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Missing the Party: Political Categorization and Reasoning in the Absence of Party Label Cues

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Abstract

This research addressed theoretical approaches in political science arguing that the American electorate is either poorly informed or dependent on party label cues, by assessing performance on political judgment tasks when party label information is missing. The research materials were created from the results of a national opinion survey held during a national election. The experiments themselves were run on nationally representative samples of adults, identified from another national electoral survey. Participants saw profiles of simulated individuals, including information about demographics and issue positions, but omitting party labels. In Experiment 1, participants successfully judged the likelihood of party membership based on the profiles. In Experiment 2, participants successfully voted based on their party interests. The results were mediated by participants' political knowledge. Conclusions are drawn with respect to theories from political science and issues in cognitive science regarding categorization and reasoning.

Keywords: Political cognition; Categorization; Reasoning; Probability judgment; Expertise; Polarization; Surveys

1. Introduction

Is the American voter competent? Given its consequences for democratic theory and practice, this question, asked in various ways, has been central to the study of mass

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political behavior. Beginning in the 1940s with the advent of modern survey research, two theoretical approaches in political science research have attempted to answer this question (Sniderman, 1993). The first approach offered a pessimistic account, concluding that the typical American voter does not understand politics, is unable to think ideologically, and does not hold coherent and stable political attitudes (Campbell, Converse, Miller, & Stokes, 1960; Converse, 1964). This approach suggests that party allegiances are largely transmitted through political socialization, for example, through family influences. The second approach offered a somewhat more optimistic view, concluding that poorly informed citizens can nonetheless make informed judgments by using heuristics or rules of thumb (e.g., Lau & Redlawsk, 2006; Popkin, 1991; Sniderman, Brody, & Tetlock, 1991). This second approach has stressed the importance of party labels as a cue that promotes informed decision making (see also Downs, 1957). Although the two approaches suggest different answers about citizen competence, each agrees that the American voter is minimally interested and informed about politics. Despite the second approach's somewhat more optimistic view, its focus on heuristics implied that this type of strategy is second best and, in some instances, may lead citizens to the "wrong" answer (e.g., Kuklinski & Hurley, 1994).

The present research collected political judgments about simulated individuals, described in terms of demographics and issue positions, but with party labels omitted. The main research question was as follows: Can voters make calibrated political judgments when party label cues are not available? We investigated this question in relation to two tasks, party identification and voting. We chose the first task, identifying an individual's party when that information is missing, because it is the most stringent test of whether people understand the content of party cues. We chose the second task, voting, due to its obvious relevance to political behavior. In cognitive science research, these two tasks would correspond to categorization and reasoning with categories (e.g., Estes, 1994; Hayes, Heit, & Rotello, 2014; Kemp & Jern, 2014; Markman & Ross, 2003). Both of the historic theoretical approaches from political science would predict poor calibration on these tasks, due to low levels of political knowledge in general or due to the absence of party label cues.

The secondary research question was as follows: How does cue use depend on task, political knowledge, and partisanship? Our studies were conducted on voters from the American electorate. Of course, we were not simply trying to show that people can use cues. Rather, we examined whether cues are used differently for party identification and for voting, and differently for high- versus low-knowledge voters, and differently for Democrats versus Republicans. It is known from laboratory experiments that cue weights are influenced by the task (e.g., Hayes & Heit, 2013; Nosofsky, 1986); here the novel question is how do cue weights vary for different political judgments. Likewise it is known that cue weights for biological categorization and reasoning depend on expertise (e.g., Medin & Atran, 2004; Medin, Lynch, Coley, & Atran, 1997). Here, the question is how cue weights vary as a matter of a voter's own political knowledge and party identity.

Our research addressed these research questions using data from two national opinion surveys, conducted on potential voters during national elections. These surveys have much in common with other naturally occurring data sets, such as relatively large sample size,

detailed demographic information about each individual case, a large number of variables (survey questions) for each case, and a clear connection to real-world phenomena, in this case the characteristics of the American electorate and how it votes in general elections. With that said, this work also has some elements in common with traditional laboratory experiments as well, such as factorial designs and experimenter-devised materials.

To carry out this work, we first developed materials using data from the 2008 American National Election Study (ANES). This was a face-to-face survey of 2,322 participants that included detailed information about demographics and political characteristics. The stimuli we created were profiles of hypothetical individuals that varied in terms of demographic information (race, gender, number of children) and issue positions (social welfare spending and abortion). By varying the different attributes, we created profiles that varied (in increments of approximately 10%) in terms of objective probability of being a Democrat.

The second national survey we used was the 2010 Cooperative Congressional Election Study (CCES). This is an Internet-based survey with more than 50,000 participants. Researchers have access to the common content of the CCES, a set of approximately 60 questions answered by all participants (see Ansolabehere & Rivers, 2013). From these questions we identified Democratic and Republican voters, as well as high- versus low-knowledge voters. In addition, researchers may buy "minutes" of survey time in which a subset of CCES participants (on the order of 1,000) answer additional questions developed for individual studies. We used this opportunity to embed two experiments in the CCES, each on several hundred participants.

The precursor of this project was a more traditional experiment conducted on college students (Heit & Nicholson, 2010). The experiment collected typicality judgments for a set of real political figures such as George W. Bush and Hilary Clinton. The students rated the individuals either on typicality as a Democrat or typicality as a Republican. The relation between the two sets of ratings was strong, negative, and linear, with a remarkable correlation of −0.9957. There was a perfect trade-off between the two parties: Anything that made a politician less typical of one party made the politician equally more typical of the other party. Put another way, polarization was so extreme that the Democrat and Republican parties were treated as mirror opposites of each other (see Jost, Nam, Amodio, & Van Bavel, 2014, for a further review on the topic of unidimensional representation of political knowledge).

The Heit and Nicholson (2010) experiment had notable limitations. Because the stimuli were simply names of public figures, there was a lack of experimenter control with regard to what knowledge was used by each participant. Also, the dependent variable, typicality, has disadvantages because it is not objective and it may not map directly onto real political behavior such as voting. Hence, there was no way to assess calibration of judgments. With regard to the sample of participants, students may not be representative of voters at large. Likewise, we did not systematically study the effects of demographic variables such as level of political knowledge (which is often low for college students) and party identity of the participant (few of the college students we tested were Republican).

Hence, this work, using data from two national opinion surveys, offers some methodological improvements on our previous work, and more important, is well suited to

addressing the main research question, how well are political judgments calibrated when party cues are omitted, as well as the secondary research question, how cue usage depends on task, political knowledge, and partisanship.

In Experiment 1, the task was to identify each simulated individual's party. We displayed each profile in terms of demographics and issue positions, but withheld information about party membership, and asked participants to estimate the likelihood of being in one party or the other. The estimated likelihoods were compared with objective likelihoods. In Experiment 2, the task was voting; participants were asked how likely they would be to vote for each individual, who was described as a candidate. A key measure of interest was whether participants voted the party ticket, that is, Democrats voting for Democrats and Republicans voting for Republicans. In general, we were interested in whether performance on these two tasks depended on political knowledge and party identification of the participant.

2. Experiment 1

In this first experiment, embedded in the CCES 2010 national survey, we addressed the research question of how well calibrated are voters' judgments in the absence of political party labels. Important theories from political science research would generally predict poor calibration. Earlier, more pessimistic approaches, embodied by Campbell et al. (1960), would not expect that people could use a few pieces of information to make successful judgments about party membership. The heuristics view, embodied by Popkin (1991), largely assumes that people are uninformed but can use party labels as cues to make informed judgments. Absent the party cue, this approach generally predicts poor performance when the party label is omitted.

The party identification task in Experiment 1 measured people's accuracy at judging the political party of hypothetical individuals, based on cues such as demographics and issue positions. To investigate this topic, we created nine profiles that varied several attributes including demographics and issue positions. The profiles are featured in Table 1 and vary by gender, race, number of children, and attitudes toward government spending and abortion. We used a mix of demographic and issue differences that are considered central to the American party system. In other words, we intentionally chose cues that are relevant to political discourse and potentially informative. The major policy dimensions distinguishing the parties include social welfare, racial, and cultural issues (Layman & Carsey, 2002). To capture these issue dimensions in our profile sketches, we chose abortion for the culture wars, government spending for social welfare, and the target person's race for the racial dimension. Previous research has shown that the Democratic Party is strongly associated with abortion rights (e.g., Adams, 1997), the working class (Nicholson & Segura, 2012), and African-Americans (Carmines & Stimson, 1989). We also featured personal characteristics, gender, and number of children, in our profile sketches that suggested more subtle political differences. The political gender gap evokes images of a liberal views being more supportive of women (e.g., Sanbonmatsu & Dolan, 2009) and the

partisan "baby gap" evokes images of large conservative families and liberals with few or no children (e.g., Lesthaeghe & Neidert, 2009). Although there was a good case for using these cues, in our research we did not compare these cues to others. Hence, the conclusions we draw are made with respect to the materials that we used, and it is possible that some results would differ with other materials.

To evaluate the accuracy of the judgments, we generated objective probabilities for each profile using data from the 2008 ANES. The goal was to create nine profiles that vary, as closely as possible, by increments of 10% with higher values representing higher probabilities that the person featured in the profile is a Democrat. Note that these probabilities reflect characteristics of the public; we did not derive them from, say, characteristics of politicians running for elected office.

2.1. Method

A total of 597 U.S. adults participated in the experiment as part of the 2010 CCES.[1] As we were interested in examining how party knowledge shapes candidate judgments, only self-identified Democrats or Republicans, based on a question in the common

Table 1
Voter profiles and objective probabilities of Democratic party identification

Allison is an African-American female with no children. In a recent political discussion she voiced the opinion that government should provide many more services and that, by law, a woman should always be able to obtain an abortion	0.90
Samantha is an African-American female with no children. In a recent political discussion she voiced the opinion that government provides about the right amount of services and that, by law, a woman should always be able to obtain an abortion	0.80
George is an African-American male with no children. In a recent political discussion he voiced the opinion that government provides about the right amount of services and that, by law, a woman should always be able to obtain an abortion	0.72
Liz is an African-American female and mother of two children. In a recent political discussion she voiced the opinion that government provides about the right amount of services and that, by law, abortion should be allowed under some circumstances	0.56
Emily is a White female with no children. In a recent political discussion she voiced the opinion that government should provide many more services and that, by law, abortion should be allowed under some circumstances	0.49
Mary is an African-American female and mother of one child. In a recent political discussion she voiced the opinion that government should provide many fewer services and that, by law, abortion should be allowed under some circumstances	0.40
Kelly is a White female and mother of two children. In a recent political discussion she voiced the opinion that government should provide many more services and that, by law, abortion should never be permitted	0.28
Joanna is a White female with no children. In a recent political discussion she voiced the opinion that government provides about the right amount of services and that, by law, abortion should never be permitted	0.21
Bob is a White male and father of two children. In a recent political discussion he voiced the opinion that government provides about the right amount of services and that, by law, abortion should never be permitted	0.09

content, were included. A total of 289 participants judged the likelihood that each profiled individual was a Democrat and 308 judged the likelihood that each profiled individual was a Republican. The instructions were as follows: "In this survey you will be presented with descriptions of 9 registered voters. Note that each person is either a Democrat or a Republican. We would like you to judge the probability that each person is a Democrat [Republican], on a 0% to 100% scale. If you are absolutely sure that the person is not a Democrat [Republican], respond with 0%. If you are absolutely sure that the person is a Democrat [Republican], respond with 100%."

As seen in Table 1, across the nine profiles, the objective probability, derived from a model of a person being a Democrat, ranged from 9% to 90%.[2] For example, we generated the profile for Allison, our voter with a 90% probability of being a Democrat, by setting race equal to African-American, gender equal to female, the number of children equal to none, and the maximum support for abortion rights and government spending. At the bottom of the range, the profile for Bob, our voter with a 9% probability of being a Democrat, was arrived at by setting race equal to Caucasian, gender equal to male, the number of children equal to two, and the greatest opposition to abortion rights and a moderate position on government spending. Due to data limitations, we were unable to compute the probability of each profile of being Republican.[3]

2.2. Results and discussion

First, to assess whether the Democrat and Republican parties are viewed as opposites, Fig. 1 compares the mean of the probability judgments that each profile is a Democrat to the mean probability judgment that it is a Republican. Fig. 1 depicts a linear, strongly negative relationship between probability judgments of being a Democrat and Republican. The correlation coefficient between the Republican probability judgment and the Democratic probability judgment is −0.99, strong evidence that participants view Republicans and Democrats as opposites, conceptually replicating the result from Heit and Nicholson (2010). However, this analysis simply shows that party identification judgments were consistent, but it does not address accuracy.

To evaluate accuracy on the party identification task, we compared the mean of the subjective probability judgments of being a Democrat plotted against the objective probabilities, derived from a probit model. The correlation between probability judgments and objective probabilities is remarkable, $r = 0.99$, indicating that collectively, participants were able to identify candidates' party affiliation with a high degree of accuracy. As seen in Fig. 2, most of the data points fall above the main diagonal, indicating that the proportion of Democrats in the stimulus set was somewhat overestimated overall. It is also evident from Fig. 2 that participants tended to overestimate low probabilities and underestimate high probabilities—a common finding in the probability judgment literature (e.g., Lichtenstein, Slovic, Fischhoff, Layman, & Combs, 1978). In this case, the finding could be explained in terms of insensitivity to information in the profiles or to a more general miscalibration of probability judgments.
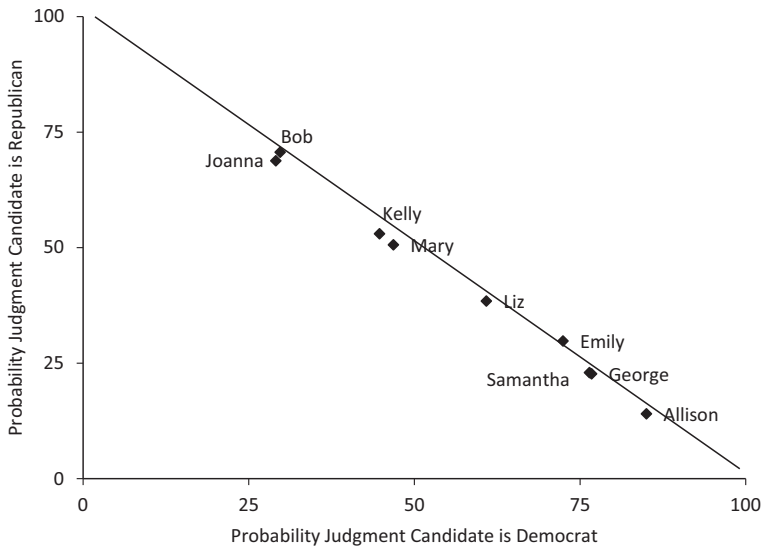
Fig. 1. Subjective probability candidate is a Democrat versus subjective probability candidate is a Republican.
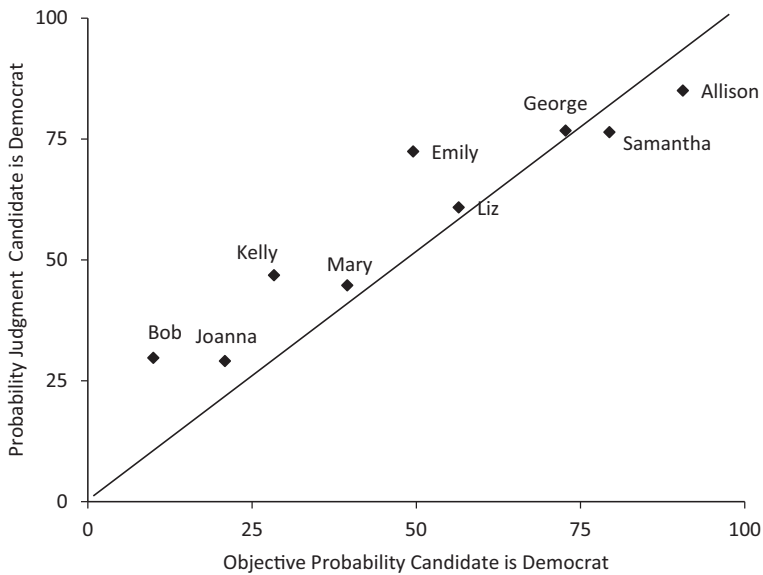

Fig. 2. Objective probability candidate is a Democrat versus subjective probability candidate is a Democrat.

The success of participants at judging party identification in the aggregate need not be reflected at the individual level (see, e.g., Goldstone & Gureckis, 2009, for a review of "wise crowds" phenomena). For this reason, we also examined the data at the individual

level of analysis and found that individual participants were largely successful. To examine the individual-level data, we calculated correlation coefficients for each participant and then calculated the mean and median of these correlations across participants. Using this method, the mean correlation between objective and subjective probability was 0.62, and the median correlation was 0.74 (for completeness, the 25th percentile was 0.49 and the 75th percentile was 0.87).

As mentioned, we expected knowledge to moderate how well people do at this task. We conducted further individual-level analyses to address this issue. People with greater political knowledge were expected to be better at identifying and integrating the information from the profile sketches than the less knowledgeable. Political knowledge was measured in terms of eight questions from the common content of the CCES. Four questions required the participant to correctly identify the party controlling the U.S. Senate, the U.S. House of Representatives, and the two legislative chambers in the participant's home state. Four more questions asked participants if they recognized the names of public officials (governor, two U.S. senators, and U.S. representative).[4] Based on a rough median split, participants with seven or eight correct responses were coded high knowledge and the remainder were coded low knowledge.

As expected, the mean correlations varied as a function of knowledge of the participants. The mean correlations for four subgroups, high-knowledge Democrats, low-knowledge Democrats, high-knowledge Republicans, and low-knowledge Republicans were 0.68, 0.56, 0.65, and 0.55, respectively. A two-way ANOVA revealed a main effect of knowledge, with high knowledge participants showing higher correlations, $F(1, 285) = 7.28$, $p < .01$. Neither the effect of party membership nor the interaction between knowledge and party membership reached the level of statistical significance.

We next conducted analyses of the cues used by individual participants in each of the four subgroups. We examined the information used by participants in making judgments about party identification, and whether use of information varied by political knowledge. Essentially, we conducted four regression analyses, predicting probability judgments based on the cues of gender, race, number of children, government spending, and abortion for each subgroup. Because each participant contributed judgments for nine items to the analysis, we used a version of the generalized linear model that accommodates clustered data. Gender was coded 0 for male and 1 for female; race was coded 0 for White and 1 for African-American; position on government spending was coded as a 1, 2, or 3 with higher values indicating a more favorable position; and position on abortion was coded as a 1, 2, or 3 with higher values indicating greater support for abortion rights.

It is worth noting that as in the real world, there was multicollinearity among the cues. We had created stimuli with the aim of covering a wide range of probabilities in intervals of 10%, rather than breaking up the usual correlations. In some cases, the demographic and issue variables were strongly correlated with each other. Hence, individual regression coefficients should be interpreted with caution. With this point in mind, Fig. 3A shows the standardized regression coefficients across the five cues. The regression coefficients appear similar between Democratic and Republican participants. Perhaps the most notable difference is that regression coefficients are generally higher for high-knowledge

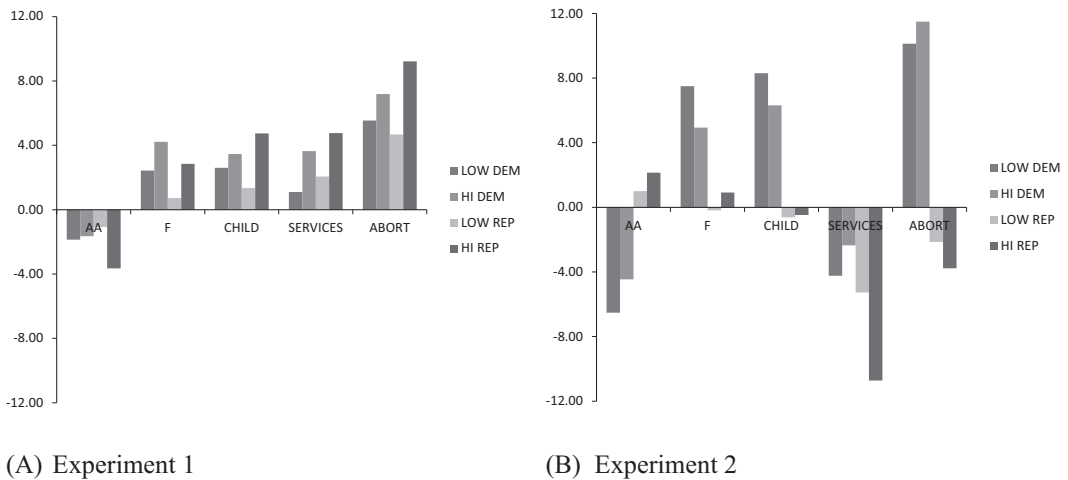(A) Experiment 1   (B) Experiment 2

Fig. 3. Estimated regression coefficients for low-knowledge and high-knowledge Democrats, and low-knowledge and high-knowledge Republicans.

participants compared with low-knowledge participants, reflecting more systematic use of the cues.[5]

As a more formal way to compare regression coefficients across groups, we conducted another regression analysis incorporating all four subgroups. Essentially, this analysis looked at whether the cue weights depend on subgroup. In addition to regression weights for the five cues, the analysis incorporated main effects of participant knowledge, participant party, and the interaction between knowledge and party. There were 15 additional interaction terms, corresponding to the interaction between each of the five cues with knowledge, party, and the knowledge by party interaction. Aside from the issue of main effects of the cues themselves, there was only one other statistically significant term in the regression. Namely, there was a main effect of knowledge, corresponding to higher regression weights for high-knowledge participants, Wald chi-square = 5.50, $df = 1$, $p < .05$. Hence, this analysis matches what can be gleaned informally from Fig. 3A: Cue use depends on knowledge but not party.

3. Experiment 2

Having shown in Experiment 1 that participants can successfully identify party membership of simulated individual profiles, in Experiment 2 we investigated voting judgments on these same profiles. The profiles, which are idealized and do not correspond to any real individual, were presented as hypothetical election candidates. The aim was to compare the pattern of responses for voting to the pattern for party identification for each profile as well as to compare cue use for the two tasks. For this reason, we only presented information about one candidate. If we had presented information about pairs of
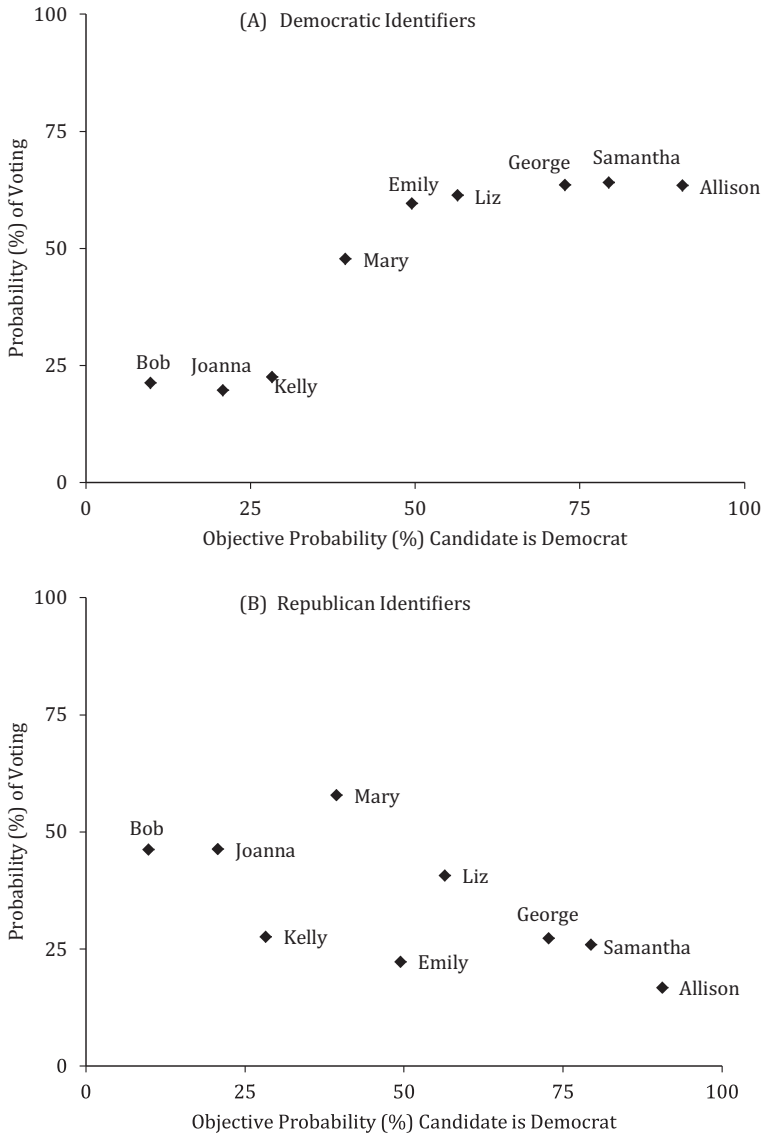
Fig. 4. Objective probability candidate is a Democrat versus voting probability, by party membership.

candidates, then the data would not be directly comparable to Experiment 1. As party labels were omitted from profiles, the pessimistic view and the heuristics view from political science would generally predict poor performance on this task.

From the same survey as in Experiment 1, a different set of 573 participants participated. Political knowledge was measured as in Experiment 1 and, again, the key stimuli were the nine profiles from Table 1. However, rather than asking participants about how likely the person in the profile sketch is likely to be a Democrat or Republican, in

Experiment 2 we asked participants how likely they would be to vote for each person on a scale from 0% to 100%.

The instructions were as follows: "Imagine that each of these people is a prospective candidate running for political office in a two-person contest. You will be given some information about the person's background and recent comments from an interview. Without any further information, how likely is it that you would vote for each person? Please judge the probability that you would vote for each person on a 0% to 100% scale. If you are absolutely sure that you would not vote for this person, respond with 0%. If you are absolutely sure that you would vote for this person, respond with 100%. These people would not be running against each other so there is no need to make side by side comparisons."

3.1. Results and discussion

Fig. 4 shows the average voting probability judgments across the nine descriptions as a function of objective probability of being a Democrat, for participants who identified themselves as Democrats and Republicans. For Democratic participants, there was a strong, positive relation between a candidate's objective probability of being a Democrat and the average probability of voting to support. The correlation was .90. The figure is suggestive of a threshold function, with the three candidates least likely to be Democrats attracting low level of votes, and the five candidates most likely to be Democrats attracting level of votes above 50%. For Republican identifiers, there was a negative relation, although not quite as strong as for Democrats, $r = -0.66$. Hence, the results suggest that both Democrats and Republicans tended to vote their party (Democrats more so), even when explicit party information is not given. However, we stress, again, that all conclusions are drawn with respect to the cues that were used in this study.

We next examined these correlations at the level of individual participants. For Democrats, the mean correlation was 0.50 and the median correlation was 0.78 (25th percentile, 0.25; 75th percentile, 0.88). For Republicans, the mean correlation was -0.30 and the median correlation was -0.41 (25th percentile, -0.27; 75th percentile, -0.75). For a finer-grained analysis, we next looked at mean correlations as a function of knowledge and partisanship of the participants, with high or low knowledge operationalized by correct answers to political knowledge questions.

The mean correlations for high knowledge Democrats, low knowledge Democrats, high knowledge Republicans, and low knowledge Republicans were 0.60, 0.40, -0.34, and -0.24, respectively. For an ANOVA examining voting for their own party, correlations for Republican participants were multiplied by -1. A two-way ANOVA revealed a main effect of knowledge, with high-knowledge participants showing stronger correlations, $F(1, 569) = 11.09$, $p < 0.001$, and a main effect of party membership, with Democrats showing stronger correlations, $F(1, 569) = 23.24$, $p < .001$. The interaction between knowledge and partisanship did not obtain statistical significance.

We next conducted individual-level analyses of the cues in each subgroup. Again, the question was what cues were used for candidate judgment, and whether use of cues

varied across groups. Fig. 3B shows the standardized regression coefficients across the five cues. Overall, there were different patterns of cue use across groups. Because of multicollinearity, the results should be interpreted with caution at the level of individual cues. It appears that Democrats may have been particularly influenced by demographic cues such as gender and number of children, although high-knowledge Democrats were less influenced by demographic cues than low-knowledge Democrats. With regard to political issues, Democrats may have been especially influenced by abortion and Republicans by government spending. Furthermore, political issues seem to matter more for high-knowledge participants than for low-knowledge participants.[6]

As in Experiment 1, we then conducted another regression analysis incorporating all four subgroups, with additional terms to test whether the cue weights depended on participant knowledge, participant party, and the interaction between knowledge and party. Aside from the cues themselves, the following terms in the analysis were statistically significant, using Wald's chi-square test, in comparison to a critical value of 3.84 for $df = 1$ and $p < .05$. There was a significant main effect of party, as well as a party by knowledge interaction, indicating overall differences in cue use between parties, moderated by level of knowledge. In addition, there were interactions between four of the five cues and party, between one of the cues and knowledge, and between three cues and the party by knowledge interaction. In other words, cue usage depended heavily on party and knowledge. Hence, this analysis matches what can be gleaned by inspection of Fig. 3B and comparison to Fig. 3A: For voting, cue use differs for each subgroup, depending on knowledge as well as party, unlike the pattern for party identification where cue weights only depend on knowledge.

4. General discussion

We conducted two experiments that blended naturally occurring data sets with experimental methods. The naturally occurring data sets were two large-scale national political surveys carried out during elections. We used one survey (ANES) to create materials to be used in our experiments, and we used the other survey (CCES) to identify subgroups of voters based on political knowledge and party identification. Our experiments were embedded into the latter survey, having a within-subject manipulation of materials and between-subject manipulations of tasks. Experiment 1 showed that although people saw the Democratic and Republican parties as mirror opposites, they still were rather well calibrated at judging the objective probability that a candidate is a Democrat based on demographic and issue position cues. Experiment 2 showed that members of both parties were fairly successful at voting for their own party, even when candidates' party identification was not provided.

With regard to the main research question, regarding calibration of political judgments when party labels are omitted, the results do not support two historic theoretical approaches from political science. The first wave of research (e.g., Campbell et al., 1960; Converse, 1964) concluded that there is a fairly low level of knowledge in the American

electorate and the second (e.g., Lau & Redlawsk, 2006; Popkin, 1991; Sniderman et al., 1991) conceded that American voters might overcome severe information deficits when relying on cues such as party, but without such cues would likely be unable to make informed decisions.

In contrast, we found that Democratic and Republican voters, both high- and low-knowledge, were fairly successful at identifying political party and voting in their own interests, when party labels are withheld. In other words, people possess a good grasp of what it means to be Republican and Democrat, with *or without*, party cues. The public appears to be able to appreciate how different mixtures of policy issues and demographic characteristics alter the probability of a person's partisanship. Furthermore, partisans, acting without the aid of a party cue, generally made favorable judgments of candidates with the mix of attributes that define their own party. Taken together, we believe these findings support a more optimistic account of citizens' understanding of political parties and ability to navigate citizenship in the American political system. As the public appears to understand the primary ingredients that differentiate Democrat from Republican (e.g., Nicholson & Segura, 2012) and apply these differences when evaluating candidates (Nicholson, 2005; Sniderman & Stiglitz, 2012), citizens may be fairly competent in the political domain.

With regard to the secondary research question, we found that cue use was flexible, such that cues were used differently for identifying party membership versus voting. In general, the subgroups of voters used the cues differently in light of their own political knowledge and partisanship (see Lau & Redlawsk, 2006). The one exception was that in Experiment 1, cue weights for party identification tasks appeared to differ based on knowledge but were similar for participants from the two parties. It is interesting to speculate whether cue weights were optimal (cf., Nosofsky, 1986) in terms of the nature of the two tasks as well as the participants' goals (e.g., voting for candidates with their own views). For example, demographic information might be more heavily weighted when identifying which party a candidate belongs to, whereas issue positions would be weighted more heavily for voting. However, our study was not designed to directly address the issue of optimality.

Also on the issue of cues, Gigerenzer and Goldstein (1996) argued that it is adaptive to reason using a single cue, offering a positive view of the heuristics approach we have described in the political science literature. For example, if a single cue, a politician's party label, is generally available and is predictive of behavior, and the cost of obtaining further information is high, then it would be adaptive for citizens to use this cue first and forsake other cues. From this perspective, it is something of a puzzle that our participants were able to make successful judgments when the most salient cue, party membership, was absent. To be clear, we are not claiming that each participant used all five cues for every judgment, only that they were successful when the most important single cue was omitted. Collectively, their judgments were well calibrated with objective reality (Experiment 1) and their own political leanings (Experiment 2). Indeed, other research (e.g., Newell & Shanks, 2003) has challenged the single-cue approach, concluding that people often use multiple cues, trading off the cost of seeking additional information against the

potential benefit. On this issue, research on cue use by clinical experts is also relevant. In reviewing this literature, Hastie and Dawes (2009, p. 52) emphasized that people use a limited number of cues when making judgments, although they suggested a maximum of three to five in domains of expertise.

4.1. Categorization and reasoning

In this section, we consider in more detail the relation between Experiment 1, where participants inferred party labels, and Experiment 2, where participants made voting judgments. When participants made voting judgments in Experiment 2, were these judgments mediated by party label cues? For example, when a participant was presented with Mary, did the participant first judge that Mary was somewhat unlikely to be a Democrat, then estimate voting probability on that basis? Alternately, did participants respond directly to individual cues (e.g., race, position on government services) without the party label necessarily being evoked? This distinction is important in psychological theories of categorization and reasoning. For example, accounts such as Anderson (1991) assume that categories are crucial mediators of inferences. As made explicit in Anderson's account, multiple cues would be used to infer a category, then this category would be used to make further inference. Applying this account to our own work, first cues such as female and pro-choice would be used to infer the Democrat category, then probability of voting for the candidate would be assessed on that basis (see also Murphy & Ross, 1994). In contrast, accounts such as Billman and Heit (1998; see also Heit, 1992) allow direct inferences from cues to judgments, without mediation by categories. Here, the cues such as female and pro-choice would directly affect voting probability, without first inferring party membership. (See also Trueblood & Busemeyer, 2011, for related discussion.)

Our experiments were not designed to address the mediation issue directly. However, it appears that in our studies voting is not the same as party identification. That is, it appears that participants did not simply infer party labels and then use these to make voting decisions. In Experiment 1, participants were very accurate, overall, at judging probability of party membership. If participants were simply using party labels to vote, we would expect an extreme amount of party-consistent voting in Experiment 2. In contrast, voting for one's own party was weaker in Experiment 2, in terms of correlations between voting probabilities and objective probabilities, than the accuracy of party identification in Experiment 1 would predict. Also, the regression analyses showed different patterns of cue usage overall for the party identification task (Experiment 1) and the voting task (Experiment 2). Turning back to the example of Mary, an African-American woman who favored less government services, it is plausible that her race particularly affected party identification whereas her position on government spending particularly affected voting judgments. Although we think it is plausible that party labels were evoked in Experiment 2, we think that all of the cues could have affected voting.

4.2. Issues of realism

Our use of the two national opinion surveys, as well as the design of the two experiments, was driven by the research questions, namely to study political judgments when party labels are omitted and to study cue usage. By no means was it our intention to recreate, in our experiments, fully realistic electoral environments. Of course, there were notable elements of realism, for example, the political profiles were derived from voter demographic information, and our experiments were conducted on a large, representative sample of the American electorate, during an election. Other elements were less realistic, by design. For example, we described individuals in terms of a few demographic characteristics and policy positions, rather than using known political figures (as in Heit & Nicholson, 2010), so that we could study cue use in a more controlled way. Experiment 2 involved a series of elections; however, information was only provided about one candidate, so that the results would be comparable to Experiment 1, where judgments were made about one profile at a time.

For still other design choices, it is arguable whether they are realistic or not. The choice to omit party labels from profiles was crucial to the main research question, which was a test of major theories from political science. This situation differs from high-profile presidential and congressional elections, where party labels are provided. However, many local elections and judicial elections are non-partisan and party labels are not provided, leaving voters with the same task as in Experiment 1, to infer party label information when that is missing. It is also interesting to consider whether it is realistic to provide five pieces of information per profile. Although these were chosen to be representative of key demographic information as well as a social issue position and an economic issue position, surely in a high-profile election such as a Presidential race, voters will know more than five facts per candidate. On the other hand, for many local elections, voters may know fewer than five facts per candidate. Without a doubt, sometimes other facts would be known. Hence, in terms of omitting party labels, and in terms of providing these five pieces of information, we see these experiments as moderately realistic.

Could we have conducted this study using purely archival data, for example, looking at survey responses and actual voting records without inserting any experimental questions into the CCES national opinion survey? We certainly see value in the approach of looking at voting records. As voting records include information about whether a person voted but not who they voted for, many studies using such data have focused on voter turnout. For example, a recent study by Ansolabehere and Hersh (2012) used voting records to address the issue of why voter turnout in actual elections is lower than expected based on self-reported voting in national surveys. Other studies have merged voting records with data on media markets, providing insight into whether advertising in presidential elections affects turnout (Huber & Arceneaux, 2007). We would not rule out further exploring the issues raised in this study using actual voting records, however, as we have emphasized our experiments were intended to address particular research questions such as how well calibrated are political judgments when party labels are omitted, that would make it challenging to use data from existing voting records.

5. Conclusion

Our own experience is that laboratory experimenters have much to gain by embracing elements of big data research. For the present research, we made use of two large-scale national opinion surveys, to create materials based on voter demographics, and to identify representative Democratic and Republican voters during an election. Into one of these surveys we embedded two experiments, with typical features of experimental research such as factorial design and researcher control of the materials. Using this approach we were able to provide novel tests of important theoretical views from political science, and to draw new insights about categorization and reasoning in the political domain.

Notes

1. The 2010 CCES was conducted over the Internet by YouGov/Polimetrix. Participants were selected by the method of sample matching, a methodology whereby nationally representative samples are chosen from a non-randomly selected pool of participants. For a discussion of this methodology, see Ansolabehere and Rivers (2013).
2. The probabilities were generated from a probit model of Democratic Party identification that included five independent variables: gender, race, number of children, and attitudes toward government spending and abortion. From this model, we calculated the predicted values of a person being a Democrat by selecting different values of the independent variables.
3. The 2008 ANES only included 12 African-Americans who identified as Republican. Given that race is a central variable in the analysis, there were too few Black Republicans for creating valid probabilities.
4. Because the political knowledge measure referred to both houses of the state legislature, participants from Nebraska and Washington, DC, were excluded.

5. Unexpectedly, the African-American cue showed negative weights. Alone, this cue had a strong positive correlation with identification as a Democrat. For example, in a simple regression of all participants, predicting judgments from just the African-American cue, the standardized regression coefficient was 17.17. However, stand on abortion was correlated with African-American, and acted as a suppressor variable. In a regression with just these two predictor variables, the standardized regression coefficient for abortion is 25.06 and the coefficient for African-American drops to -9.36.

6. Again, the African-American cue showed negative weights for Democratic participants. In fact, Democrats were much more likely to vote for African-Americans than for Whites. For example, in a simple regression for all Democratic participants, predicting judgments from just the African-American cue, the standardized regression coefficient was 15.91. In a simple regression for all Republican participants, predicting judgments from just the African-American cue, the standardized regression coefficient was $-.86$. Hence, Republicans were barely influenced by the race cue.

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