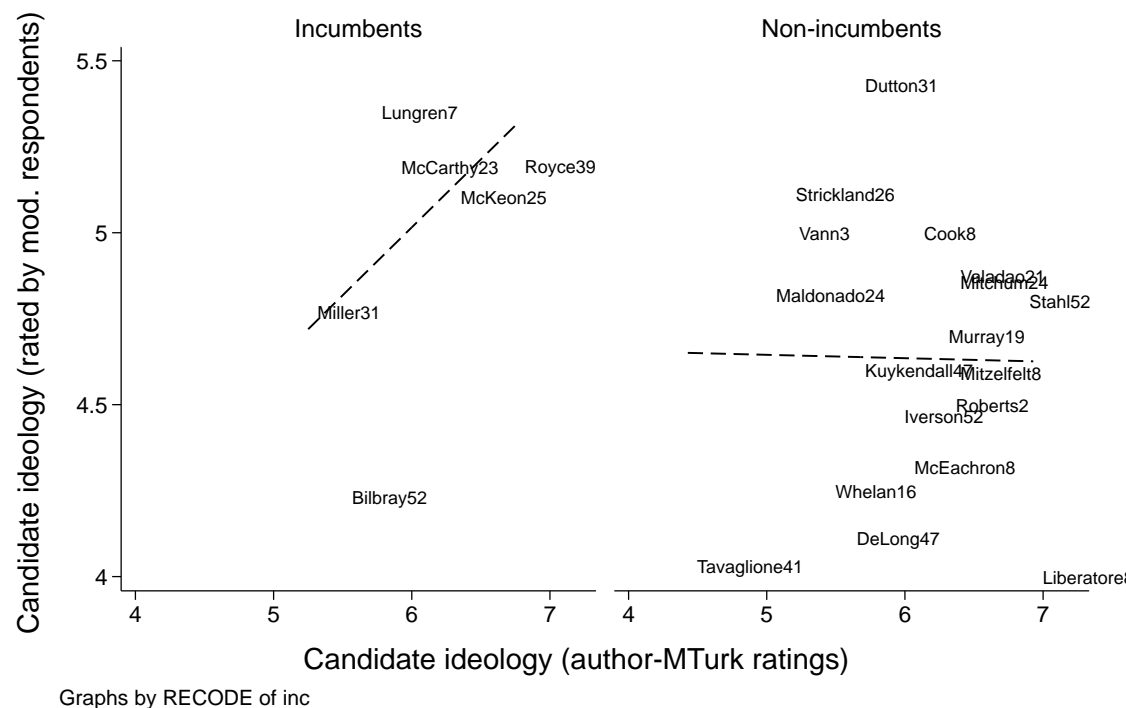


Figure 6a: Independent Respondents' Perceptions of Viable Democratic Candidates

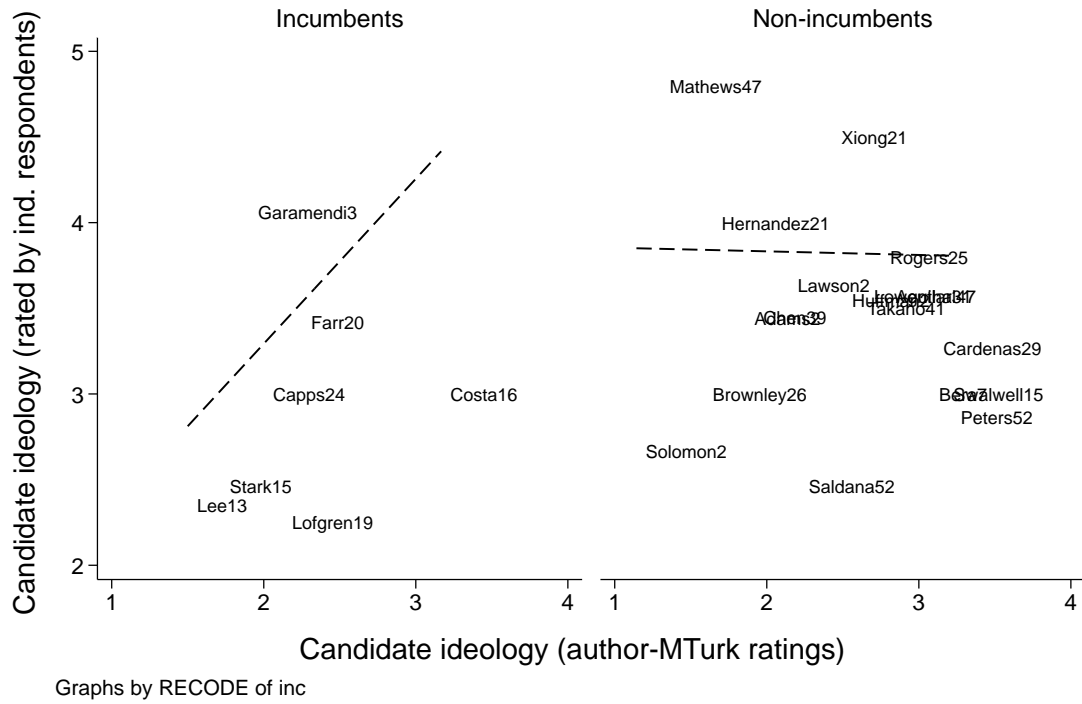
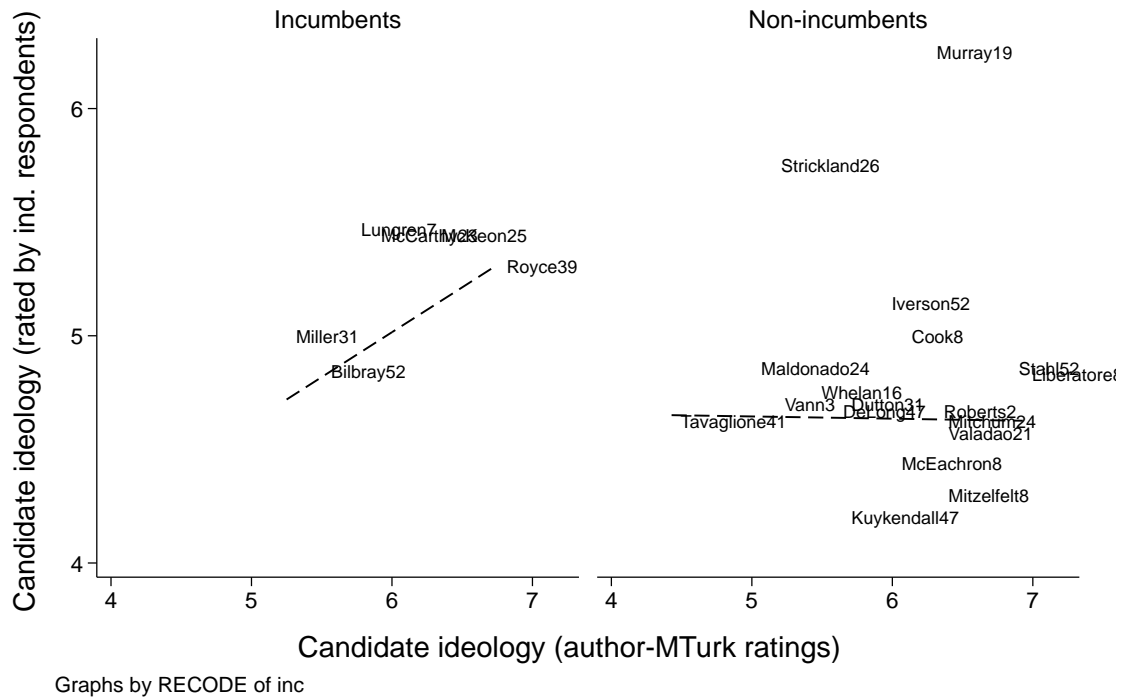


Figure 6b: Independent Respondents' Perceptions of Viable Republican Candidates



Hernandez's remarks adopted the language of the Occupy movement (*Hanford Sentinel*).

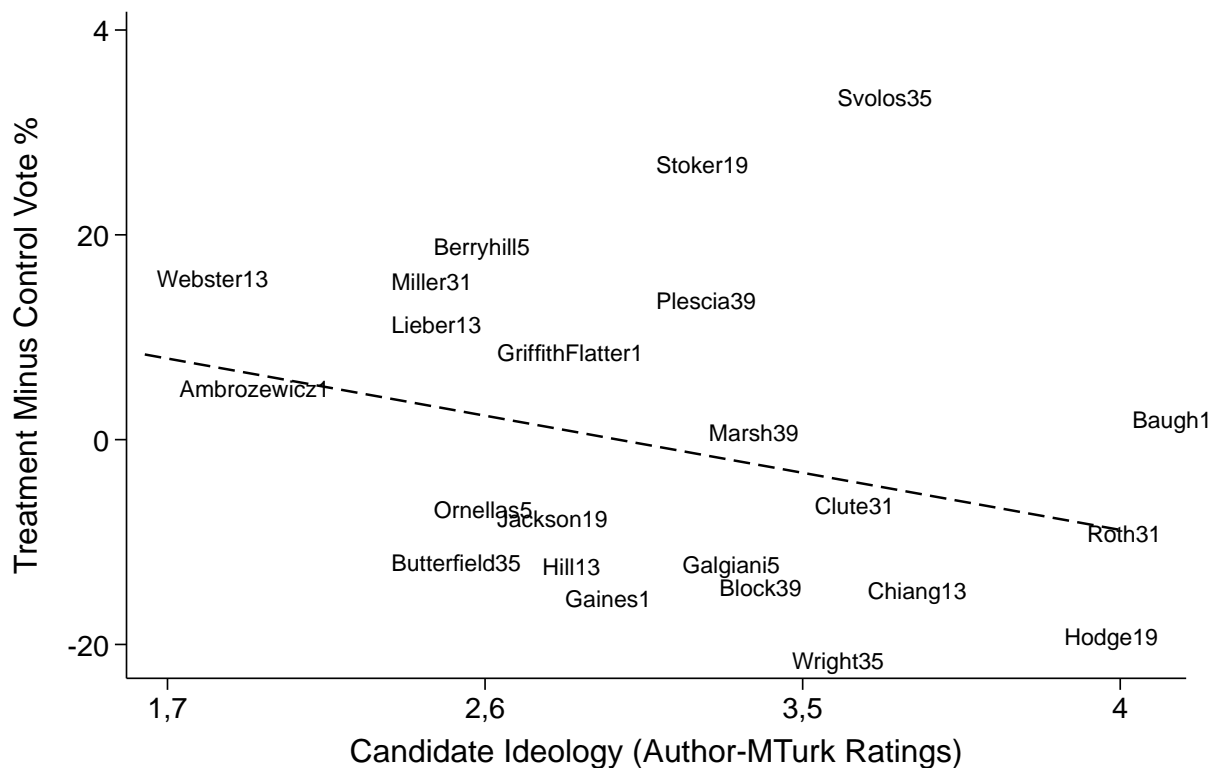
Participants in our study, however, saw all three as centrists. Using the seven-point scale, they rated Hernandez as a 3.4, Xiong as a slightly more liberal 3.1, and Valadao as a 5.0. As Figure 1 shows, Valadao, rather than the actual centrist Xiong, was the beneficiary of the top-two ballot. In the actual election, Hernandez garnered an extra 675 votes over Xiong to join Valadao in the top two.

Although not as close as the race in the 21st, the primary in the 26th District is another example of voters' difficulties in placing candidates. While participants accurately placed Republican Tony Strickland and NPP candidate Linda Parks, they underestimated Democrat Julia Brownley's liberalism by over a point on the seven-point ideology scale. Brownley, who tied as the most liberal member of the Assembly in *Capitol Weekly*'s most recent legislative scorecard, advanced to the general election over Parks by just above eight percent of the vote. While this experiment does not allow us to locate the proper counterfactual to say for sure, both this race in one of California's most evenly split districts and the election in the 21st District potentially could have been decided differently had voters been more aware of the candidates' views.

Replication of Results in State Senate Races

Do the findings from House elections hold true in downticket races? We presume that voters know even less about candidates for state Senate than congressional candidates. Given that the top-two format did not help moderate House candidates, we expect that moderate candidates for state Senate do not perform better under the open ballot either. We replicate the analysis from the congressional races in selected state Senate contests and find that the new ballot format again

Figure 7: Did the Open Ballot Help Moderate Candidates in State Senate Races?



fails to help moderate candidates. Moderate candidates actually performed slightly worse under the new ballot, although this apparent effect did not reach statistical significance. (See Figure 7.)

While top-two primary appears to have failed in House races largely because voters struggled to identify moderate candidates, it failed in state Senate races because few voters even tried to locate the centrists in those contests. Participants responded with “don’t know” for 58.2% of ideological ratings given to state Senate candidates. Participants struggled even to place the most experienced candidates for office: “don’t know” accounted for 52.6% of ideological ratings for incumbents, members of the state Assembly, and county supervisors. As a possible consequence, participants appear to have relied much more heavily on partisanship in voting for state Senate. Just 5.6% of participants engaged in crossover voting in state Senate races. The

experimental results for state Senate elections provide further evidence that primary reform cannot change electoral outcomes absent voters knowing where the candidates stand.²³

Discussion

Pundits and scholars have frequently claimed that closed primary elections are a major contributor to ideological polarization in legislatures across America. As a cure for polarization and its effects – gridlock and a toxic policymaking atmosphere – they advocate open primaries, arguing that this institutional reform will help moderate candidates to be elected. However, for this logic to hold, so too must multiple assumptions regarding voting behavior: Citizens must vote sincerely, they must be willing to cast crossover votes, and they must be willing and able to vote ideologically. We find no evidence that primary reform in California helped moderate candidates. In an attempt to explain this, we also find little support for the assumption that voters were able to vote according to ideological proximity.

While this research implies that open primaries are not the cure for polarization its advocates hoped for, its limitations should be mentioned. Open primaries may still moderate the behavior of elected officials even if voters fail to recognize or explicitly reward such moderation.²⁴ Alternatively, experience with the new rules may cause both voters and candidates to adapt and gravitate toward the center. This may be especially true in California, where some believe that in the long-run primary reform in conjunction with nonpartisan redistricting will produce a less polarized legislature.

Open primaries may also succeed in higher salience races, such as gubernatorial or senatorial contests, where voters have easier access to information about candidate ideology.

²³ For a full accounting of our experiment in the state Senate races, see the appendix.

²⁴ Bullock and Clinton (2009) offer evidence that this generally is not the case.

Voters in the House and state Senate primaries examined in this study generally failed to distinguish between moderate and extreme candidates from the same party, precluding the type of voting behavior that can incentivize moderateness.²⁵ By contrast, voters appear to have greater knowledge of candidates' positions in races higher up the ballot and use this information to select proximate candidates (Hirano, Lenz, and Snyder 2013). Future work should address the possibility that open primaries could help moderate candidates in these cases.

Finally, there may be a search for moderation in the general election in cases where two candidates from the same party compete. This happened in 8 of the 53 House races in California in 2012. In most of these cases, candidate moderateness does not appear to explain the results of the general election, either because the two candidates were nearly identical in their positions (i.e., Brad Sherman vs. Howard Berman in the 30th District), the more extreme candidate won (i.e., Janice Hahn vs. Laura Richardson in the 44th District), or an incumbent faced a nonviable challenger (i.e., Maxine Waters vs. Bob Flores in the 43rd District). Some might point to upstart Democratic challenger Eric Swalwell's defeat of Democratic incumbent Pete Stark in the 15th District as evidence that the top-two reform helped a moderate, but heavy redistricting serves as a potential confounder. Future research should more systematically investigate these outcomes, as well as these types of general elections across multiple states, to identify the effect of top-two primaries on general election outcomes.

While the consequences of primary reform are multifaceted, complex, and beyond the scope of a single study, this research provides evidence that simply changing the rules did not appear to change likely outcomes in California. Ballot format, in and of itself, cannot incentivize

²⁵ See the appendix for an analysis showing that this is true, and that the top-two ballot actually appeared to make voters *worse* at ideological proximity voting. (Future drafts will include and discuss this in the main results section.)

moderateness. Voters need fine-grained knowledge of candidates' positions to vote as advocates of electoral reform predict they will upon the adoption of open primaries. Voters in the 2012 California primaries struggled to distinguish between candidates from the same party and were especially unfamiliar with challengers' positions. As a result, although voters tended to be moderate and a sizeable portion were willing to break party ranks, the average voter was ill-equipped to do so in a way that led them to select more centrist candidates in contests for House and state Senate. While we look forward to learning whether politicians and voters adapt to the new rules over multiple elections, we also have little evidence that these rules incentivize moderateness and suggest that reformers pursue alternative strategies to curb polarization.

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Appendix

Ideology Ratings

Correlations between ideological ratings of Democratic candidates

	<i>Respondent</i>	<i>Knowledgeable respondents</i>	<i>Author ratings</i>	<i>MTurk ratings</i>	<i>MTurk- author average</i>	<i>dwnom</i>	<i>cwscores</i>
Respondent	1.0000 25						
Knowledgeable respondents	0.8157 25	1.0000 25					
Author ratings	0.2280 25	0.2033 25	1.0000 25				
MTurk ratings	0.0831 25	0.1275 25	0.2910 25	1.0000 25			
MTurk-author average	0.1947 25	0.2065 25	0.8087 25	0.7981 25	1.0000 25		
dwnom	0.6668 7	0.5059 7	0.8872 7	0.7918 7	0.9274 7	1.0000 7	
cwscores	0.4490 4	0.0515 4	-1.0000 4	0.4900 4	0.0296 4	. 0	1.0000 4

Correlations between ideological ratings of Republican candidates

	<i>Respondent</i>	<i>Knowledgeable respondents</i>	<i>Author ratings</i>	<i>MTurk ratings</i>	<i>MTurk-author average</i>	<i>dwnom</i>	<i>cwscores</i>
Respondent	1.0000 25						
Knowledgeable respondents	0.8157 25	1.0000 25					
Author ratings	0.2280 25	0.2033 25	1.0000 25				
MTurk ratings	0.0831 25	0.1275 25	0.2910 25	1.0000 25			
MTurk-author average	0.1947 25	0.2065 25	0.8087 25	0.7981 25	1.0000 25		
dwnom	0.6668 7	0.5059 7	0.8872 7	0.7918 7	0.9274 7	1.0000 7	
cwscores	0.4490 4	0.0515 4	-1.0000 4	0.4900 4	0.0296 4	. 0	1.0000 4

MTurk Ideology Ratings

Before asking them to assess candidates' ideologies by going to their websites, we screened MTurk respondents with three knowledge questions: which party supports banning abortions, would liberal or conservative politicians be more likely to favor tax increases as a means of reducing the federal deficit, and would liberal or conservative politicians be more likely to weaken environmental protection laws. Of the 395 individuals who started the survey, only 204 (48%) answered all three questions correctly, and we only asked these individuals to rate candidates' ideologies.

We collected these ratings for the 95 candidates.

Here are the instructions provided to these workers:

Critical instructions

For our research, we need your help coding the ideology of primary candidates in California.

We will provide links to the campaign websites of candidates running for the state senate and U.S. House of Representatives.

Please

1. Go to the candidate website (the link will open in a separate page).
2. Determine as best you can how liberal or conservative the candidate is.
3. Tell us your judgment on an overall seven-point ideology scale.
4. Tell us whether the candidate is a Democrat or Republican.

Tips

A strongly conservative candidate would generally want to repeal Obama's health care law, cut taxes, drastically cut federal spending, especially cut education and social spending, ban abortion.

A strongly liberal candidate would generally support much tougher regulations against pollution, much more spending on education, social programs, keeping abortion legal, raising taxes on the rich.

Candidates who support a mix of these policies are somewhere in between strongly conservative and strongly liberal.

If you really can't tell from the website, just choose "don't know."

We know this won't be easy, so do your best!

(We will reject work by those who don't take it seriously.)

Thank you so much for contributing to our research!

We asked each worker to rate three randomly chosen candidates. Here's an example of the rating question:

Using your best judgment, go to the following URL and identify the candidate's ideology and political party.

<http://www.susanadamsforcongress.com/> (link opens in separate window)

	Ideology								Political Party		
	Strongly Liberal	Somewhat Liberal	Leans Liberal	Moderate; Middle of Road	Leans Conservative	Somewhat Conservative	Strongly Conservative	Don't Know	Democratic Party	Republican Party	Other
Susan Adams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Workers chose "don't know" in only 2% of the more than 600 ratings. We excluded these responses from the analysis.

Capitol Weekly (CW) scores and DW-NOMINATE scores

The results initially looked promising with these scores, that is, we get a positive coefficient for moderateness with a p-value of 0.10. On further examination, the promise was entirely driven by Abel Maldonado: excluding him shifts the p-value from about 0.10 to 0.86 and the coefficient shifts from positive to zero. We also examined the results separately for incumbents and challengers (to make sure scale comparability wasn't a problem) and among category 2 and 3 races. No sign of any effect among any of these categories (after excluding Maldonado).

How well do respondent ratings of candidate ideology predict author-MTurk ratings?

	Respondent ratings Democratic candidates	Respondent ratings Republican candidates
Author-MTurk ratings	0.130 (0.137)	0.0164 (0.146)
Constant	0.349*** (0.0320)	0.643*** (0.119)
Observations	25	24
R-squared	0.038	0.001

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

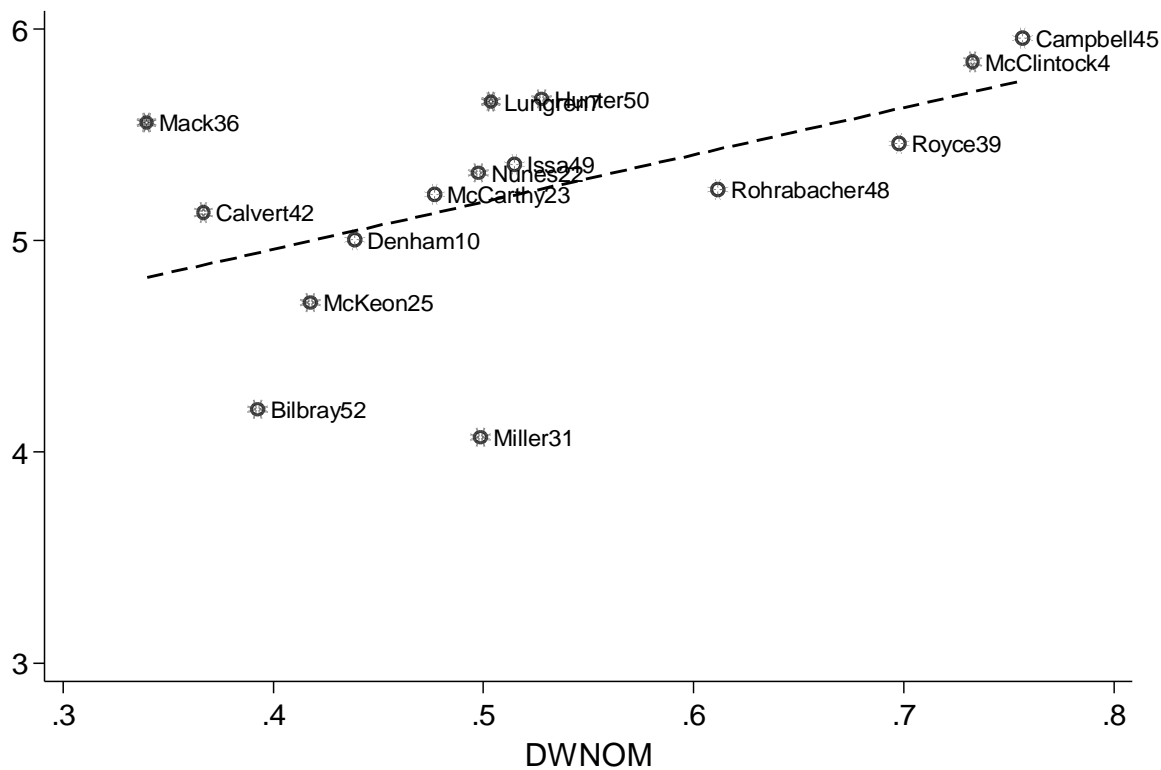
Ideological perceptions of candidates by respondent partisanship

Perceptions of Republican incumbents by Democrats

regress id_r_dems_scaled dwnom_scaled if pid=="Republican"

Source	SS	df	MS	Number of obs =	15
				F(1, 13) =	4.99
Model	.032406527	1	.032406527	Prob > F	= 0.0437
Residual	.084423585	13	.006494122	R-squared	= 0.2774
				Adj R-squared =	0.2218
Total	.116830113	14	.008345008	Root MSE	= .08059

id_r_dems_~d	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dwnom_scaled	.7447996	.3334137	2.23	0.044	.0245032	1.465096
_cons	.1384881	.2540036	0.55	0.595	-.4102532	.6872295

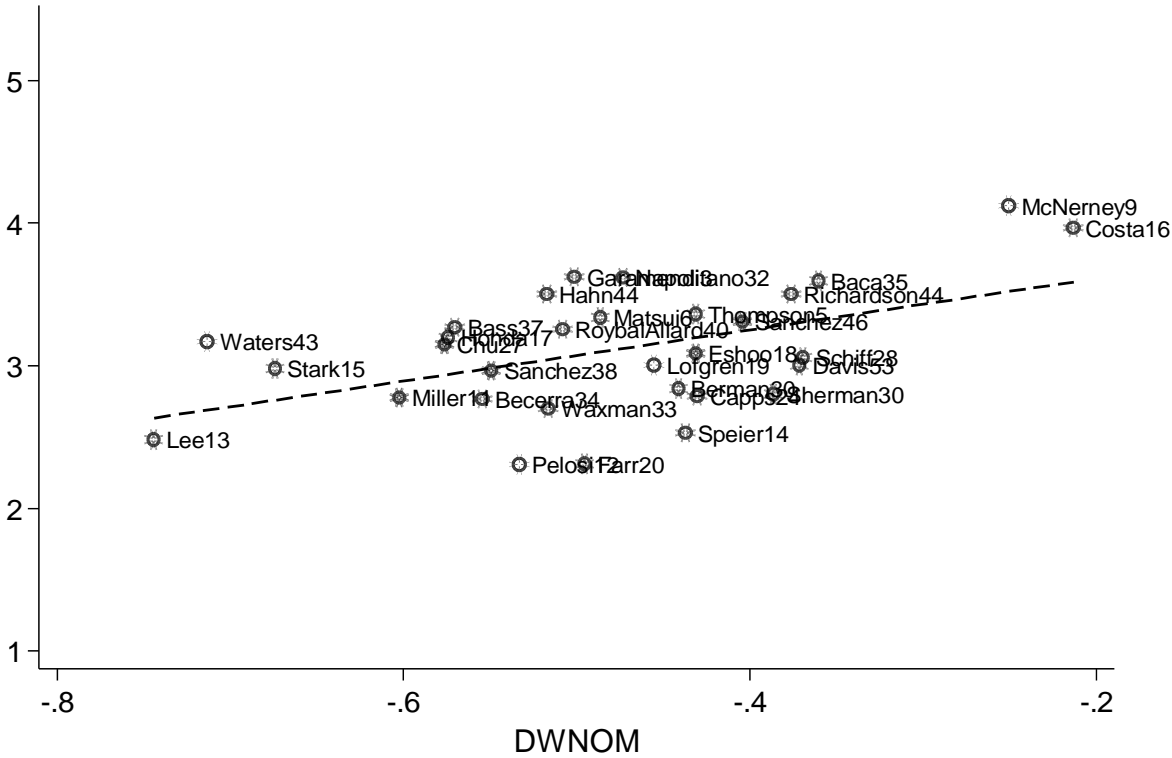


Perceptions of Democratic incumbents by Democrats

. regress id_r_dems_scaled dwnom_scaled if pid=="Democratic"

Source	SS	df	MS	Number of obs =	31
				F(1, 29) =	8.87
Model	.037653827	1	.037653827	Prob > F =	0.0058
Residual	.123150531	29	.00424657	R-squared =	0.2342
				Adj R-squared =	0.2078
Total	.160804358	30	.005360145	Root MSE =	.06517

id_r_dems_~d	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
dwnom_scaled	.5993336	.2012719	2.98	0.006	.1876863	1.010981
_cons	.1955239	.0534367	3.66	0.001	.0862336	.3048142

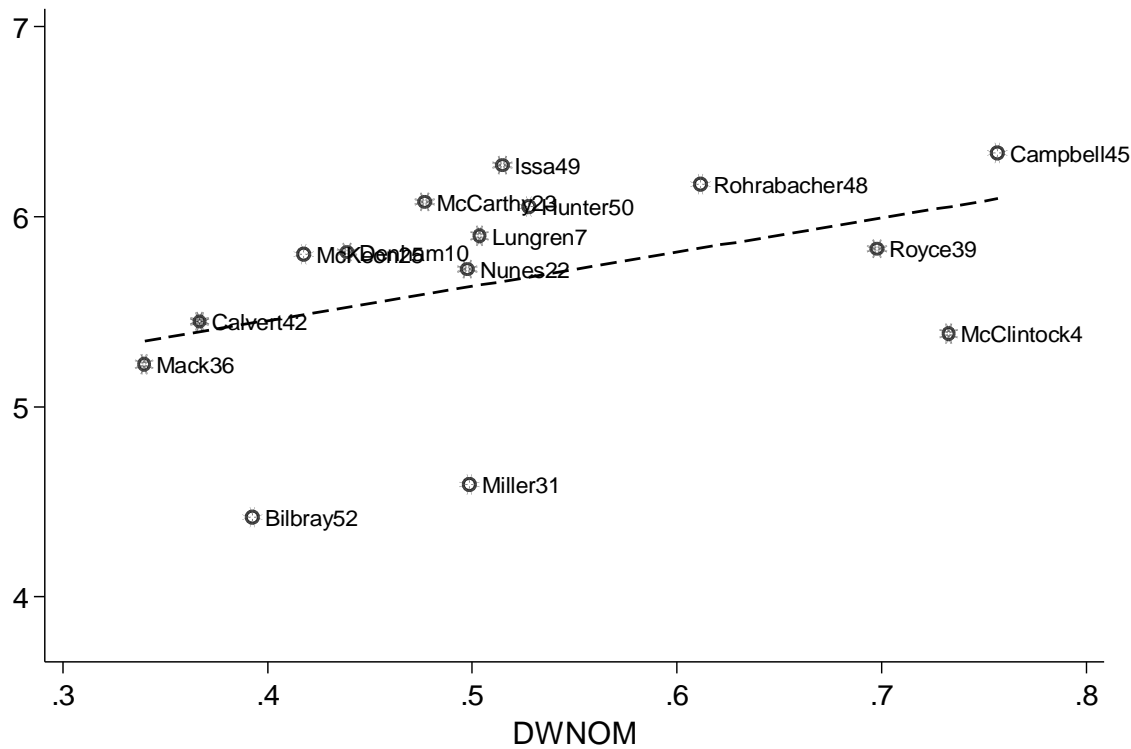


Perceptions of Republican incumbents by Republicans

. regress id_r_reps_scaled dwnom_scaled if pid=="Republican"

Source	SS	df	MS	Number of obs =	15
Model	.021015738	1	.021015738	F(1, 13) =	2.59
Residual	.105357667	13	.008104436	Prob > F =	0.1313
Total	.126373405	14	.009026672	R-squared =	0.1663
				Adj R-squared =	0.1022
				Root MSE =	.09002

id_r_reps_~d	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
dwnom_scaled	.5997849	.3724643	1.61	0.131	-.2048752 1.404445
_cons	.3223723	.2837534	1.14	0.276	-.2906396 .9353841

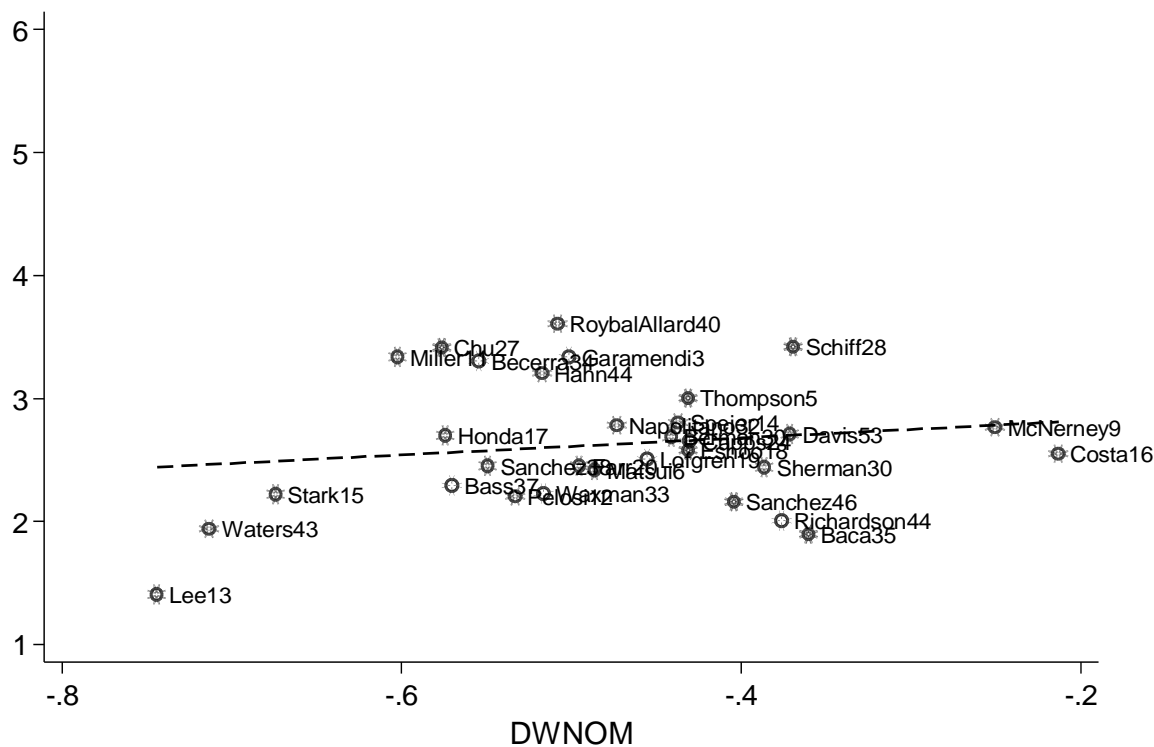


Perceptions of Democratic incumbents by Republicans

regress id_r_reps_scaled dwnom_scaled if pid=="Democratic"

Source	SS	df	MS	Number of obs =	31
Model	.005548935	1	.005548935	F(1, 29) =	0.73
Residual	.22054672	29	.007605059	Prob > F =	0.4000
Total	.226095655	30	.007536522	R-squared =	0.0245
				Adj R-squared =	-0.0091
				Root MSE =	.08721

id_r_reps_~d	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
dwnom_scaled	.2300747	.269349	0.85	0.400	-.3208059 .7809553
_cons	.2109129	.0715108	2.95	0.006	.0646568 .3571689

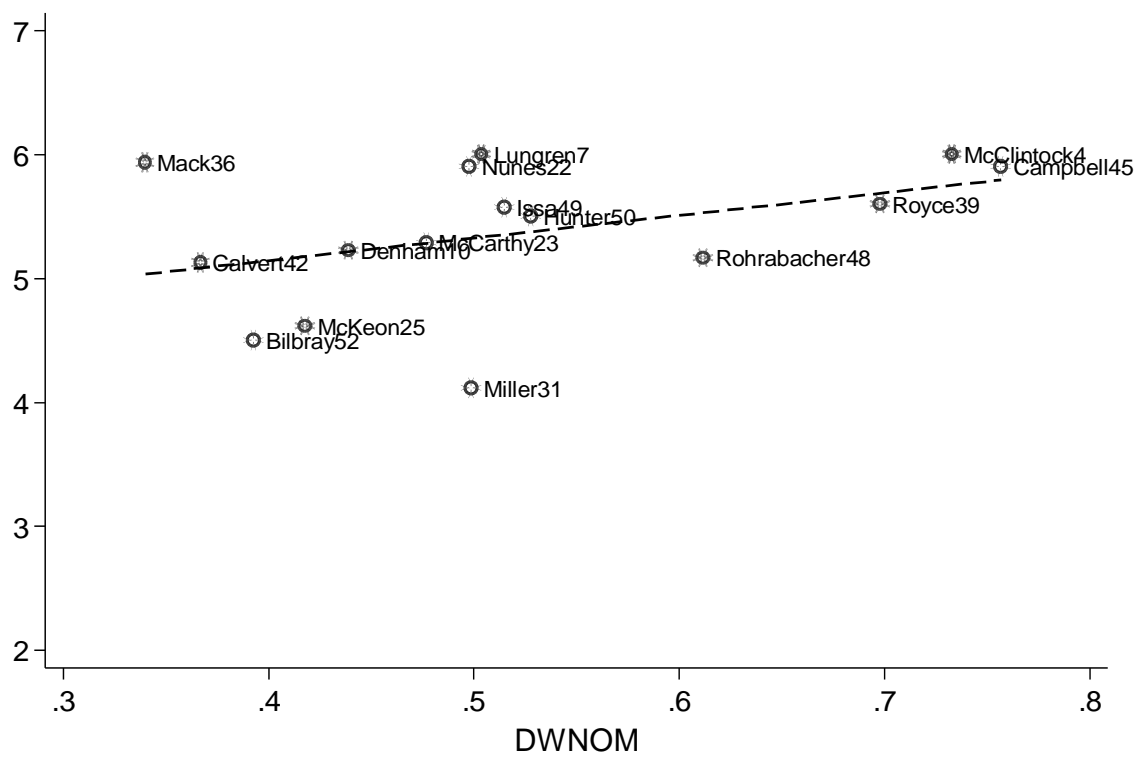


Perceptions of Republican incumbents by strong Democrats

regress ideology_r_sd_scaled dwnom_scaled if pid=="Republican"

Source	SS	df	MS	Number of obs = 15		
-----+-----				F(1, 13) = 2.49		
Model	.021545097	1	.021545097	Prob > F = 0.1385		
Residual	.112450161	13	.008650012	R-squared = 0.1608		
-----+-----				Adj R-squared = 0.0962		
Total	.133995258	14	.00957109	Root MSE = .09301		

ide~d_scaled	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
dwnom_scaled	.6072918	.3847969	1.58	0.139	-.2240113	1.438595
_cons	.2659131	.2931487	0.91	0.381	-.3673962	.8992224

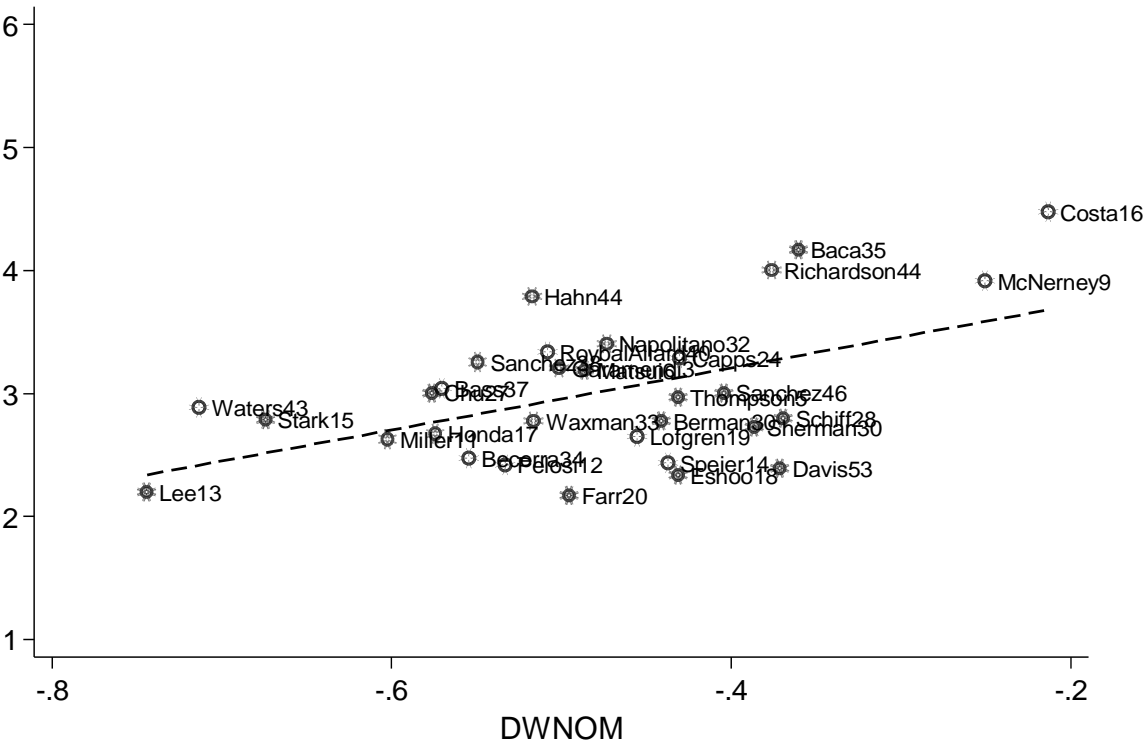


Perceptions of Democratic respondents by strong Democrats

regress ideology_r_sd_scaled dwnom_scaled if pid=="Democratic"

Source	SS	df	MS	Number of obs = 31		
-----+-----				F(1, 29) = 10.22		
Model	.074183355	1	.074183355	Prob > F = 0.0033		
Residual	.210494564	29	.007258433	R-squared = 0.2606		
-----+-----				Adj R-squared = 0.2351		
Total	.284677919	30	.009489264	Root MSE = .0852		

ide~d_scaled	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
dwnom_scaled	.841235	.2631392	3.20	0.003	.3030549	1.379415
_cons	.1155884	.0698621	1.65	0.109	-.0272957	.2584724

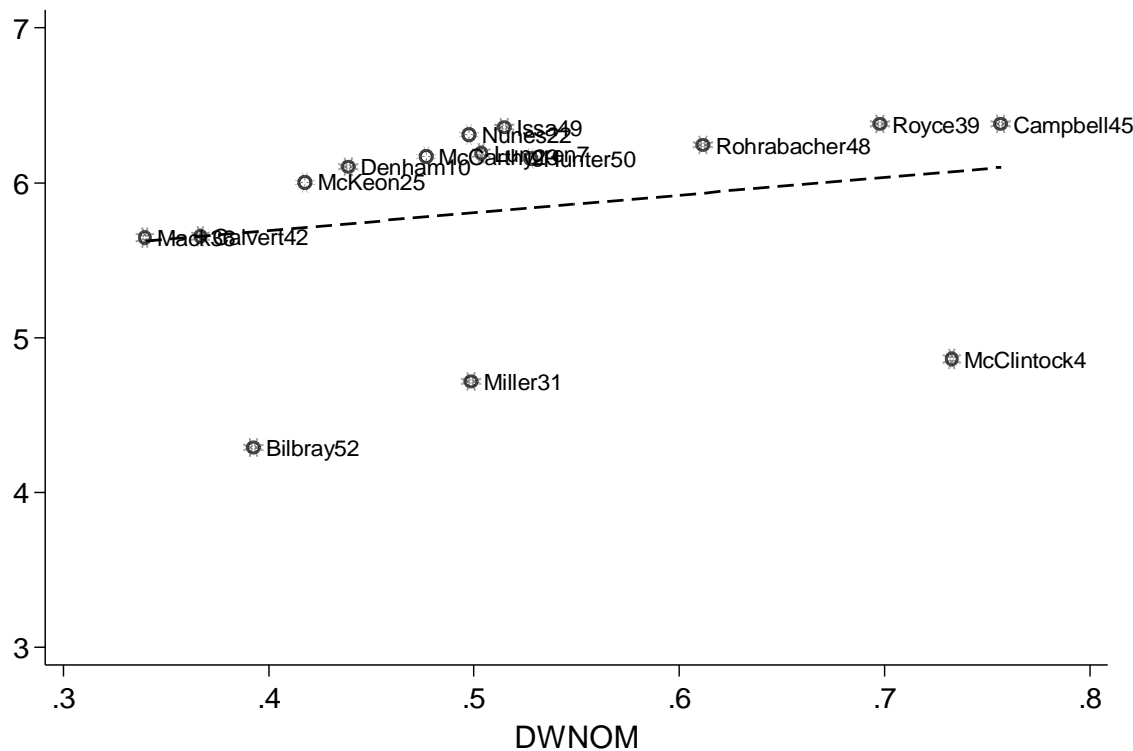


Perceptions of Republican respondents by strong Republicans

regress ideology_r_sr_scaled dwnom_scaled if pid=="Republican"

Source	SS	df	MS	Number of obs =	15
Model	.008500987	1	.008500987	F(1, 13) =	0.66
Residual	.167958215	13	.012919863	Prob > F =	0.4319
Total	.176459202	14	.012604229	R-squared =	0.0482
				Adj R-squared =	-0.0250
				Root MSE =	.11367

id~sr_scaled	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
dwnom_scaled	.3814678	.4702753	0.81	0.432	-.6345002 1.397436
_cons	.514862	.3582684	1.44	0.174	-.2591299 1.288854

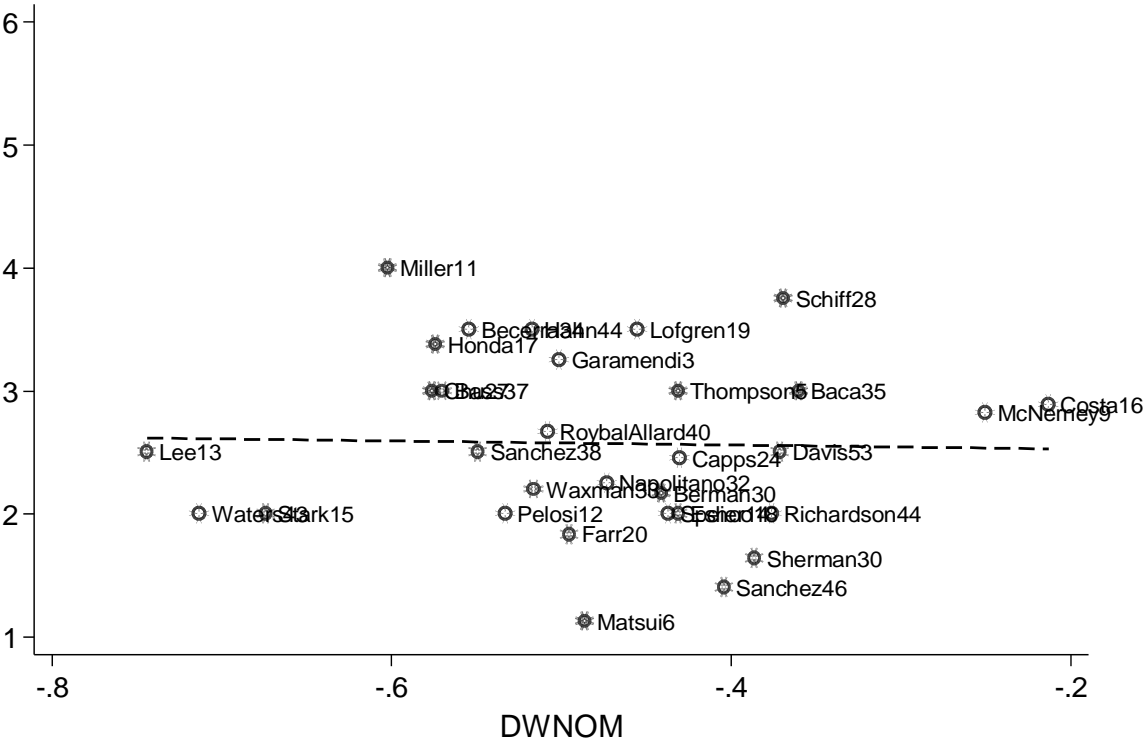


Perceptions of Democratic respondents by strong Republicans

regress ideology_r_sr_scaled dwnom_scaled if pid=="Democratic"

Source	SS	df	MS	Number of obs	=	31
				F(1,	29)	= 0.02
Model	.000320086	1	.000320086	Prob > F	=	0.8835
Residual	.424882636	29	.014651125	R-squared	=	0.0008
				Adj R-squared	=	-0.0337
Total	.425202722	30	.014173424	Root MSE	=	.12104

id~sr_scaled	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
dwnom_scaled	-.0552583	.3738519	-0.15	0.884	-.8198713 .7093546
_cons	.2767877	.0992558	2.79	0.009	.0737868 .4797886



Political Knowledge

The first two items in the political knowledge scale asked what jobs or political offices did Harry Reid and Timothy Geithner hold (multiple-choice with five options). The second asked who is responsible to decide if a law is constitutional or not (multiple-choice with three options). The fourth asked participants to place the Democrat and Republican party on a seven-point ideology scale (the same scale on which participants placed themselves). We coded participants as correct if they placed the Democrats to the left of the Republicans.

Table below uses candidate ideology ratings only for those who answered all four questions correctly-1122 or 33% of the sample

	Candidate ideological moderateness coefficient (SE)	n candidate	n participant
Best case districts for moderates (20 districts)			
Candidate ideology measured with average of only knowledgeable respondents perception			
All candidates	0.174(0.700)*	55	
Excluding NPP	0.102(0.805)	49	

Participant Ideology

A potential concern is that our sample was not moderate enough for centrist candidates to benefit from the top-two ballot. We present evidence to the contrary. Participants' modal 7-point ideological self-placement was "4," and 46.1% of participants identify as moderate (compared to 24.2% as liberal and 29.7% as conservative). The distribution of 7-point self-placements is as follows:

Self-placement	Percent
1	10.7
2	13.6
3	10.5
4	26.1
5	8.9
6	16
7	13.7

Ideological Proximity Voting

Average difference between respondents' ideology and chosen candidates' ideology on a 7-point scale does not improve with open ballot.

	Control	Treatment	Difference in means
20 best case			
With NPP	1.28	1.47	0.19(0.01)
Without NPP	1.28	1.45	0.17(0.02)
All districts			
With NPP	1.31	1.45	0.14(0.00)
Without NPP	1.31	1.44	0.13(0.01)

*Notes: p-values in parentheses

Percentage of respondents who select the most proximate candidate

	Control	Treatment	Difference
20 best case			
With NPP	45.9	43.5	-2.4(0.46)
Without NPP	45.9	44.3	-1.6(0.62)
All districts			
With NPP	57.2	56.2	-1.0(0.64)
Without NPP	57.3	57.1	-0.2(0.92)

*Notes: p-values in parentheses