"SOUR GRAPES" OR RATIONAL VOTING?
VOTER DECISION MAKING AMONG THWARTED PRIMARY VOTERS IN 2008

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Abstract During the 2008 presidential campaign, journalists and pundits debated the electoral consequences of the prolonged and hard-fought nomination contest between Hillary Clinton and Barack Obama. Previous research, typically using aggregate vote returns, has concluded that divisive primaries negatively impact the electoral prospects of the winning candidate. It is thought that supporters of the losing candidate are less likely to vote and more likely to defect because of psychological disaffection, or "sour grapes." Using a new panel dataset that traces individual candidate preferences during the primary and general election campaigns, we are able to explicitly examine individual-level decision making in the general election *conditioned on voting behavior in the primary*. Although "sour grapes" had a modest effect on eventual support for the party nominee, fundamental political considerations—especially attitudes on the War in Iraq—were far better predictors of the vote decision among thwarted voters. Moreover, we find that supporters of losing Democratic candidates were far more likely to vote for Obama if they lived in a battleground state.

The 2008 Democratic nomination process was marked by a prolonged and hard-fought contest between Barack Obama and Hillary Clinton that produced an unprecedented number of votes for a losing candidate. From the Iowa caucuses on January 3 until the final primary contest five months later in Montana, an estimated 18 million voters cast a ballot for Clinton, giving her 48 percent of the pledged delegates and leaving her just shy of the votes necessary to secure a victory.

As the nomination process dragged on without resolution, pundits increasingly debated the consequences for the November election. According to some reports, disaffected Clinton supporters were poised to switch support to Republican John McCain in the general election. Polls estimated that anywhere from one-fourth to one-third of Clinton voters planned to cast a ballot for McCain.[1] Other political observers viewed this concern as overblown, and predicted that Democratic primary voters, eager to rebuke an unpopular incumbent Republican Party, would instead simply fall in line behind their nominee. As one journalist explained:

> Party unity is never total—and there certainly are blue-collar Democrats who opted for Clinton in the primaries because she was a placeholder for their qualms about Obama. But for over-the-hill-with-Hillary voters, passionate about the notion of a woman president or beguiled by all things Clinton, there will be no dramatic renunciation scene in their political future. Virtually all of them will be voting for Obama, whether they know it now or not. For a political party is a bit like Motel Six, where there is always a light on to guide errant voters home in the dark. (Shapiro 2008)

For his part, McCain actively courted the Clinton voters, particularly women. In the television ad "Passed Over," the McCain camp reminds the Clinton supporters that she wasn't selected as Obama's running mate: "She won millions of votes. But isn't on his ticket. Why? For speaking the truth," says the announcer. The ad continues with clips of Clinton criticizing Obama during the primary. The selection of Sarah Palin as McCain's running mate was also initially billed as an appeal to Clinton's disgruntled female supporters. At her first appearance on the campaign trail, Palin was quick to acknowledge Clinton's supporters: "Hillary left 18 million cracks in the highest, hardest glass ceiling in America, but it turns out the women of America aren't finished yet, and we can shatter that glass ceiling once and for all."[2]

The lingering question about the general election behavior of Clinton voters in the 2008 presidential campaign raises a broader theoretical question about the link between voters' behavior in these two distinct stages of the election: What explains whether primary voters who support losing candidates in the nomination contest transfer their support to the nominee? On

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1. See, e.g., Newport (2008).
2. See Cooper and Bumiller (2008).

the one hand, there is a rich political science literature that finds that divisive primaries harm the party nominee because voters supporting losing candidates are less likely to vote and more likely to defect (e.g., Bernstein 1977; Born 1981; Kenney and Rice 1987; Pierson and Smith 1975). Although most of this research relies on aggregate vote returns, the assumption typically made is that the observed negative effect is rooted in psychological disaffection.[3] In contrast, others have concluded that a divisive nomination process has either no effect or even a positive effect on general election outcomes (Atkeson 1998; Shafer and Wichowsky 2009; Stone, Atkeson, and Rapoport et al. 1992). Meanwhile, the bulk of research on voting behavior tends to ignore the voters' actions in the nomination contest altogether, essentially treating decision making in the two contests as independent.[4]

Thus, key questions remain unanswered. Do supporters of losing primary candidates hesitate to support the eventual nominee from this primary? And, if so, is this carryover effect a reflection of fundamental political considerations or is it attributable to psychological disaffection, a "sour grapes" effect? Using a unique panel dataset collected during the 2008 presidential campaign, we are able to trace the decision-making process of so-called "thwarted voters" (Pierce 2003). With 11 survey waves over the course of the year leading up to the presidential election, the Associated Press–Yahoo News 2008 election panel study offers rich data for examining general election vote conditional on primary behavior. Although our analysis shows a hint of evidence of a "sore loser" effect, the findings overall suggest that, even among the many thwarted Democratic primary voters, the decision to support Obama or McCain was largely predictable based on fundamental considerations, such as ideology, Iraq War attitudes, and negative racial affect.

Expectations About Thwarted Voters

As journalists and pundits debated the fate of disgruntled Clinton voters, scholarly research offered no clear guidance about their predicted behavior. Indeed, most political behavior research tends to ignore the nomination phase entirely. The classic voting behavior research emphasizes the role and influence of party identification, a factor that is largely irrelevant to understanding

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3. A handful of studies, including Lengle (1980), Pierce (2003), Southwell (1986), and Stone (1986), have used individual-level data, but these works have either focused on the turnout implications of supporting a losing candidate or relied on non-behavior measures (e.g., thermometer ratings of primary candidates), sometimes measured long after the preferred candidate was no longer in the race. There is also reason to expect that actually voting for a candidate should have greater carryover effects than simply expressing a preference for the candidate in response to a survey question.
4. There is, of course, an important body of work examining decision making in the primary phase (see, e.g., Bartels 1988), but this literature, too, examines this electoral stage separate and apart from decision making in the later general election phase.

behavior in the nomination stage of the election. This literature largely concludes that the general election campaign serves to "bring home" any partisans considering supporting the opposing party candidate (Campbell et al. 1960; Holbrook and McClurg 2005). As such, this work seems to dismiss any serious possibility of a carryover effect from the primary phase: Voters supporting a losing candidate in a partisan primary should simply fall in line with their party nominee by November. This conclusion is bolstered by other research that suggests that primary voters are more engaged, more ideologically extreme, and more partisan (e.g., King 2003), implying that these voters should be the *least* likely to defect. Indeed, Stone, Atkeson, and Rapoport et al. (1992) find that caucusgoers supporting the losing candidate were still more mobilized than non-caucusgoers in the general election.

In contrast, another line of research has explicitly studied divisive primaries and largely concludes that a negative carryover effect serves to depress electoral support (Kenney and Rice 1984; Lengle 1980; Southwell 1986) and alienate party activists (Buell 1986). Although this work has not focused explicitly on specifying the mechanism for this negative effect, it is most often attributed to psychological disaffection (i.e., the "sour grapes" effect) on the part of the supporters of the losing candidate. It is thought that the primary battle creates hard feelings that cause these voters to support the opposition or stay home on election day. Sullivan (1977–78) explains that "the long pre-convention campaign can only serve to increase the psychological investment each delegate has in his/her candidate. These facts, we think, make it even more difficult for losers to accept the convention outcome and recommit their energies to the winner" (p. 637).

Certainly, there appeared to be widespread disaffection among Clinton's supporters, many of whom blamed her loss on unfair and sexist treatment by the media and the Obama campaign. Disgruntled Clinton supporters organized a political action committee called PUMA for "Party Unity, My Ass." Media stories featured female Clinton supporters who considered Obama chauvinistic and condescending for calling her "likeable enough" and referring to her "claws" coming out.[5] Former vice-presidential candidate Geraldine Ferraro criticized Obama for conducting a "terribly sexist" campaign, commenting, "Should I ratify how the Obama campaign has been run by voting for him? I am going to have to think very hard about that."[6]

Did Clinton voters in fact stay home or defect to McCain? And if so, was it because of "sour grapes"? To answer this question, we need to consider the alternative factors that might explain the decision to defect to the opposing party candidate in the general election. We might expect, for instance, that a divisive primary could open potential issue cleavages within a party that could have consequences in the general election. If the nomination process

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5. See Cohen (2008).
6. See Sherwell (2008).

results in the selection of the more extreme candidate, we would expect supporters of the loser to rationally be more likely to defect if the opposing party candidate is more moderate (Pierson and Smith 1975; Southwell 1986). Generally, then, voters could very well cast their general election ballot on the basis of fundamental political considerations, while still crossing party lines compared to their primary vote. In an in-depth examination of the impact of the nomination process on the electoral success of Democratic presidential candidates from 1952 to 1992, Mayer (1996) concludes that "simply put, I see the Democratic Party's predicament as having much more to do with issues than with process…divisive nomination races are more effect than cause —a symptom of the Democratic Party's internal makeup rather than a product of recent rules reforms" (p. 8).

In addition to ideological or policy-based considerations, the 2008 contest also raised explicit speculation that negative racial attitudes might lead some Democratic primary voters to support McCain in the general election. The media and pundits frequently referenced Clinton's strength among working-class Whites, and the Clinton campaign was accused of race-baiting. Following the North Carolina primary, for instance, Clinton commented that "Senator Obama's support among working, hardworking Americans, white Americans, is weakening again."[7] In many respects, the potential impact of negative racial attitudes on the election outcome seems the greatest among this subset of thwarted Democratic primary voters. After all, it seems likely that many of those voting in the Republican primary would be unlikely to ever consider voting for a Democratic candidate—whatever their racial attitudes. And for respondents with negative racial attitudes who voted for Obama in the primary (in fact, 15 percent of Obama primary voters had negative racial attitudes by our measure), it seems obvious that those racial attitudes were not decisive.

Unfortunately, scholars' ability to disentangle these different hypotheses has previously been hampered by insufficient data. Using a unique new panel study, we are able to examine the decision making of thwarted voters in the 2008 presidential election to determine if "sour grapes," racial attitudes, or other considerations best predict their general election behavior.

Comparing Primary and General Election Vote

With multiple interviews of the same respondents over the course of the year leading up to the election, the Associated Press–Yahoo News 2008 election panel study offers a unique opportunity to examine the process by which voters make up their minds, including the link between their primary and general election behavior. The study tracked the vote intentions and political attitudes

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7. See Mooney (2008).

of more than 2,500 adults over the course of the election campaign using a sample drawn from the probability-based KnowledgePanel® Internet panel.[8] The panel included eleven waves of data collection, with the first starting in November 2007 and the final wave concluding in December 2008. One advantage of the AP–Yahoo News panel is that primary vote choice was measured nearly contemporaneously with the primary elections themselves rather than asking respondents to recall their vote choice much later in the campaign, when they might be more inclined to over-report supporting the winning candidate (Atkeson 1999).[9] The wording for all questions used in this analysis appears in appendix 1.

Of course, there are potential drawbacks to using panel data. Most critically, panel attrition can affect the observed results if respondents drop out of the panel nonrandomly. A preliminary investigation of panel effects in the AP–Yahoo News Study found that, although there were some nonrandom patterns of attrition, the overall impact of panel effects on survey estimates appears to be slight (Kruse et al. 2009). Of most relevance to the current analysis is their finding that, although early waves of the study showed undecided Republicans more likely to quit the study, candidate support was not a significant predictor of attrition in later waves of the study. Reassuringly, Democrats were no more or less likely to quit the study, regardless of which candidate they supported. Table 1 offers a more detailed comparison, reporting the demographic and political engagement characteristics of the baseline and post-election samples for comparison as well as the population estimates.[10]

8. The KnowledgePanel® panel members are chosen via a probability-based sampling method and using known published sampling frames that cover 99 percent of the U.S. population. Sampled non-Internet households are provided a laptop computer or MSN TV unit and free Internet service. The wave 1 survey (baseline) was fielded on November 2, 2007, to a sample of 3,548 panel members age 18 years or older who represented a general population sample. The total number of completed interviews at the baseline was 2,714, and 76.5 percent of those who were fielded the survey completed the baseline interview. This represents a cumulative response rate (CUMRR1) of 11.2 percent, using the formula specified in Callegaro and DiSogra (2008). This rate is a multiplicative combination of the panel recruitment response rate (AAPOR3), the household profile rate, and the survey completion rate, but excludes the household retention rate. The study attempted to re-interview each of the baseline cases, for a total of 11 waves. The response rates (CUMRR1) for the waves from which data are reported here are as follows: Wave 4, 12.1 percent; Wave 5, 11.7 percent; Wave 10, 10.5 percent; Wave 11, 10.2 percent. 1,068 respondents completed all 11 waves of the survey.
9. Respondents were asked about their primary vote choice in either the fourth wave of the survey (fielded in April), if they resided in a state that held primary elections prior to that time, or the fifth wave (fielded in June), if they resided in a state that held primary elections after the fourth wave.
10. Calculated using the corresponding wave-specific post-stratification weights provided by Knowledge Networks. The post-stratification variables include age, race, gender, Hispanic ethnicity, and education, using distributions from the most recent data from the Current Population Survey (CPS).

Table 1. Descriptive Statistics

	Baseline sample	Post-election sample	Population
Race			
White	69.8%	70.7%	68.3%
Black	11.2%	11.1%	11.4%
Hispanic	12.4%	11.6%	13.8%
Other	6.5%	6.5%	6.5%
Age			
18–29	21.9%	22.3%	21.9%
30–44	27.5%	27.1%	26.6%
45–59	28.0%	27.5%	27.9%
60+	22.6%	23.1%	23.6%
Education			
Less than high school	13.2%	12.3%	13.1%
High school	32.0%	29.2%	31.4%
Some college	27.6%	26.8%	27.9%
Bachelor's degree or higher	27.3%	31.6%	27.6%
Income			
Less than $15,000	14.6%	13.3%	11.7%
$15,000 to less than $20,000	5.3%	4.3%	4.5%
$20,000 to less than $25,000	7.4%	7.5%	5.6%
$25,000 to less than $30,000	5.9%	5.5%	5.7%
$30,000 to less than $40,000	14.7%	13.8%	12.0%
$40,000 to less than $50,000	11.8%	12.2%	9.0%
$50,000 to less than $75,000	20.8%	22.7%	19.5%
$75,000 to less than $100,000	11.3%	11.9%	23.8%
$100,000 or more	8.2%	8.9%	8.2%
Party identification			
Democrat	34.9%	33.6%	
Republican	28.0%	29.5%	
Independent	37.2%	36.9%	
Voter registration			
Registered	83.2%	85.3%	87.9%
Report voting in general election			
General election	—	83.8%	63.8%

NOTE.—Population estimates from July 2009 Current Population Survey (calculated by Knowledge Networks), except in the case of turnout and registration statistics, which have been calculated by Michael McDonald and made available at http://elections.gmu.edu.

Although we find some evidence of attrition among less educated, lower income, minority, and unregistered voters, the changes in distributions are, reassuringly, quite small. The table does, however, show the well-known over-reporting of voter turnout found in most political surveys (Bernstein,
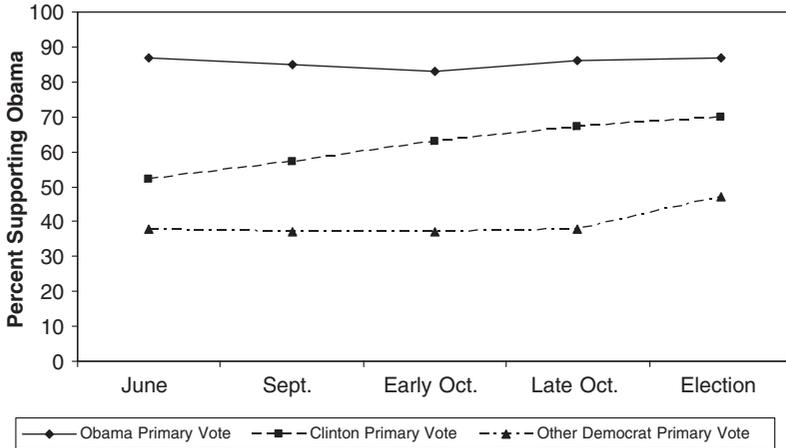
Figure 1. Support for Obama by Primary Vote Choice. Percent supporting Obama is the aggregate share of voters in each of the three primary categories that expressed a candidate preference for Obama in waves five (June), seven (Sept.), eight (early Oct.), and nine (late Oct.), as well as reported voting for Obama in the general election.

Chadha, and Montjoy et al. 2001).[11] Nonetheless, after weighting, the final reported vote estimate from the study was 51 percent for Obama and 46 percent for McCain, which was within the sampling error of the final election outcome. A second concern with using panels regards panel conditioning, i.e., when responses in one wave are influenced by participation in previous waves. By comparing fresh cross-sections collected at waves 3, 6, and 9, Kruse et al. (2009) were able to evaluate panel conditioning in the AP–Yahoo study. And although they found some evidence of panel conditioning on knowledge questions that were repeated, there were no differences between the panelists and the fresh cross-section in terms of self-reported certainty to turn out or feelings of frustration about the election (our measure of "sour grapes"). Thus, despite these potential limitations, the study offers some of the best data available to explore the dynamics of decision making over the course of the entire presidential campaign.

Turning to a descriptive look at the link between primary and general election vote choice, we track aggregate trends in candidate support by primary vote in

11. The actual turnout rate of the voting-eligible population in 2008 was estimated to be 62 percent in the general election (as calculated by Michael McDonald and reported at http://elections. gmu.edu/voter_turnout.htm). It is much more difficult to estimate the actual turnout rate in the primary election, since eligibility rules vary widely across states (and, in some states, across parties), but at least one estimate put primary election turnout at 30.2 percent (see http:// www1.american.edu/ia/cdem/csae/pdfs/csae080519.pdf). In our sample, 84 percent of respondents reported voting in the general election, and 49 percent reported voting in the primary.

Table 2. General Election Vote by Primary Vote

	General election vote		
Primary vote	Obama	McCain	Non-voter
All Democratic primary voters (30%)	*76%*	*19%*	*5%*
Obama voters (13%)	87%	9%	4%
Clinton voters (15%)	70%	25%	5%
Other Democrat voters (2%)	47%	44%	9%
All Republican primary voters (21%)	*11%*	*86%*	*4%*
McCain voters (9%)	13%	84%	3%
Other Republican voters (12%)	9%	87%	4%
Non-voters (49%)	*33%*	*37%*	*29%*

NOTE.—Sample includes 1,837 respondents answering the primary election vote self-report in either the fourth or fifth survey waves and answering the general election vote self-report. Primary election non-voter category also includes respondents reporting "Don't know" (41 cases). General election non-voter category also includes respondents reporting "Don't know" (3 cases) or "Other" (52 cases).

figure 1. Although we clearly see lower levels of support for Obama among those not voting for him in the primary, there is a gradual uptick in support for Obama among Clinton supporters as we get closer to election day. So, although this group initially might have been hesitant to support the onetime rival of their preferred candidate, they were increasingly likely to come home as the campaign progressed, with the sharpest uptick in support coming shortly after Clinton endorsed her former rival. Although based on a very small number of voters (36 cases), those voting for other Democratic candidates (mainly John Edwards) were the least likely to rally behind Obama.

Of course, what ultimately matters is if and how these individuals actually voted. Table 2 presents the most direct comparison of primary vote choice to general election vote choice. Overall, just over three-fourths of Democratic primary voters cast their general election ballots for Obama. But this average masks tremendous variation across primary vote choice. Ultimately 25 percent of these Clinton primary voters cast a ballot for McCain in the general election.[12] Just five percent of them supported neither of the major party can-

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12. This is different from exit poll results, which report only 16 percent of Clinton supporters voting for McCain versus 83 percent for Obama. One possible explanation for the discrepancy is that the exit poll question was asked only to Democrats and was based on whom they wanted to win the primary, not on whether they actually voted in the nomination contest. Moreover, because the question is asked after the general election, there may be over-reporting of support for the winning candidate (Atkeson 1999).

didates—either staying home or voting for a third-party candidate—an abstention rate similar to primary voters who supported Obama, McCain, or other Republicans.[13] Thus, in contrast to previous research (e.g., Southwell 1986), the voters supporting the losing candidate in the 2008 primary did not appear to be demobilized as a result of the loss. Pierce (2003) reached a similar conclusion in his analysis of thwarted voters in the 1972–1996 presidential elections. Also interesting is that, while Republican primary voters are overall more likely to support the Republican nominee, it turns out that those who cast a ballot for McCain were actually slightly *more* likely to defect to Obama in the general election than the thwarted Republican voters were. This likely reflects McCain's appeal to independent and moderate voters, but it at least suggests that "sour grapes" might not be the only factor explaining transitions in party support between the primaries and general election.

Although vote turnout was not affected by primary vote, we do find some indication that "thwarted voters" were much slower to settle on a preferred candidate. In figure 2, we report time of decision by primary vote, where time of decision is measured as the point after which a respondent's candidate preference remains stable across all remaining survey waves and reported general election vote choice. In other words, it is the point at which the respondent has settled on either Obama or McCain. The shades of gray represent the different dates over the course of the campaign, with darker colors being closer to election day. The graph makes it clear that more of Clinton's primary voters made their decision later in the campaign than did those who voted for Obama, and those (albeit few) Democratic primary voters supporting candidates other than Obama and Clinton were the most likely to make a decision in the waning weeks of the campaign.[14] This lagging support among the small number of Edwards's supporters also suggests that something other than lingering resentment from the primary might explain the general election decision since Clinton—not Obama—was the frontrunner

13. This finding does not appear to be an artifact of asymmetric panel attrition, since 13 percent of Obama voters in the Democratic primary and 15 percent of voters supporting another Democrat drop out from the panel by the post-election interview. Among Republican primary voters, 11 percent of McCain voters and 14 percent of non-McCain voters drop out from the panel. The bulk of panel dropouts occur among respondents who did not vote in the primary, a subgroup not used in this analysis.

14. Since time of decision is measured using expressed candidate preference asked in each wave, and primary vote is based on a separate vote recall question, the measures tap two distinct concepts and open the possibility for inconsistencies. We see, for instance, a handful of respondents who reported voting for a losing candidate but also showing stable support for Obama or McCain by early January. This could be an indication of measurement error, strategic primary voting, or a function of the ballot available in the state (e.g., one Michigan respondent indicates a vote for Other Democrat but stable support for Obama, who had agreed not to appear on the Michigan ballot due to the Democratic National Committee's decision to sanction the state for violating party rules by moving the date of the Michigan Democratic primary). Again, however, we want to note that these odd cases constitute a very small number of cases (just two respondents in the case of Other Democrat voters).
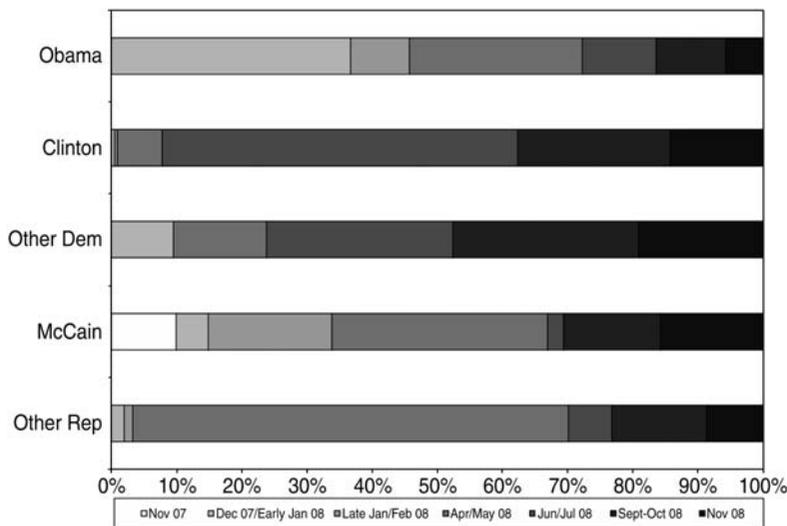
Figure 2. Time of General Election Decision by Primary Vote Choice. Time of decision is defined as the point from which a respondent's candidate preference remains consistent across all following survey waves, including general election vote choice. Respondents included in this figure are only those who voted in the primary election, voted in the general election for one of the two major-party candidates, and for whom time of decision could be identified.

during much of the time that Edwards was a candidate. To evaluate whether the decision to support Obama or McCain among these thwarted voters is predicted by "sour grapes" or by more fundamental considerations like ideology, issue preferences, or racial attitudes, we turn to a multivariate analysis.

Predicting General Election Vote Choice Among Thwarted Voters

To more carefully examine the decision making of the thwarted voters, we estimate a logit model predicting support for McCain (relative to a vote for Obama) among those respondents *who voted in the Democratic primary for someone other than Obama.*[15]

15. Whereas descriptive statistics are computed using the provided post-stratification weights, the multivariate models are estimated without weighting but instead with controls for all variables used in calculating the weights (except race, since there are too few Blacks in the sample to include this in the model). Although the key coefficients do not change with either approach, some of the post-estimation simulations conducted preclude the use of weighted data in the multivariate model. A series of model diagnostics was conducted, including examinations of deviance residuals, Pregibon's leverage, and Pregibon's dfbeta. In instances where a potentially influential case was identified using the standard rule-of-thumb thresholds, the model was re-estimated excluding these cases. Substantive results did not change.

To test for "sour grapes," we use an indicator for whether the respondent said they felt "frustrated" about the election so far (measured in June, just after Clinton had conceded the race).[16] We also include an indicator for support of a Democratic candidate other than Clinton to see if the gap observed in the descriptive analysis stands up to statistical controls. To capture the potential impact of Obama's race on the vote dynamics, the model contains a variable for negative racial attitudes, measured as the difference between favorability toward Whites and favorability toward Blacks. Since all of the Black respondents in this sample of Democratic primary voters ultimately cast a ballot for Obama in the general election, a race indicator for Black perfectly predicts the outcome and cannot be included in the model.[17]

To test for the role of issue attitudes and perceptions of the nominee, we add positions on taxes, abortion, the Iraq War, and ideology, which are each measured in the initial November 2007 wave of the survey and therefore should not be contaminated by candidate support. We also include perceptions of financial hardship (i.e., how hard it is to get ahead) to try to account for concerns about the worsening economic climate.

We add standard demographic and political controls, including education, income, gender, age, Hispanic ethnicity, and party identification. In addition, we include a state-level measure indicating whether non-party members are eligible to vote in the primary to account for the possibility that non-Democrats strategically voted in the primary in favor of a candidate they never had any intention of supporting in the general election. We also use the number of candidates in the Democratic primary at the time the respondent's state held its election to account for the changing choice set that voters faced as the spring campaign progressed. We might expect, for instance, that individuals voting for Clinton in later primaries were more likely to be diehard supporters than those who supported her much earlier. Finally, we include an indicator for respondent's residence in a general election battleground state to account for differences in the candidates' attempts to win over voters.[18] Given the pos-

16. Results were robust to using alternative measures of "sour grapes," including perceptions about the fairness and negativity of Obama's campaign messages measured in late spring 2008 (before the primary outcome was determined). We use the frustration indicator because a similar measure is available for a parallel analysis of Republican primary voters.

17. The analysis was repeated omitting Black respondents, with identical results.

18. A general election battleground state is defined as a state that either campaign regarded as a battleground state according to Huang and Shaw's (2009) interviews with campaign staff. These states include Colorado, Florida, Michigan, New Hampshire, New Mexico, Nevada, Ohio, Pennsylvania, Missouri, and Virginia. Among the sample used in the analysis of Democratic primary voters, 86 respondents live in these states. The analysis was repeated, categorizing as battleground states only the five states that both campaigns regarded as battleground (Colorado, Florida, New Mexico, Ohio, and Nevada). Only 43 respondents from this sample live in these states; estimation of the battleground effect for them was not significant at standard levels, though the estimate was in the same direction.

sible impact of these structural variables, the estimated standard errors for the model are clustered at the state level.[19]

We leave the coefficients and model details to appendix 2 but show the substantive impact of each explanatory variable in table 3.[20] We report the first differences—the simulated difference in the predicted probability of a McCain vote (relative to a vote for Obama) associated with each variable at its 95th minus fifth percentile value, with other variables held constant.[21] In addition, we are interested in the predicted impact of our key variables on the election outcomes (not just individual-level vote decisions), so we also conduct post-estimation counterfactual simulations. We do this in two steps. First, we subtract the predicted aggregate outcome from the model using each respondent's observed value from the predicted aggregate outcome with just the variable of interest set to a counterfactual value (leaving all other covariate values at their observed values). This gives the impact on Obama's share of the general election vote just among this sample of primary voters who did not support him in the first phase of the presidential contest. Second, we estimate an impact on the total general election outcome by weighting the simulated impact by the share of the general election voters constituted by this sample. According to our survey, Democratic primary voters who cast a ballot for someone other than Obama accounted for approximately 18 percent of general election voters.[22]

Turning first to our test of the "sour grapes" hypothesis, we find a significant and negative effect for those supporters of losing candidates who reported being frustrated about the election shortly after Clinton dropped out of the race. These findings offer some evidence that lingering resentment from the campaign may have been a factor in the general election decision making of supporters of the losing candidates. Those who were frustrated with the election in June 2008 were predicted to be 21 percentage points more likely to vote for McCain in November. But to estimate the impact of these frustrated voters on the election outcomes, we need to take into account not only the effect size of these attitudes, but also their distribution in the electorate. Using the sample and model results presented in appendix 1, this

19. Alternatively, we estimated the model for Democratic primary voters with dummy variables for Michigan and Florida, since these states' primary results were initially treated as ineligible for determining the nominee and the primaries there were boycotted by some of the campaigns. The results are unchanged.

20. Education, income, age, and issue positions are included as scales in this model. This approach implicitly treats these variables as continuous, which is potentially problematic if their impacts are nonlinear. We have estimated the model with response options for all of these scales included as a series of binary indicators and find no change in the substantive results.

21. These set values are moderate positions for issues, ideology, and racial attitudes; modal values for binary indicators (with the exception of ideology indicators); and mean values for non-binary non-issue measures.

22. The comparable estimate from the 2008 American National Election Study is 15 percent, perhaps reflecting the tendency for respondents to over-report support for the winning candidate.

Table 3. Change in Predicted Probability of McCain Vote (Democratic Primary Voters) (standard errors in parentheses)

	Change in predicted prob. of McCain vote
Education	-0.13
	(0.13)
Income	-0.19
	(0.13)
Female	0.12
	(0.09)
Age	0.10
	(0.14)
Hispanic ethnicity	0.02
	(0.11)
Gen. election battleground state	-0.18*
	(0.08)
Open primary state	-0.13
	(0.08)
Number of candidates at time of primary	0.17
	(0.14)
Republican (Nov. 2007)	0.08
	(0.13)
Independent (Nov. 2007)	0.24*
	(0.11)
Primary vote for other Democrat (Edwards, Richardson, Biden, Gravel, or Kucinich)	0.22*
	(0.07)
Frustrated with election (June 2008)	0.21*
	(0.09)
Ideology: Moderate (Nov. 2007)	-0.24*
	(0.09)
Ideology: Liberal (Nov. 2007)	-0.33*
	(0.09)
Religious conservative (Nov. 2007)	0.01
	(0.12)
Tax attitude (Nov. 2007)	0.05
	(0.13)
Abortion attitude (Nov. 2007)	0.06
	(0.13)
Iraq attitude (Nov. 2007)	0.69*
	(0.11)
Perception of economic hardship (Nov. 2007)	-0.18
	(0.17)

Continued

Table 3. *Continued*

	Change in predicted prob. of McCain vote
Negative racial attitudes (Jan.–Feb. 2008)	0.26*
	(0.09)
N	276

NOTE.—Estimates are based on a logit model in which the outcome variable is a binary indicator of general election vote choice (1 = McCain and 0 = Obama). Changes in predicted probability of a general election vote for McCain are simulated from changes in the covariate of interest while holding all other covariates at their median (non-binary) or modal (binary) values, with the exception of issue positions, which are held at moderate values. The change in the covariate of interest represents a shift from fifth percentile to 95th percentile. Estimates marked with * are significant at the 0.05 level, or more technically, the central 95 percent of the distribution of simulated estimates does not contain zero. Sample includes only respondents who voted for either Obama or McCain in the general election and voted in the Democratic primary for a candidate other than Obama.

simulation exercise finds that Obama's share of the two-party general election vote among Democratic primary voters who didn't vote for him in the primary would rise by 6.2 percentage points if no voters in this sample indicated they were frustrated. This impact pushes the general election outcome toward Obama by 1.1 percentage points. So, although frustration is clearly related to the decision to defect at the individual level, the cost to Obama's total share of the vote seems to have been relatively small.

Descriptive analysis of the intensity of candidate support (not presented in the tables) lends additional weight to this conclusion. If "sour grapes" were the primary explanation for defections to McCain, we might expect that Clinton supporters who supported her the most intensely would be most reluctant to vote for Obama. Using two different measures of intensity—self-reported certainty of support and observed stability in support—finds that those who supported Clinton the most intensely were actually *more* likely to rally behind Obama. We find that 82 percent of "certain" Clinton voters cast a ballot for Obama, compared to 78 percent of Clinton voters who said they might change their mind. Likewise, those respondents who consistently supported Clinton throughout the primary waves of the study were more likely to vote for Obama in the general election than were those respondents who only sometimes supported Clinton in these waves (81 percent versus 75 percent).

We next turn to see if racial attitudes correlated with defection to McCain among these thwarted Democratic primary voters. Not surprisingly, we find that those with much lower favorability toward Blacks relative to their favorability toward Whites were less likely to have rallied behind Obama in the general election. Those more favorable toward Whites than Blacks were predicted to be 26 percentage points more likely to vote for McCain than those

more favorable toward Blacks—a quite sizeable effect.[23] However, the sim-
ulated impact on the election outcome suggests a far more modest influence of
racial attitudes. If we simulate the election results among this sample chang-
ing nothing but racial attitudes—such that all voters viewed Blacks and
Whites equally favorably—we predict an increase in Obama's vote share
by 5.4 percentage points among thwarted Democratic primary voters, amount-
ing to a one-percentage-point increase in his overall margin of victory. Of
course, there may well be preferable measures of racial attitudes, especially
ones less susceptible to social desirability bias. But based on this particular
measure of racial attitudes, it appears that racial attitudes may have played
a smaller role in the election outcomes than sometimes speculated.[24]

Compared to the relatively small effects of frustration and negative racial
attitudes, we find quite large effects for ideology and Iraq War attitudes.[25]
These issue relationships are the strongest among the covariates examined
here—in terms of predicting both individual and aggregate outcomes. Mod-
erate and liberal ideological views are associated with 24- and 33-percentage-
point declines in the probability of a McCain vote in the general election
among this subset of Democratic primary voters. And those most strongly
supportive of the War in Iraq are 69 percentage points more likely to vote
for McCain in November than those least supportive of the war effort. In
terms of the simulated election impact, if every non-Obama Democratic pri-
mary voter held liberal ideological views, Obama's predicted share of their
general election vote would have been 11.6 percentage points higher, which
translates to a 2.1-percentage-point increase in Obama's share of the two-party
vote among the total electorate. Similarly, if the entire sample of non-Obama
Democratic primary voters strongly opposed the War in Iraq, the nominee's
predicted share among this sample would have been 15.9 percentage points
higher, or a 2.7-percentage-point increase in the general election outcome.

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23. The negative racial attitudes scale has possible values that range from -6 to +6, but a change
from the fifth to the 95th percentile moves from a 0 (rating Blacks and Whites equally favorably)
to a 3 (rating Blacks less favorably than Whites). Although 27 percent of respondents have a value
greater than 0 (they gave a less favorable rating of Blacks than of Whites), there was just one case
with a score greater than 3.
24. For an alternative perspective using a different measure of racial attitudes from another wave
of this study, see Pasek et al. (2009).
25. Party identification also predicts behavior, with Independents more likely than Democrats to
vote for McCain. With the final model specification reported, we find that Republicans who voted
in the Democratic primary were no more likely to vote for McCain in the general election. A
closer investigation of the 23 Republicans in the sample finds some evidence of strategic behavior.
Of the Republicans who voted in the Democratic primary after McCain was the presumptive
nominee, less than 10 percent ultimately voted for Obama, compared to 50 percent of those
who voted in the Democratic primary when the Republican primary was still competitive (sim-
ilarly, the early Republican voters were much less likely than the later Republican voters to have
voted for Bush in 2004: 64 percent compared to 100 percent, respectively).

Given that Obama and Clinton were often characterized as ideologically identical, the finding that any issues mattered is quite striking. To be sure, not all issues were predictive of vote choice after conditioning on primary vote; attitudes toward taxes and abortion, though in the expected direction, were not statistically significant predictors of defection among thwarted Democratic primary voters. But the Iraq War was the most salient rift between Obama and Clinton that emerged during the nomination process (with messages about "experience" and "change" reinforcing these differences). Although both candidates called for an end to the Iraq War that was so unpopular with Democratic primary voters, the two candidates nonetheless sparred on the issue. Obama often criticized Clinton's 2002 vote to give George W. Bush the authority to use military force in Iraq in 2002 and her later refusal to apologize for the vote. In contrast, Obama opposed the invasion from the beginning, but as the Clinton camp frequently pointed out, Obama was not yet a U.S. Senator in 2002 and so was not privy to the prewar intelligence.

Thus, to answer our initial question about the behavior of Clinton voters in the general election, it appears that although there was some lingering resentment from the primary, Clinton voters ultimately supported Obama *if they agreed with him on the issues*.[26] This finding is further reinforced by the null findings for gender and income. Clinton voters were not simply bitter women or working-class Whites unwilling to cast a ballot because of "sour grapes." Rather, our analysis offers the simple conclusion that Clinton voters made up their minds on the basis of fundamental considerations; so, political conservatives and those who supported the War in Iraq were the most likely Clinton voters to defect to McCain. Indeed, it raises the question of whether these Clinton voters would have even stayed with her through election day had she won the nomination (after all, Obama lost nine percent of his primary voters to McCain in the general election).

Finally, among the most interesting findings is the effect of living in a battleground state. Among Democratic primary voters who did not initially support Obama, those living in battleground states were significantly less likely to vote for McCain on election day than were those living elsewhere. The predicted impact of battleground status for this sample (i.e., the differences between the observed scenario and a counterfactual scenario in which all voters' states received battleground campaigning) is an increase in Obama's vote share of 8.3 percentage points, or a pro-Obama shift in the total general election outcome of about 1.5 percentage points. We cannot be sure if the battleground state effect reflects the increased campaign attention and information or an increased perception of decisiveness on the part of the voter that makes him or her less willing to "send a message" by voting Republican. De-

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26. It is worth noting that the results are almost identical if we restrict our sample to Clinton voters.

scriptive evidence, however, suggests the former—71 percent of Obama converts in battleground states said they were extremely or very enthusiastic about their vote choice, compared to just 61 percent in non-battleground states. This suggests that it was not simply a case of voters selecting "the lesser of two evils." Either way, this finding suggests that the link between primary vote and general election behavior is partially dependent on campaign context.

Robustness Checks

We conduct robustness checks to alleviate two possible concerns about our results. First, it might be argued that divisive primaries have a demobilizing effect, depressing turnout among supporters of losing primary candidates, a possibility that is ignored by our examination of two-party vote choice. Such an explanation, however, seems unlikely since the descriptive analysis reported that Clinton voters in the primary turned out for the general election in roughly equal proportions as Obama's primary supporters. Nonetheless, to account for this possibility, we conduct a similar analysis as that above, using a multinomial logit that allows for three values for the outcome: an Obama vote, a McCain vote, or neither (i.e., voting for a third-party candidate or not voting at all). The results of this model appear in appendix 2. As should be expected, the results for a McCain vote relative to an Obama vote match those from the standard logit above. Similar to the bivariate results, we find no evidence that "sour grapes" increased the likelihood that a thwarted voter stayed home on election day. The only factor associated with the decision to not vote (relative to voting for Obama) was negative racial attitudes, suggesting that some Democrats who were hesitant to vote for a Black candidate opted to stay home on election day rather than cast a ballot for the Republican.

Second, it may be asked whether these results apply only to the unusually hard-fought Democratic contest in 2008. After all, the divisiveness of the primary may have made salient policy differences among the candidates that would have otherwise been ignored. Other research, for instance, has found that policy issues matter more when a contest is hotly contested (Kahn and Kenney 1999). Although we do not have the data available to consider alternative years, we are able to conduct a parallel analysis for Republican primary voters in the 2008 election. The substantive effects are presented in table 4, and the full set of model results is reported in appendix 2.

The results find no evidence of a sore-loser effect among thwarted Republican primary voters. Republican primary voters who cast a ballot for a losing candidate and expressed frustration about the election were no more likely to vote for Obama in the general election. This is perhaps not surprising, since McCain primary voters were actually less likely to vote for McCain than were Mitt Romney primary voters (used as baseline category in table 4).

More notably, we again find that issue positions and racial attitudes have significant effects on vote choice at the individual level, even conditioning on

Table 4. Change in Predicted Probability of McCain Vote (Republican Primary Voters) (standard errors in parentheses)

	Change in predicted prob. of McCain vote
Education	-0.34
	(0.22)
Income	0.19
	(0.24)
Female	-0.02
	(0.07)
Age	0.46*
	(0.26)
Hispanic ethnicity	0.05
	(0.09)
Gen. election battleground state	0.02
	(0.06)
Open primary state	0.26
	(0.20)
Number of candidates at time of primary	-0.02
	(0.23)
Democrat (Nov. 2007)	-0.81*
	(0.20)
Independent (Nov. 2007)	-0.08
	(0.10)
Primary vote for other Republican (Huckabee,	-0.63*
Giuliani, Thompson, Paul, or Hunter)	(0.21)
Frustrated with election (April 2008)	0.00
	(0.09)
Ideology: Moderate (Nov. 2007)	-0.06
	(0.08)
Religious conservative (Nov. 2007)	0.00
	(0.10)
Tax attitude (Nov. 2007)	-0.01
	(0.13)
Abortion attitude (Nov. 2007)	0.34*
	(0.24)
Iraq attitude (Nov. 2007)	0.42*
	(0.23)
Perception of economic hardship (Nov. 2007)	0.09
	(0.22)

Continued

Table 4. *Continued*

	Change in predicted prob. of McCain vote
Negative racial attitudes (Jan.–Feb. 2008)	0.10*
	(0.09)
N	195

NOTE.—Estimates are based on a logit model in which the outcome variable is a binary indicator of general election vote choice (1 = McCain and 0 = Obama). Changes in predicted probability of a general election vote for McCain are simulated from changes in the covariate of interest while holding all other covariates at their median (non-binary) or modal (binary) values, with the exception of issue positions, which are held at moderate values. The change in the covariate of interest represents a shift from fifth percentile to 95th percentile. Estimates marked with * are significant at the 0.05 level, or more technically, the central 95 percent of the distribution of simulated estimates does not contain zero. Sample includes only respondents who voted for either Obama or McCain in the general election and voted in the Republican primary for a candidate other than McCain.

primary vote.[27] Respondents who cast a vote for a Republican candidate other than McCain in the primary and exhibited conservative positions on the issues of abortion and the Iraq War were far less likely to vote for Obama in the general election. The predicted differences in the likelihood of a McCain vote between those with conservative and liberal positions on abortion and Iraq are 34 and 42 percentage points, respectively. But once we take into account their numbers in this sample, our simulations find pro-McCain shifts of only 4.6 and 7.2 percentage points if every respondent in this sample of thwarted Republican primary voters held conservative positions on abortion and Iraq, respectively. Given the share of this group in the electorate, this translates to an increase of less than one percent in McCain's total general election vote share. Thus, despite these sizable individual-level associations, the distribution of conservative issue positions among this sample leaves little room for McCain growth. As in the analysis of the Democratic primary voters, racial attitudes show significant negative impacts at the individual level. The simulated impact on the general election outcome, however, is negligible (less than one-fifth of a percentage point).

Discussion

The 2008 race for the Democratic nomination was the longest-running and most closely contested presidential primary since the rules governing these races were overhauled nearly four decades ago. Both Obama and Clinton

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27. Self-reported ideology is not significant, but there were no self-identified liberals who voted in the Republican primary.

amassed unprecedented numbers of votes during the process, enticing specu-
lation that the eventual nominee would find it difficult to win over his
opponent's devotees. Would the disaffection incurred over having lost such
a hard-fought race leave the nominee too unpalatable in these voters' eyes?

As it turns out, a large majority of Clinton's primary voters (71 percent)
cast their ballots for Obama in the general election. And, in contrast to pre-
vious research, we find that voters who supported losing candidates in the
2008 Democratic primary contest were no more likely to stay home for the
general election. Even if most of Clinton's voters supported Obama, why did
a nontrivial number not do so? Was it "sour grapes," as speculated by the
media and hypothesized by previous research on divisive primaries? Did
the primary battle in the spring prove costly to Obama in the fall by alienating
potential Democratic voters? Our analysis finds that psychological disaffec-
tion, or "sour grapes," accounted for only a very small portion of general
election defections. And, despite concerns that working-class Whites would
turn to McCain in droves to avoid casting a ballot for a Black candidate, we
find that the impact of negative racial attitudes, while certainly significant,
was perhaps smaller than expected.

Rather, the best predictors of general election vote among these thwarted
voters are factors like ideology and policy issues. Those Democratic primary
voters who identify themselves as ideologically conservative were more likely
to vote for McCain in November. Similarly, those who expressed greater le-
vels of support for the War in Iraq were much more likely to vote for the
Republican rather than the Democratic nominee. And among the Republican
primary voters, abortion and Iraq War attitudes were the strongest factors re-
lated to a switch to Obama in the general election. Given the focus of the
campaign on the characteristics and traits of the candidates (and their vice-
presidential nominees), it is perhaps reassuring that issues nonetheless played
an important role in voter decision making.

Ultimately, this analysis is based on only a single election, one atypical (so
far) among recent presidential primary contests. In addition to the presence of a
Black and a female candidate, both nomination contests were open seats, mak-
ing each more competitive than most election years. But in thinking about how
the results might differ in other years, it would seem that the effect of "sour
grapes" would be *smaller* in years or contests in which the nomination stage
was less divisive. On the other hand, our results make clear that predictions
about the behavior of thwarted voters must also take into account the ideolog-
ical positions of the candidates, which might also vary from election to election.

Although our analysis is necessarily limited to the 2008 contest, our find-
ings nevertheless contribute to a broader understanding of the role that
primary elections play in shaping general election contests. Previous literature
mostly examines these phases in isolation or offers untested assumptions
about how they may be linked. Using a unique, new data source, we are able
to explicitly evaluate existing theoretical claims about the role of primary

attitudes and behavior in shaping voter behavior in the general election. Our analysis offers individual-level results that call into question the longstanding assumption that thwarted voters will necessarily stay home or defect to the opposing-party candidate because of hard feelings from a divisive nomination phase.

Appendix 1: Question Wording

Primary vote choice: As you may know, the 2008 presidential primary or caucus has already been held in your state. We know from talking to people about elections that a lot of people were not able to vote because they weren't registered, they were sick, or they just didn't have time. Which one of the following statements best describes you?

I did not vote in the 2008 presidential primary or caucus.
I thought about voting in the 2008 presidential primary or caucus, but didn't.
I usually vote, but didn't in the 2008 presidential primary or caucus.
I'm sure I voted in the 2008 presidential primary or caucus.

In which party's primary or caucus did you vote?

> Democratic
> Republican
> Neither
> Don't know
> Didn't vote

For whom did you vote in the Democratic primary or caucus?

> Hillary Clinton
> Barack Obama
> John Edwards
> Bill Richardson
> Joe Biden
> Chris Dodd
> Mike Gravel
> Dennis Kucinich
> Someone else (specify)
> Don't know

For whom did you vote in the Republican primary or caucus?

> Rudy Giuliani
> Fred Thompson
> John McCain

Mitt Romney
Mike Huckabee
Duncan Hunter
Ron Paul
Tom Tancredo
Someone else (specify)
Don't know

Candidate preference during the primaries (based on responses to a series of questions): As of now, how likely are you to vote in the Democratic or Republican primary or caucus for president?

Very likely
Somewhat likely
Not too likely
Not at all likely

In which party's primary or caucus are you most likely to vote? (asked to all respondents except those who reported they were "Not at all likely" to vote in the caucuses or primaries)

Democratic
Republican
Neither
Don't know
Not likely to vote

If the 2008 [Democratic/Republican] presidential primary or caucus in your state were being held today and these were the candidates, for whom would you vote?

(Respondents were presented with the names of all candidates remaining in the primary contest by the time of asking.)

Certainty of support: Are you certain to support [CANDIDATE'S NAME] for the Democratic nomination or do you think you might change your mind?

Certain to support [CANDIDATE'S NAME]
Might change my mind

Candidate preference during the general election: If the 2008 general election for president were being held today and these were the candidates, would you vote for

Barack Obama, the Democrat
John McCain, the Republican

Bob Barr, the Libertarian
Ralph Nader, the Independent
Someone else [specify]
Don't know

General election vote choice: In talking to people about elections, we often find that people are not able to vote because they weren't registered, they were sick, or they just didn't have time. Which of the following statements best describes you?

I did not vote in today's general election.
I thought about voting in today's general election, but didn't.
I usually vote, but didn't in today's general election.
I voted in today's general election.

In the election for president, for whom did you vote?
Barack Obama and Joe Biden, the Democrats
John McCain and Sarah Palin, the Republicans
Bob Barr and Wayne Allyn Root, the Libertarians
Ralph Nader and Matt Gonzales, the Independents
Someone else (specify)

Party identification: Do you consider yourself a Democrat, a Republican, an Independent, a supporter of some other party, or none of these?

Ideology: Generally speaking, do you consider yourself…

Very liberal
Somewhat liberal
Moderate
Somewhat conservative
Very conservative

Religious conservatism: Would you describe yourself as a born-again or evangelical Christian, or not? Which of the following comes closest to your views regarding the Bible?

The Bible is the actual word of God and is to be taken literally, word for word.
The Bible is the word of God, but not everything in it should be taken literally word for word.
The Bible is a book written by men and is not the word of God.
I'm not sure.

Tax attitude: Do you favor or oppose canceling the tax cuts passed since 2001 for people who are wealthy?

   Completely favor
   Somewhat favor
   Neither favor nor oppose
   Somewhat oppose
   Completely oppose

Abortion attitude: Which comes closest to your opinion on abortion? Abortion should be...

   Legal in all cases
   Legal in most cases
   Illegal in most cases
   Illegal in all cases

Iraq War attitude: Do you favor or oppose the War in Iraq?

   Strongly favor
   Somewhat favor
   Somewhat oppose
   Strongly oppose

Perception of economic hardship: How easy or difficult is it for you and your family to get ahead financially these days?

   Very easy
   Somewhat easy
   Neither easy nor difficult
   Somewhat difficult
   Very difficult

Racial attitudes: We're interested in how people feel about various groups. Please tell us whether you have a favorable or unfavorable impression of each of the following groups:

   Whites

      Extremely favorable
      Very favorable
      Somewhat favorable
      Neither favorable nor unfavorable
      Somewhat unfavorable
      Very unfavorable
      Extremely unfavorable

Blacks

Extremely favorable
Very favorable
Somewhat favorable
Neither favorable nor unfavorable
Somewhat unfavorable
Very unfavorable
Extremely unfavorable

Frustration: Do any of the following words describe how you feel about the upcoming presidential election? Check all that apply…[Frustrated]

Age:

18–29
30–44
45–59
60 or above

Education:

High school or less
Some college
College degree
Advanced degree

Income:

Less than $15,000
$15,000–$19,999
$20,000–$24,999
$25,000–$29,999
$30,000–$39,999
$40,000–$49,999
$50,000–$74,999
$75,000–$99,999
$100,000 or more

Appendix 2: Model Results

Table A1. Results for Democratic and Republican Primary Voters (standard errors in parentheses)

	Democratic primary voters			Republican primary voters
	Logit	Multinomial logit		
	McCain vote	McCain vote	Neither	McCain vote
Constant	-1.19	-0.59	-2.59	-1.64
	(1.72)	(2.02)	(3.26)	(4.47)
Education (4 category)	-0.19	-0.13	-0.10	-1.01
	(0.19)	(0.19)	(0.37)	(0.57)
Income (9 category)	-0.10	-0.09	-0.18	0.18
	(0.08)	(0.07)	(0.13)	(0.21)
Female	0.54	0.51	0.90	-0.48
	(0.44)	(0.38)	(0.76)	(0.67)
Age (4 category)	0.14	0.11	0.15	1.27*
	(0.21)	(0.20)	(0.40)	(0.60)
Hispanic ethnicity	0.73	-0.03	-0.67	1.21
	(0.48)	(0.55)	(1.23)	(0.99)
Gen. election battleground state	-0.76*	-0.76	-1.38	0.63
	(0.33)	(0.44)	(0.84)	(0.63)
Open primary state	-0.55	-0.55	0.54	1.82
	(0.37)	(0.39)	(0.82)	(1.06)
Number of candidates at time of primary	0.21	0.07	-0.18	0.00
	(0.17)	(0.31)	(0.39)	(0.51)

Table A1. *Continued*

	Democratic primary voters			Republican primary voters
	Logit McCain vote	Multinomial logit		McCain vote
		McCain vote	Neither	
Republican (Nov. 2007)	0.44	0.78	1.48	
	(0.69)	(0.74)	(1.10)	
Democrat (Nov. 2007)				-7.28*
				(2.98)
Independent (Nov. 2007)	1.05*	1.12*	-0.66	-1.68
	(0.49)	(0.42)	(1.00)	(1.10)
Primary vote for other Democrat (Edwards, Richardson, Biden, Gravel, or Kucinich)	1.02*	0.86	1.70	
	(0.34)	(0.57)	(0.93)	
Primary vote for other Republican (Huckabee, Thompson, Giuliani, Paul, or Hunter)				-3.91*
				(1.36)
Frustrated with election (April 2008)				0.62
				(0.88)
Frustrated with election (June 2008)	0.92*	0.94*	-0.30	
	(0.39)	(0.37)	(0.71)	
Ideology: Moderate (Nov. 2007)	-1.18*	-1.22*	-0.63	−0.80
	(0.48)	(0.50)	(0.99)	(0.79)
Ideology: Liberal (Nov. 2007)	-1.81*	-1.80*	-1.12	
	(0.62)	(0.59)	(1.15)	
Religious conservative (Nov. 2007)	0.04	-0.08	0.33	0.46
	(0.48)	(0.48)	(0.93)	(0.98)

Continued

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Table A1. *Continued*

	Democratic primary voters			Republican primary voters
	Logit McCain vote	Multinomial logit		McCain vote
		McCain vote	Neither	
Tax attitude (Nov. 2007)	0.18	0.23	1.27	-0.50
	(0.58)	(0.56)	(0.95)	(1.19)
Abortion attitude (Nov. 2007)	0.27	0.36	-1.70	4.96*
	(0.58)	(0.69)	(1.40)	(2.04)
Iraq attitude (Nov. 2007)	3.98*	4.03*	2.75	6.33*
	(0.92)	(0.82)	(1.59)	(1.90)
Perception of economic hardship (Nov. 2007)	-0.85	-0.91	1.09	0.27
	(0.76)	(0.82)	(1.60)	(1.83)
Negative racial attitudes (Jan.–Feb. 2008)	0.43*	0.42*	0.79*	0.76*
	(0.17)	(0.16)	(0.23)	(0.23)
N	276	291		195
PCP	81.52	79.04		95.90

NOTE.—In the standard logit models, the outcome variable is a binary indicator of general election vote choice (1 = McCain and 0 = Obama). In the multinomial logit model, the baseline category for comparison is a vote for Obama. Estimates marked with * are significant at the 0.05 level. PCP refers to the percent of the model sample correctly predicted.

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