

Effects of State-Level and US House District Electoral Competition on Interest and Participation

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## *Introduction*

How does state level electoral competition alter the composition of the participating electorate? Does electoral competition in the states and U.S. House districts have a differential potential to mobilize those with less interest in politics? Few scholars have studied “who” is mobilized by exposure to contested elections and active political campaigns. We conceptualize the potential electorate in terms of groups of people who have different levels of political interest in politics. We seek to understand the effects of electoral competition on the participation of those who are less interested in politics. Our previous work on this question (Donovan and Tolbert 2007) demonstrated that competitive elections measured at the state-level mobilize voters generally, but have a disproportionately greater effect on mobilizing younger people and people with less education.

In our previous research, we proposed that exposure to electoral competition has a greater effect on the young and less educated citizens because they have less interest in politics. We assume that for many people, some basic level of political interest is a pre-requisite for voter turnout. Other factors being held constant, we see variation in turnout across place and time as reflecting different levels of campaign mobilization effects. These effects, we expect, are most pronounced among people with less interest in politics - in part - because those with higher levels of interest are likely to participate in most elections regardless of how much interest is stimulated by campaign activity.

Our previous research relied on data from the Current Population Survey (CPS), which lacks measures of self-reported political interest and information. This, although we could demonstrate that electoral competition stimulated disproportionately greater participation among

the young and less educated, we could not fully demonstrate the two-state process we expect drives variation in participation; that of campaign activity increasing interest, and in turn, participation. In this paper, we focus on a range potential election stimuli at the US House district and statewide-level in an off-year election to model how competitive elections affect an individual's engagement with elections, and how this, in turn, affects the individual's propensity to participate in politics.

We use the 2006 Cooperative Congressional Election Survey (CCES) of 30,000 respondents for our analysis. The CCES used a large nationwide sample that provides robust samples within states. This provides a rare opportunity to model effects of campaign expenditures in U.S. House races, senate races, governor's races, sub-national elections (state legislative races, judicial) and ballot initiatives on levels of political interest at the individual level and in turn, on the probability of voting. We have merged campaign expenditure data across these contests onto the CCES data, and use multi-level models to conduct our tests.

Our findings in this paper suggest that contested, competitive US House and state-level elections generate greater awareness of candidates and generated greater interest in politics. Awareness and interest stimulated by district-level electoral competition is shown here to increase political participation. These results are important in that they help us better understand how the composition of the electorate varies as a result of electoral competition. They also demonstrate what may be lost (or gained) when US House races become more (or less) competitive. When elections are less competitive, the participating electorate is likely to be more heavily dominated by citizens who are already relatively engaged with politics. Competitive elections, in contrast, may bring alter the composition of the electorate subtly by increasing

participation among those who are only episodically engaged with politics. It remains to be seen, however, if such episodic voters have unique preferences for policy.

### *Electoral Competition and the Composition of the Electorate*

It is reasonable to expect that campaigns mobilize voters, and that this might affect the composition of the electorate. Yet there is limited research on effects of electoral competition on the composition of electorates (for exceptions, see Briens and Grofman 1999; Holbrook and McClurg 2005). Party mobilization efforts (Rosenstone and Hansen 2003) are known to be associated with higher voter turnout in the U.S. and other democracies. A large body of cross-national research also demonstrates the consistent effects that closely contested elections have on increasing voter turnout (e.g. Blais and Dobrzynska 1998; Franklin 2004). Blais (2006: 60) finds that closeness predicted turnout in 27 of 32 studies testing for the effect, yet many individual-level models of turnout in the U.S. give the mobilizing effects of elections limited attention (but see Jackson 2002; Holbrook and McClurg 2005). Although we know electoral activity can increase turnout, we know much less about who is mobilized by what.

Given observed relationships between electoral competitiveness and aggregate turnout levels, we suggest that the mobilizing forces of electoral competition may affect the demographic composition of state electorates. This part of our argument is somewhat similar to Campbell's (1966) "surge and decline thesis" which proposes that highly salient presidential elections mobilize 'peripheral' voters. Studies of 'surge and decline' find there is no evidence of significant and consistent differences in the composition of midterm and presidential electorates (for a

review see Campbell 1991). Holbrook and McClurg (2005), however, found presidential campaign activity affected the aggregate partisan composition of an electorate.<sup>1</sup>

### *Theory*

We draw on an interest-elasticity theory of voter participation (Bowler and Donovan 2008) to explain how competitive elections may alter the composition of an electorate. We assume that people with high interest respond to the costs of voting differently than people with low interest, and that elections themselves can affect levels of political interest. We expect citizens with high levels of interest to have a more elastic relationship between the "price" of voting (time, energy, information, etc.) and the propensity to participation. Conversely, those with low interest have a steeper demand curve for participation and are less sensitive to changes in the cost of voting. For such less-interested voters with a relatively inelastic demand for participation, changes in the cost of voting (i.e. election day registration) should not induce as much additional participation. Conversely, easing rules about voting (lowering costs) might increase participation among voters having a relatively elastic relationship between costs and voting (e.g. those with pre-existing interest in politics). New levels of interest stimulated by electoral competition, in contrast, may increase 'demand' for participation among those with less interest; but highly-interested voters may already have relatively high demand for participation. Disinterested voters are thus expected to be more likely to be mobilized by competitive elections generally, while interested voters are expected to be mobilized by easier voting rules (but less by

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<sup>1</sup> Campbell (1991) also reports that the 'surge' in presidential years comes from partisans of the winning party, not from "impressionable peripheral independents."

competitive elections). Some empirical results consistent with this latter expectation can be found in Briens and Grofman (1999), but a more robust empirical test is needed. For any of this to operate, however, campaign activity must act to stimulate interest, and interest stimulated by campaigns must predict variation in turnout.

### *Hypotheses*

Turnout in elections is likely a product of the quality of elections themselves. Where elections stimulate more interest and make more attempts at mobilization, citizens respond by participating. When elections are characterized by lethargic, uncompetitive contests, interest should be low, and by extension, participation weak. We propose a two-stage process to represent political participation, where campaign activity in a respondent's US House district leads to increased political awareness, knowledge and political interest. In turn, this heightened mobilization and engagement leads to increase turnout. We test this in the context of the 2006 midterm election, as US House midterm contests provide substantial variation in levels of electoral activity that Americans may be exposed to.

Exposure to varying forms of electoral competition and campaign activity should increase civic engagement and political participation, including voter turnout. Specifically exposure to competitive U.S. House races measured by dollars spent in a respondent's district should lead to increased political interest, political knowledge and forms of political participation, such as contributing money to campaigns and turnout in the election. Other forms of electoral competition and associated campaign activity, such as competitive senate and gubernatorial races and spending on ballot initiatives and referendums in a respondent's state

should also increase civic engagement and participation, though the effects may be less pronounced given that states are geographically larger than most congressional districts.

### *Data and Analysis*

We expand on previous research using American National Election Study (ANES) or Current Population Surveys (CPS) by drawing on national opinion data with large and randomly drawn samples within states and from all fifty states. Our data come from the 2006 Cooperative Congressional Election Survey conducted by Polimetrix.<sup>1</sup> The sample surveyed more than 36,500 respondents after the 2006 midterm elections with a common battery of questions comparable to the ANES or General Social Survey (GSS), but with sample sizes fifteen times larger than these other omnibus surveys. Unlike the large sample Current Population Surveys (CPS), the CCES includes a measure of partisanship, critical in testing our engagement and mobilization hypotheses. The models are estimated by clustering respondents by the 435 congressional districts in the sample to adjust the standard errors for the multilevel data. Failing to cluster respondents by geographic area has the effect of artificially reducing the size of the standard errors of the contextual variables (campaign spending in house races), which increases the chance of finding a statistically significant effect on the outcome variable when none exists (Primo et al 2007).<sup>2</sup> A detailed discussion of variable coding can be found in the appendix, so here we primarily discuss the important predictor and outcome variables. We validate our mobilization findings using the 2006 Current Population Survey (CPS) with large and randomly drawn state samples and low over reporting of voter turnout.

### *Outcome Variables*

Our primary dependent variable is a binary response variable that measures *political interest* in the 2006 congressional election. The survey instrument asks respondents, “How interested are you in politics and current affairs?” The distribution of responses to this variable was such that we collapsed the responses so that a 1 was coded “very much interested” and 0 if the respondent said they were somewhat or not interested in politics. We measure *political knowledge* in a variety of ways, including general political knowledge and specific awareness and knowledge of candidates in the respondent’s congressional district. *General political knowledge* is measured using a 3-point ordinal scale summing responses to two factual questions about which party controls the U.S. House of Representatives and the U.S. Senate after the 2006 elections.<sup>3</sup> Respondents who could correctly name the party controlling both the House and Senate were coded 2, if they could only correctly answer one question they were coded 1 and if neither answer was correct they were coded 0.

The CCES survey also included a battery of specific questions about the congressional candidates in 2006. Respondents were asked if they had heard of the Republican candidate running in their district. They were also asked if they had heard of the Democratic candidate running in their district. These two variables were summed to create a three-point ordinal variable of *awareness of congressional candidates* where a 0 meant the respondent had not heard of either candidate, a 1 they had heard of one of the two candidates and a 2 both of the candidates. In the sample, 6% had heard of neither candidate, 44.5% had heard of one candidate and 49% had heard of both congressional candidates. As a follow-up respondents were asked to place both the Democratic and Republican House candidates on an ideological scale. Those who could place the candidates on an ideological scale exhibited knowledge of the candidates. In the



sample 56% could place candidate 1 on an ideological scale and 56% could place candidate 2, but there was variation among individual respondents to these questions. Responses to these questions were summed to create a second three-point ordinal scale labeled *can place house candidates* with 25% of the sample unable to place either candidate, 38% willing to place one but not the other on a scale, and 37% willing to place both candidates. Finally, we assume individuals contacted by candidates or campaigns will be more interested and knowledgeable about politics. We measure political contacting by a question that asks, “During the November election campaign, did a candidate, party organization, or other organization contact you to get you to vote?” A response of yes was coded 1, and 0 for no.

A second set of key outcome variables measure levels of political participation in the election. *Contributing money* to politics is an important form of active participation. Respondents were asked “During the past year did you donate money to any candidates for office or to political party committees?” A response of yes was coded 1 and 0 for no. In our sample 29% had donated money to candidates or parties while 71% had not. The survey asked respondents whether they had voted in the election. *Turnout* was coded 1 if the respondent reported voting and 0 for otherwise.<sup>4</sup> Following previous research we create a scale of *political participation* based on responses to three questions to protect against over-reporting of voting in surveys. To score a three on the political participation index one must have donated money to a campaign, tried to persuade someone how to vote<sup>5</sup> and voted in the election. Finally, we use a series of instrumental variables where exposure to electoral competition is assumed to increase political interest and knowledge, and the predicted probabilities from these first stage equations are used to estimate the probability of voting in a second stage equation.

### *Predictor Variables*

The primary explanatory variables measure exposure to competitive races or associated campaign spending. We measure campaign spending (disbursements) in the respondent's US House district in the 2006 election cycle in dollars with raw data from the Federal Election Commission (FEC). Since all congressional districts have comparable population, this variable is standardized in its raw form. We also measure total spending per capita on ballot initiatives and referendums in the respondent's state in 2006 with expenditure data from [www.followthemoney.org](http://www.followthemoney.org). Following previous research we assume exposure to salient ballot measures should increase political engagement and participation (Smith and Tolbert 2004). Spending in US Senate races is measured by total disbursements in the 2006 election cycle divided by the state population to create a per capita measure. The *competitiveness of gubernatorial and senate races* in a respondent's state is measured as 1 minus the vote margin between the top two candidates on the ballot.<sup>6</sup> Because the measures of senate races are moderately correlated, in the CCES analysis we use senate race vote margin rather than spending. In models predicting political participation, barriers to voting in the form of registration requirements have been found to be important (Wolfinger and Rosenstone 1980). The *closing date to register to vote* is measured by the number of days required to register to vote before the election in the respondent's state. The sample includes both registered and non-registered voters given that we are estimating civic engagement.

We also collected and merged into the survey data measures of spending in subnational races in 2006, including expenditures in state legislative races (state house and state senate), judicial races and gubernatorial races using [www.followthemoney.org](http://www.followthemoney.org). However, these data are incomplete and missing responses for a number of states with other states only partially

complete. Including these additional variables does not change the findings we report here but lowers the number of cases due to missing data. Models with these additional control variables are available from the authors.

The models include standard demographic and ideology controls. Partisanship is measured on a seven-point scale with binary variables for strong and weak Republicans and Democrats with pure independents and leaning independents as the reference category. The models include covariates for gender, age, education, income, race/ethnicity, union membership, ideology, frequency of church attendance (Putnam 2000), marital status, military status and voter registration laws in the respondent's state. See appendix for question wording and variable coding.

#### *Findings: Multivariate Models 2006 CCES*

We estimate multivariate logistic regression models—given that in most cases the dependent variable is a binary outcome—to assess the effect of our campaign spending variables on the probability of engagement with the election. Alternatively we estimate ordered logistic regression models when the dependent variable is ordinal. We estimate the models using Huber-White robust standard errors and by weighting observations using the Polimetrix survey weights.<sup>7</sup>

Table 1 reports tests of the effect of electoral competition on forms of civic engagement, specifically interest in politics (column 1) and political knowledge (column 2). In column 3 the dependent variable is whether the respondent was contacted during the election, which we assume will be higher if areas with increased electoral competition. In each model spending in the respondent's congressional district is a positive and statistically significant predictor of

increased engagement in politics (90% confidence interval), controlling for other factors known to increase engagement in politics. Similarly residing in a state with a competitive senate race is associated with increased interest in politics, political knowledge and the probability of being contacted (mobilization) during the election. Beyond candidate races, residing in a state with higher spending per capita on ballot initiatives and referendums lead to increased interest in politics, a finding consistent with some recent research (Tolbert and Bowen 2008).

Table 2 presents parallel tests of electoral competition and campaign spending on political participation, and the results are even more robust. Residing in a congressional district with greater spending is a positive predictor of donating money to a party or candidate (column 1), voting in the 2006 election (column 2), and increased political participation generally (column 3). All forms of electoral competition lead to increased participation in the midterm election, including competitive governor's races in a respondent's state, competitive senate races and more spending in initiative and referendum campaigns. These results hold after controlling for a host of known demographic (age, education, income) and attitudinal predictors (partisanship, ideology) of participation, including registration closing date in the respondent's state.

Control variables reported in Tables 1 and 2 are in the expected direction and are generally statistically significant, with strong and weak partisans more engaged than independents, and liberals and conservatives more engaged than the reference category, moderates. Blacks, Latinos and Asians reported lower levels of engagement than the reference category non-Hispanic whites. The older, more educated and affluent report increased levels of engagement in politics. Military status increases the likelihood of all forms of political engagement, as expected.

To understand the substantive magnitude of the statistical effects reported in Tables 1 and 2 we estimate the predicted probability of being interested in politics, contacted during the election, donating money in the congressional election, or high political participation, holding all variables in the models at their mean or modal values using Monte Carlo simulations. This allows us to report standard errors for our estimated probabilities. Table 3 shows that varying spending in a respondent's congressional district from minimum to maximum values increases the probability of being very interest in politics and current affairs by approximately 5%. The same change results in similar modest (4%) increases in the probability of donating money to a candidate or party and high political participation (voted, donated money and tried to persuade someone else how to vote). An individual's probability of being contacted during the election rises 15%, however. The lion's share of the change in engagement occurs when individuals reside in the most competitive House districts, and when spending in congressional races increases from mean to maximum levels.

Individuals, however, are also exposed to other campaign effects during the course of a midterm election from senate and gubernatorial races to salient ballot measures in their state. Table 4 replicates the simulations in Table 3 but simultaneously varies exposure to competitive congressional races, senate races, gubernatorial races and spending on ballot initiatives and referendums. The combined effect of exposure to competitive races (varying from minimum to maximum) leads to significant increases in engagement in politics: 14% increased probability of being very interested in the election, 25% increased probability of being contacted during the election, 12% increased probability of donating money to a party of candidate and 16% probability of high political participation.

To put these numbers in context Table 5 provides a baseline for comparison. Using the same Clarify simulations, it shows the change in the probability of being interested in politics (column 1) when varying standard demographic factors, such as education, age and income. For example, varying education from its minimum value (no high school degree) to its maximum (post-graduate degree) results in a .38 increased probability of being very interested in politics. Varying education from a high school graduate to a college graduate leads to a .23 increased probability of being very interested. Thus a positive 14% change from exposure to competitive elections is roughly a third of the size of formal education from its minimum to maximum value, or more than half the effect of formal education from a high school to college degree. This is substantial. Similarly, varying income from its minimum value (less than \$10,000 a year) to its maximum (over \$150,000 per year) leads to a .30 increased probability of being very interested in politics. Again, the effect of exposure to competitive elections is half the magnitude of wealth. Exposure to competitive elections swamps the effect of ideology and is roughly a third of the size of partisanship. Table 5 shows the effect of these demographic factors on the probability of donating money in the election and political participation as well.

### *Modeling a Two-Stage Causal Process*

The 2006 CCES included a unique series of questions asking about awareness and knowledge of the congressional candidates running in each respondent's district, discussed above. These models are estimated using ordered logistic regression. Only 378 US House districts had two candidates running in the 2006 election and are included in this part of the analysis. Table 6 (columns 1 and 2) show that individuals with increased spending in their house district (i.e. competitive congressional races) were significantly more likely to be aware of both

candidates running for Congress in their district and were able to place these candidates on an ideological scale from 0 to 100. That is, they had some basic information about the congressional candidates in the race. This finding dovetails with those reported in Table 1.

Table 6 about here

Instrumental variables were created from the predicted probability of being aware of both House candidates and being able to place both candidates on an ideological scale (specific political knowledge). An instrumental variable was also created for being very interested in politics from the model shown in Table 1, column 1. These instrumental variables are used as the primary explanatory variable to predict voting in the 2006 election. The results are reported in Table 6, columns 3, 4 and 5. In each case we see that increased spending in an individual's congressional district lead to more awareness of the congressional candidates, political knowledge about the candidates and political interest, which in turn increased the probability of voting. These data provide evidence to support the key causal mechanism we report in the paper. *Exposure to increased electoral competition and campaign activity boosts political knowledge and interest, which in turn increased the probability of voting.* Of particular importance given the absence of a presidential election is spending in an individual's congressional district. Since only a handful of congressional districts are highly competitive in any given election (14 of 435 seats were won with a vote margin of 5% or less in 2004), we suggest that increasing the competitiveness of congressional races could significantly boost engagement and participation in politics, even in off-year elections.

*Remodeling Turnout: 2006 Current Population Survey*

Over-reporting of turnout plagues most opinion surveys, including the CCES, but is minimized using the very large sample Current Population Surveys with 100,000 respondents and a minimum of 1,000 respondents per state. We replicate our models of turnout reported in Table 2, column 2, using the 2006 CPS. To analyze the probability that a person reported voting in the 2006 elections multilevel modeling (HLM 6.0) is used. Multilevel models account for the error structures at both the individual and state level, allowing for valid estimates of contextual effects. In our models, individuals (level 1) are nested, or reside within states (level 2). Individual demographic factors compose the level 1 model, while measures of state context are included in the level 2 model. The estimation strategy of multilevel modeling borrows strength from other level 2 units and improves our ability to draw inferences about state-level effects by allowing the intercept term and the effects of some variables (age and education) to vary by state. Because the CPS does not include a geographic identifier for all cases below the state level, we could not match individuals by congressional district. Thus the CPS is not ideal for measuring the effect of US House races on mobilization, but is useful for analyzing the effect of US Senate, gubernatorial and ballot measures on turnout.

Table 7 reports the results of our multilevel modeling tests. The baseline model in column 1 shows that individuals residing in states with increased spending in Senate races and on initiatives and referendums (per capita) were significantly more likely to vote in the 2006 election, as were those residing in states with more competitive gubernatorial races. The registration closing date in a respondent's state is not a significant predictor of turnout in midterm elections. These robust findings hold even after controlling for a battery of demographic factors. Since the CPS does not include a variable measuring political interest we use individual



education as a proxy. These campaign spending variable are interacted (cross-level interactions) by the education of the respondent as an additional test in column 2. We see that more spending on ballot initiatives and senate races, as well as more competitive governor's races increases turnout of the low educated (see base term for the three electoral competitive variables, which is the effect of increased federal candidate and initiative spending when education is set to low—Jaccard et al 1990). This is further evidence that the lesser-educated may have the greatest likelihood of increased turnout when exposed to more campaign spending. This is consistent with our hypothesis that electoral activity has a larger effect on turnout among people who have less interest in politics.

Results in Table 7 also illustrate the problem with using CPS data to model the effects of US House District-level campaign activity. Lacking a zip code or location-specific identifier for respondents, we are forced to represent the effects of campaign activity in US House races with a relatively blunt instrument: the total spending in House races in a state per capita. Using this measure, we are unable to replicate our results showing effects of district-level campaign spending on interest and turnout. We expect this discrepancy stems from the inability of the CPS data to capture the effects of exposure to campaign activity within congressional districts.

### *Discussion*

We find that competitive elections are a contextual force associated with individual turnout. We illustrate how the effects of the electoral context a citizen resides in - namely, exposure to competitive forces that stimulate political interest and mobilize voters - should be seen as variable across time and place. In any given place, at any point in time, a unique set of elections may stimulate a voter's interest: US House races, state legislative races, contests for

statewide office, and ballot measures. Absent the over-arching mobilizing effects of a presidential contest, variation in competition at the US House level appears to have substantial power explaining who is interested in politics, and thus, who votes. The more competitive House races are, the more likely it is that people less-interested in politics may vote. We suggest that the effects of simultaneous exposure to multiple competitive elections may be cumulative.

This study has implications for broader discussions about turnout. Much previous research highlights the important effects on turnout of registration laws. Our results illustrate that laws placing barriers to voting are only part of the story about why so many people fail to vote. Increased convenience of voting may have modest effects on turnout and on mitigating existing bias in who participates (Fitzgerald 2005; Berinsky 2005). Barriers to voting declined substantially after 1960, yet turnout (with the exception of 2004) was consistently lower after the 1960s. Incumbent advantages and the geographic distributions of partisans has reduced the scope of exposure to competitive elections in the U.S. since then. There were far fewer competitive U.S. House races by 2000 than in previous decades.

We suggest election reforms that may increase competition in US House races, such as legislative redistricting, changes to campaign finance regimes, and even modified forms of proportional representation, may increase turnout overall and alter the composition of the electorate. We concur with Franklin's suggestion (2004:3) that "the idea that declining turnout is due largely to 'something about citizens' runs counter to some very obvious facts." Low turnout may have as much to do with the character of elections as with the character of citizens. People vote for various reasons, with one important reason being interest generated by elections. Compared to 40 years ago, a greater proportion of Americans now reside in places where the electoral context is likely to offer little mobilizing effects from presidential and congressional

campaigns. We have demonstrated the importance of such exposure, and suggest this may be one reason for lower levels of turnout since the 1960s.

**Table 1: Impact of District-level Electoral Competition in 2006 Political Engagement**

|   | Very Interested in the Election                |          | Political Knowledge                             |          | Contacted During the Election by Party or Candidate |         |
|---|--|----------|---|----------|---|---------|
|   | B (S.E.)                                       | p        | $\beta$ (S.E.)                                  | p        | $\beta$ (S.E.)                                      | p       |
| <b>Competitive Elections</b>                    |  |          |   |          |   |         |
| Spending in U.S. House District                 | 1.510 <sup>-08</sup><br>(.910 <sup>-08</sup> ) | (0.048)* | 2.690 <sup>-08</sup><br>(1.660 <sup>-08</sup> ) | (0.052)* | 1.17 <sup>-07</sup><br>(.167 <sup>-07</sup> )       | (0.000) |
| Competitive Governor Race                       | 0.020<br>(0.059)                               | (0.733)  | -0.086<br>(0.071)                               | (0.227)  | 0.114<br>(0.080)                                    | (0.151) |
| Competitive Senate Race                         | 0.152<br>(0.060)                               | (0.012)  | 0.321<br>(0.086)                                | (0.000)  | 0.170<br>(0.065)                                    | (0.009) |
| Spending Initiatives and Referendums Per Capita | 0.017<br>(0.007)                               | (0.011)  | -0.004<br>(0.011)                               | (0.703)  | 0.043<br>(0.008)                                    | (0.000) |
| <b>Control Variables</b>                        |  |          |   |          |   |         |
| Strong Democrat                                 | 0.285<br>(0.060)                               | (0.000)  | 0.776<br>(0.099)                                | (0.000)  | 0.358<br>(0.058)                                    | (0.000) |
| Strong Republican                               | 0.340<br>(0.065)                               | (0.000)  | 0.100<br>(0.089)                                | (0.258)  | 0.279<br>(0.068)                                    | (0.000) |
| Weak Republican                                 | -0.802<br>(0.061)                              | (0.000)  | -0.278<br>(0.085)                               | (0.001)  | 0.139<br>(0.066)                                    | (0.036) |
| Weak Democrat                                   | -0.752<br>(0.058)                              | (0.000)  | 0.207<br>(0.090)                                | (0.021)  | 0.052<br>(0.057)                                    | (0.358) |
| Black   | -0.706<br>(0.068)                              | (0.000)  | -0.131<br>(0.104)                               | (0.208)  | -0.404<br>(0.065)                                   | (0.000) |
| Latino  | -0.384<br>(0.070)                              | (0.000)  | -0.221<br>(0.102)                               | (0.030)  | -0.380<br>(0.067)                                   | (0.000) |
| Asian   | -0.959<br>(0.192)                              | (0.000)  | -0.649<br>(0.265)                               | (0.015)  | -0.627<br>(0.185)                                   | (0.001) |
| Education                                       | 0.355<br>(0.017)                               | (0.000)  | 0.273<br>(0.026)                                | (0.000)  | 0.133<br>(0.015)                                    | (0.000) |
| Married   | -0.265<br>(0.043)                              | (0.000)  | -0.117<br>(0.064)                               | (0.065)  | 0.114<br>(0.042)                                    | (0.007) |
| Age   | 0.025<br>(0.001)                               | (0.000)  | 0.017<br>(0.002)                                | (0.000)  | 0.034<br>(0.002)                                    | (0.000) |
| Liberal Ideology                                | 0.407<br>(0.053)                               | (0.000)  | 0.106<br>(0.080)                                | (0.184)  | 0.074<br>(0.051)                                    | (0.142) |
| Conservative Ideology                           | 0.400<br>(0.047)                               | (0.000)  | 0.129<br>(0.076)                                | (0.090)  | 0.020<br>(0.056)                                    | (0.721) |
| Income  | 0.128<br>(0.007)                               | (0.000)  | 0.124<br>(0.010)                                | (0.000)  | 0.071<br>(0.007)                                    | (0.000) |
| Frequency of Church                             | -0.025   | (0.132)  | -0.017  | (0.488)  | 0.090   | (0.000) |

|                              |         |         |         |         |         |         |
|------------------------------|---------|---------|---------|---------|---------|---------|
| Attendance                   |         |         |         |         |         |         |
|                              | (0.017) |         | (0.024) |         | (0.017) |         |
| Military or Military Veteran | 0.463   | (0.000) | 0.276   | (0.000) | -0.057  | (0.231) |
|                              | (0.054) |         | (0.077) |         | (0.047) |         |
| Constant/Cut 1               | -2.499  | (0.000) | -.145   |         | -2.212  | -2.212  |
|                              | (0.114) |         | (.190)  |         | (0.120) | (0.000) |
| Cut 2                        |         |         | .982    |         |         |         |
|                              |         |         | (.123)  |         |         |         |
| Pseudo R Square              | .13     |         | .06     |         | .07     |         |
| Wald $\chi^2$                | 1922.55 | (.000)  | 488.24  | (.000)  | 1273.16 | (.000)  |
| Number of Observations       | 19226   | 19226   | 17989   | 17989   | 22245   | 22245   |

Note: The dependent variable is interested in politics in column 1, political knowledge (3 point index) column 2, and whether the respondent was contacted during the election column 3. Unstandardized logistic regression coefficients (columns 1 and 3) and ordered logistic regression coefficients (columns 2) with robust standard errors in parentheses. Standard errors adjusted by clustering cases by 435 congressional House districts in the sample. Probabilities based on two-tailed significance tests. Models estimated using Polimetrix survey weights. \*One-tailed significance test reported for these covariates.

*Source:* Cooperative Comparative Election Study (CCES) 2006 conducted by Polimetrix.

**Table 2: Impact of District-level Electoral Competition in 2006 on Political Participation**

|   | Donated Money to Candidate or Campaign |         | Voted in the Election   |         | Index of Political Participation |         |
|---|--|---------|-------------------------|---------|----------------------------------|---------|
|   | $\beta$ (S.E.)                         | p       | $\beta$ (S.E.)          | p       | $\beta$ (S.E.)                   | p       |
| Spending in U.S. House District                 | 2.690 <sup>-08</sup>                   | (0.001) | 3.710 <sup>-08</sup>    | (0.032) | 1.980 <sup>-08</sup>             | (0.021) |
|   | (.839 <sup>-08</sup> )                 |         | (1.739 <sup>-08</sup> ) |         | (.860 <sup>-08</sup> )           |         |
| Competitive Governor Race                       | 0.120                                  | (0.048) | 0.210                   | (0.011) | 0.192                            | (0.000) |
|   | (0.061)                                |         | (0.082)                 |         | (0.052)                          |         |
| Competitive Senate Race                         | 0.021                                  | (0.702) | 0.399                   | (0.000) | 0.188                            | (0.000) |
|   | (0.054)                                |         | (0.084)                 |         | (0.049)                          |         |
| Spending Initiatives and Referendums Per Capita | 0.011                                  | (0.036) | 0.040                   | (0.000) | 0.021                            | (0.000) |
|   | (0.005)                                |         | (0.010)                 |         | (0.004)                          |         |
| <b>Control Variables</b>                        |  |         |                         |         |                                  |         |
| Strong Democrat                                 | 0.557                                  | (0.000) | 0.854                   | (0.000) | 0.593                            | (0.000) |
|   | (0.054)                                |         | (0.093)                 |         | (0.047)                          |         |
| Strong Republican                               | 0.563                                  | (0.000) | 0.657                   | (0.000) | 0.491                            | (0.000) |
|   | (0.056)                                |         | (0.098)                 |         | (0.049)                          |         |
| Weak Republican                                 | -0.289                                 | (0.000) | -0.122                  | (0.135) | -0.317                           | (0.000) |
|   | (0.062)                                |         | (0.081)                 |         | (0.048)                          |         |
| Weak Democrat                                   | -0.086                                 | (0.136) | -0.078                  | (0.314) | -0.170                           | (0.000) |
|   | (0.057)                                |         | (0.077)                 |         | (0.047)                          |         |
| Black   | -0.621                                 | (0.000) | -0.462                  | (0.000) | -0.578                           | (0.000) |
|   | (0.069)                                |         | (0.099)                 |         | (0.054)                          |         |
| Latino  | -0.179                                 | (0.009) | -0.492                  | (0.000) | -0.229                           | (0.000) |
|   | (0.069)                                |         | (0.100)                 |         | (0.051)                          |         |
| Asian   | -0.094                                 | (0.710) | -0.669                  | (0.003) | -0.456                           | (0.006) |
|   | (0.253)                                |         | (0.223)                 |         | (0.167)                          |         |
| Education                                       | 0.214                                  | (0.000) | 0.413                   | (0.000) | 0.243                            | (0.000) |
|   | (0.015)                                |         | (0.026)                 |         | (0.013)                          |         |
| Married   | -0.254                                 | (0.000) | -0.082                  | (0.169) | -0.242                           | (0.000) |
|   | (0.040)                                |         | (0.060)                 |         | (0.034)                          |         |
| Age   | 0.039                                  | (0.000) | 0.046                   | (0.000) | 0.023                            | (0.000) |
|   | (0.001)                                |         | (0.002)                 |         | (0.001)                          |         |
| Liberal Ideology                                | 0.484                                  | (0.000) | 0.154                   | (0.026) | 0.443                            | (0.000) |
|   | (0.046)                                |         | (0.069)                 |         | (0.042)                          |         |
| Conservative Ideology                           | 0.060                                  | (0.180) | 0.128                   | (0.089) | 0.153                            | (0.000) |
|   | (0.045)                                |         | (0.075)                 |         | (0.040)                          |         |
| Income  | 0.179                                  | (0.000) | 0.127                   | (0.000) | 0.136                            | (0.000) |
|   | (0.007)                                |         | (0.011)                 |         | (0.006)                          |         |
| Frequency of Church Attendance                  | 0.015                                  | (0.290) | 0.160                   | (0.000) | 0.053                            | (0.000) |

|                               |         |         |         |         |         |         |
|-------------------------------|---------|---------|---------|---------|---------|---------|
|                               | (0.014) |         | (0.023) |         | (0.012) |         |
| Military or Military Veteran  | 0.136   | (0.002) | 0.230   | (0.004) | 0.186   | (0.000) |
|                               | (0.045) |         | (0.079) |         | (0.037) |         |
| Labor Union Family            | 0.252   | (0.000) |         |         |         |         |
|                               | (0.036) |         |         |         |         |         |
| Closing Date to Register Vote |         |         | -0.003  | 0.470)  | -0.004  | -0.004  |
|                               |         |         | (0.003) |         | (0.002) | (0.115) |
| Constant/ Cut 1               | -5.195  | -5.195  | -2.850  | -2.850  | .5622   | .113    |
|                               | (0.117) | (0.000) | (0.188) | (0.000) |         |         |
| Cut 2                         |         |         |         |         | 2.548   | .111    |
| Cut 3                         |         |         |         |         | 4.622   | .115    |
| Pseudo R Square               | .12     |         | .14     |         | .06     |         |
| Wald $\chi^2$                 | 2160.70 | (0.000) | 1203.77 | (0.000) | 2331.87 | (0.000) |
| Number of Observations        | 23143   | 23143   | 23490   | 23490   | 22937   | 22937   |

*Note:* The dependent variable is contributing money to politics in column 1, individual turnout in the 2006 elections column 2, and an index of participation including voting in column 3. Unstandardized logistic regression coefficients (columns 1 and 2) and ordered logistic regression coefficients (columns 3) with robust standard errors in parentheses. Standard errors adjusted by clustering cases by 435 congressional House districts in the sample. Probabilities based on two-tailed significance tests. Models estimated using Polimetrix survey weights.

*Source:* Cooperative Comparative Election Study (CCES) 2006 conducted by Polimetrix.

**Table 3: Predicted Probability of Engagement and Participation in the 2006 Elections; by Spending in US House Races**

| Spending in Congressional Race in Respondent's District | Very Interested in the Election | Contacted by a Campaign or Candidate | Donated Money to a Party or Candidate | High Political Participation (3 on 0-3 Index) |
|---|---------------------------------|--------------------------------------|---------------------------------------|---|
| Min (\$181,051)   | .63<br>(.009)                   | .77<br>(.008)                        | .23<br>(.006)                         | .18<br>(.005)                                 |
| Low (-1 SD from mean, \$107,867)                        | .63<br>(.009)                   | .77<br>(.008)                        | .23<br>(.006)                         | .19<br>(.005)                                 |
| Average Spending (\$ 1,872,536)                         | .65<br>(.007)                   | .80<br>(.006)                        | .24<br>(.006)                         | .19<br>(.004)                                 |
| High (+1 SD from mean, \$ 3,637,205)                    | .66<br>(.008)                   | .83<br>(.007)                        | .24<br>(.006)                         | .20<br>(.005)                                 |
| Max (\$11,100,000)                                      | .68<br>(.02)                    | .92<br>(.01)                         | .27<br>(.02)                          | .22<br>(.01)                                  |
| Change from min to max                                  | <b>+.05</b>                     | <b>+.15</b>                          | <b>+.04</b>                           | <b>+.04</b>                                   |

*Note:* Values in parentheses are standard errors. Variables set at mean or modal values, ideology set at moderate. To score a 3 on the political participation index one must have donated money to a campaign, tried to persuade someone how to vote and voted in the election. Probabilities estimated with *Clarify* software.

**Table 4: Predicted Probability of Engagement and Participation in the 2006 Elections; by Combined Exposure to Competitive Races**

| Combined Exposure to Competitive Races (Initiatives, Senate, Congressional, Gov) | Very Interested in the Election | Contacted by a Campaign or Candidate | Donated Money to a Party or Candidate | High Political Participation (3 on 0-3 Index) |
|--|---------------------------------|--------------------------------------|---------------------------------------|---|
| Min  | .61<br>(.01)                    | .72<br>(.01)                         | .21<br>(.01)                          | .15<br>(.007)                                 |
| Mean   | .65<br>(.008)                   | .80<br>(.006)                        | .24<br>(.006)                         | .19<br>(.004)                                 |
| Max  | .75<br>(.03)                    | .97<br>(.007)                        | .33<br>(.03)                          | .31<br>(.02)                                  |
| Change from min to max   | <b>+.14</b>                     | <b>+.25</b>                          | <b>+.12</b>                           | <b>+.16</b>                                   |

*Note:* Values in parentheses are standard errors. Variables set at mean or modal values, ideology set at moderate, respondent not in labor union. To score a 3 on the political participation index one must have donated money to a campaign, tried to persuade someone how to vote and voted in the election. Probabilities estimated with *Clarify* software.



**Table 5: Change in the Probability of Engagement and Participation in the 2006 Elections; by Demographic and Attitudinal Factors**

| <b>Change from minimum to maximum</b>       | Very Interested in the Election | Contacted by a Campaign or Candidate | Donated Money to a Party or Candidate | High Political Participation (3 on 0-3 Index) |
|---|---------------------------------|--------------------------------------|---------------------------------------|---|
| Education (no high school to post-grad)     | +0.38<br>(.01)                  | +0.10<br>(.008)                      | +0.19<br>(.01)                        | +0.18<br>(.004)                               |
| Income (less than \$10 to more than \$150k) | +0.30<br>(.01)                  | +0.11<br>(.01)                       | +0.33<br>(.01)                        | +0.21<br>(.004)                               |
| Age (18-90)                                 | +0.39<br>(.01)                  | +0.37<br>(.01)                       | +0.55<br>(.01)                        | +0.27<br>(.01)                                |
| Moderate to Liberal                         | +0.08<br>(.008)                 | +0.01<br>(.006)                      | +0.10<br>(.01)                        | +0.08<br>(.005)                               |
| Weak to Strong Partisan                     | +0.42<br>(.01)                  | +0.04<br>(.007)                      | +0.12<br>(.01)                        | +0.11<br>(.005)                               |

*Note:* Values in parentheses are standard errors of the first differences. Variables set at mean or modal values, ideology set at moderate, exposure to competitive elections set at mean. To score a 3 on the political participation index one must have donated money to a campaign, tried to persuade someone how to vote and voted in the election. Probabilities estimated with *Clarify* software.

**Table 6: Two-stage Model of Participation in 2006: Predicted as a Function of Awareness and Interest Generated by District-level Campaign Spending**

|   | <i>First Stage Models</i>                  |         |   |         | <i>Second Stage Models</i> |         |                       |         |                       |                  |
|---|--|---------|---|---------|----------------------------|---------|-----------------------|---------|-----------------------|------------------|
|   | Aware of US House Candidates in District   |         | Can Place House Candidates on Ideological Scale |         | Voted in the Election      |         | Voted in the Election |         | Voted in the Election |                  |
|   | $\beta$ (S.E.)                             | p       | $\beta$ (S.E.)                                  | p       | $\beta$ (S.E.)             | p       | $\beta$ (S.E.)        | p       | $\beta$ (S.E.)        | p                |
| Spending in U.S. House District                               | .547 <sup>6</sup><br>(.432 <sup>-7</sup> ) | (0.000) | .315 <sup>-6</sup><br>(.239 <sup>-7</sup> )     | (0.000) |                            |         |                       |         |                       |                  |
| Probability of Awareness both House Candidates <sup>a</sup>   |  |         |   |         | .407<br>(.164)             | (0.013) |                       |         |                       |                  |
| Probability of Information both House Candidates <sup>b</sup> |  |         |   |         |                            |         | .547<br>(.251)        | (0.029) |                       |                  |
| Probability of Very Interested in politics <sup>c</sup>       |  |         |   |         |                            |         |                       |         | 7.290<br>(.844)       | (0.000)          |
| <b>Control Variables</b>                                      |  |         |   |         |                            |         |                       |         |                       |                  |
| Strong Democrat   | 0.239<br>(0.049)                           | (0.000) | 0.360<br>(0.043)                                | (0.000) | 0.834<br>(0.092)           | (0.000) | 0.815<br>(0.093)      | (0.000) | 0.408<br>(0.101)      | (0.000)          |
| Strong Republican   | 0.143<br>(0.051)                           | (0.005) | 0.286<br>(0.047)                                | (0.000) | 0.644<br>(0.099)           | (0.000) | 0.624<br>(0.100)      | (0.000) | 0.130<br>(0.114)      | (0.254)          |
| Weak Republican   | -0.156<br>(0.050)                          | (0.002) | -0.239<br>(0.045)                               | (0.000) | -0.108<br>(0.082)          | (0.188) | -0.097<br>(0.083)     | (0.245) | 1.180<br>(0.176)      | (0.000)          |
| Weak Democrat   | -0.143<br>(0.051)                          | (0.005) | -0.203<br>(0.048)                               | (0.000) | -0.066<br>(0.078)          | (0.396) | -0.058<br>(0.078)     | (0.457) | 1.140<br>(0.161)      | (0.000)          |
| Black   | -0.636<br>(0.067)                          | (0.000) | -0.381<br>(0.055)                               | (0.000) | -0.409<br>(0.103)          | (0.000) | -0.425<br>(0.102)     | (0.000) | 0.615<br>(0.166)      | (0.000)          |
| Latino  | -0.627<br>(0.074)                          | (0.000) | -0.202<br>(0.056)                               | (0.000) | -0.440<br>(0.102)          | (0.000) | -0.472<br>(0.100)     | (0.000) | 0.159<br>(0.119)      | (0.181)          |
| Asian   | -0.630<br>(0.193)                          | (0.001) | -0.361<br>(0.166)                               | (0.030) | -0.620<br>(0.223)          | (0.005) | -0.634<br>(0.223)     | (0.004) | 0.816<br>(0.273)      | (0.003)          |
| Education   | 0.131<br>(0.014)                           | (0.000) | 0.144<br>(0.012)                                | (0.000) | 0.402<br>(0.026)           | (0.000) | 0.398<br>(0.027)      | (0.000) | -0.129<br>(0.065)     | (0.047)          |
| Married   | 0.083<br>(0.039)                           | (0.032) | 0.039<br>(0.033)                                | (0.234) | -0.089<br>(0.060)          | (0.135) | -0.086<br>(0.060)     | (0.148) | 0.320<br>(0.073)      | (0.000)<br>0.007 |
| Age   | 0.018<br>(0.001)                           | (0.000) | 0.016<br>(0.001)                                | (0.000) | 0.044<br>(0.002)           | (0.000) | 0.044<br>(0.002)      | (0.000) | 0.007<br>(0.005)      | (0.126)          |
| Liberal Ideology  | 0.047<br>(0.046)                           | (0.306) | 0.101<br>(0.040)                                | (0.011) | 0.150<br>(0.069)           | (0.030) | 0.143<br>(0.070)      | (0.040) | -0.486<br>(0.102)     | (0.000)          |
| Conservative Ideology   | 0.092<br>(0.041)                           | (0.025) | 0.254<br>(0.039)                                | (0.000) | 0.121<br>(0.076)           | (0.110) | 0.101<br>(0.077)      | (0.190) | -0.508<br>(0.103)     | (0.000)          |
| Income  | 0.020                                      | (0.002) | 0.045   | (0.000) | 0.125                      | (0.000) | 0.122                 | (0.000) | -0.068                | (0.005)          |

|   |         |        |         |        |         |         |         |         |         |         |
|---|---------|--------|---------|--------|---------|---------|---------|---------|---------|---------|
|   | (0.007) |        | (0.005) |        | (0.011) |         | (0.011) |         | (0.024) |         |
| Frequency of Church Attendance                  |         |        |         |        | 0.160   | (0.000) | 0.160   | (0.000) | 0.194   | (0.000) |
|   |         |        |         |        | (0.022) |         | (0.023) |         | (0.023) |         |
| Military  |         |        |         |        | 0.230   | (0.004) | 0.230   | (0.004) | -0.481  | (0.000) |
|   |         |        |         |        | (0.079) |         | (0.079) |         | (0.111) |         |
| Closing Date to Register                        |         |        |         |        | -0.002  | (0.472) | -0.003  | (0.463) | -0.002  | (0.652) |
| Competitive Senate Race                         |         |        |         |        | 0.400   | (0.000) | 0.399   | (0.000) |         |         |
|   |         |        |         |        | (0.084) |         | (0.084) |         |         |         |
| Competitive Governor Race                       |         |        |         |        | 0.213   | (0.010) | 0.210   | (0.011) |         |         |
|   |         |        |         |        | (0.083) |         | (0.082) |         |         |         |
| Spending Initiatives and Referendums Per Capita |         |        |         |        | 0.040   | (0.000) | 0.040   | (0.000) |         |         |
| Constant/ Cut 1                                 | -.515   |        | 1.041   |        | -2.863  | (0.000) | -2.806  | (0.000) | -2.426  | (0.000) |
|   | (.117)  |        | (.090)  |        | (0.188) |         | (0.186) |         | (0.167) |         |
| Cut 2   | 2.422   |        | 2.78    |        |         |         |         |         |         |         |
|   | (.126)  |        | (.097)  |        |         |         |         |         |         |         |
| Pseudo R Square                                 | .11     |        | .06     |        | .14     |         | .14     |         | .14     |         |
| Wald $\chi^2$                                   | 685.76  | (.000) | 1018.19 | (.000) | 1204.70 | (.000)  | 1200.91 | (.000)  | 1294.79 | (.000)  |
| Number of Observations                          | 25225   | 25225  | 24501   | 24501  | 23490   | 23490   | 23490   | 23490   | 23490   | 23490   |

<sup>a</sup> Predicted probability of being aware of both US House candidates from first stage model reported in column 1.

<sup>b</sup> Predicted probability of information about both US House candidates from first stage model reported in column 2.

<sup>c</sup> Predicted probability of being very interested in politics from Table 1, Column 1.

*Note:* In columns 1 and 2 the dependent variables are awareness and information about US House candidates. In columns 3 - 5 the dependent variables is self-reported turnout in 2006. Unstandardized ordered logistic regression coefficients (columns 1 and 2) and logistic regression coefficients (columns 3-5) with robust standard errors in parentheses. Standard errors adjusted by clustering cases by 378 congressional districts in the sample. Probabilities based on two-tailed significance tests. Models estimated using Polimetrix survey weights.

*Source:* Cooperative Comparative Election Study (CCES) 2006 conducted by Polimetrix.

**Table 7: Probability of Voting in the 2006 Elections, Predicted by Electoral Competition in a Respondent's State. Multilevel Models using Current Population Survey.**

| <i>State Level</i>   | <b>Baseline Model</b> |           | <b>Interaction Model</b> |           |
|--|-----------------------|-----------|--------------------------|-----------|
|  | Coef. (S.E.)          | p         | Coef. (S.E.)             | p         |
| Competitiveness of Senate Race                               | .074 (.087)           | .398      | .075 (.087)              | .392      |
| Senate Spending Per Capita                                   | .010 (.004)           | .012      | .015 (.004)              | .002      |
| Total Spending House Races Per Capita                        | .008 (.026)           | .772      | .008 (.026)              | .769      |
| Initiative and Referendum Spending Per Capita                | .027 (.007)           | .001      | .021 (.010)              | .035      |
| Competitiveness of Governor Race                             | .261 (.106)           | .018      | .280 (.144)              | .057      |
| Registration Closing Date                                    | -.003 (.003)          | .355      | -.003 (.003)             | .345      |
|  | -5.194                |           | -5.210                   |           |
| Level 2 Intercept  | (.160)                | .000      | (.175)                   | .000      |
| <i>Individual Level</i>                                      |                       |           |                          |           |
| Age  | .042 (.004)           | .000      | .042 (.004)              | .000      |
| Age Squared  | -.00008<br>(.00004)   | .025      | -.00008<br>(.00004)      | .024      |
| Education  | .210 (.005)           | .000      | .212 (.007)              | .000      |
| Education * Competitiveness of Governor Race                 |                       |           | -.003 (.011)             | .800      |
| Education * Senate Spending Per Capita                       |                       |           | -.001 (.001)             | .300      |
| Education * Initiative and Referendum Spending Per<br>Capita |                       |           | .001 (.001)              | .525      |
| Income   | .046 (.003)           | .000      | .046 (.003)              | .000      |
| Married  | .322 (.025)           | .000      | .322 (.025)              | .000      |
| Male   | -.058 (.016)          | .001      | -.058 (.016)             | .001      |
| Child  | -.014 (.031)          | .661      | -.014 (.031)             | .661      |
| Black  | .256 (.069)           | .000      | .255 (.069)              | .000      |
| Latino   | -.171 (.050)          | .001      | -.172 (.051)             | .001      |
| Asian  | -.833 (.123)          | .000      | -.833 (.123)             | .000      |
| Urban  | -.023 (.040)          | .564      | -.023 (.040)             | .562      |
| Suburban   | -.077 (.032)          | .016      | -.077 (.032)             | .016      |
| Residential Mobility   | .798 (.030)           | .000      | .798 (.030)              | .000      |
| Military   | .126 (.028)           | .000      | .126 (.028)              | .000      |
| Government Worker  | .454 (.029)           | .000      | .454 (.029)              | .000      |
| Management   | .225 (.028)           | .000      | .225 (.028)              | .000      |
| Professional   | .248 (.028)           | .000      | .248 (.028)              | .000      |
| Service  | .073 (.029)           | .014      | .073 (.029)              | .014      |
| Sales  | .174 (.032)           | .000      | .174 (.032)              | .000      |
| Secretarial  | .221 (.034)           | .000      | .221 (.034)              | .000      |
| Farming  | .078 (.134)           | .561      | .079 (.134)              | .557      |
| Transportation   | -.130 (.050)          | .010      | -.130 (.050)             | .010      |
| <i>Random Effects</i>  |                       |           |                          |           |
| Level 1 Intercept / Variance Component                       |                       | .135***   |                          | .141***   |
| Education  |                       | .00057*** |                          | .00063*** |

|                     |           |           |
|---------------------|-----------|-----------|
| Age                 | .00002*** | .00002*** |
| Level 1 N           | 75188     | 75188     |
| Level 2 N           | 50        | 50        |
| Likelihood Function | -105988   | -106017   |

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*Note:* The dependent variable is coded 1 if the respondent reported voting, and 0 otherwise. Hierarchical linear models estimated using HLM 6.0. Random coefficient models using a Bernoulli distribution and logit link function. Population-average model with unstandardized logistic regression coefficients and robust standard errors in parentheses. Models were run to convergence. Reliability estimates for random effects (level 1 intercept, age and education) above critical threshold. Probabilities based on two-tailed significance test. *Source:* Current Population Surveys.

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## Endnotes

<sup>1</sup> This sample is constructed using a technique called sample matching. The researchers create a list of all U.S. consumers to generate a set of demographic characteristics that should be mirrored in the survey sample. Then, using a matching algorithm, the researchers select respondents who most closely resemble the consumer data from a pool of opt-in participants. The sample is stratified to ensure large samples within states. More information regarding sample matching is available at [http://web.mit.edu/polisci/portl/cces/material/sample\\_matching.pdf](http://web.mit.edu/polisci/portl/cces/material/sample_matching.pdf). These data were collected over a three-month period from September to November of 2006 (Ansolabehere 2007).

<sup>2</sup> The models are estimated by clustering respondents by state to adjust the standard errors for the multilevel data. Because of the use of survey weights, HLM 6.0 cannot be utilized.

<sup>3</sup> V4069: “Based on the overall results of the election, which party will have the most seats after the newly elected U.S. Senate is sworn in?” V4066: “Based on the overall results of the election, which party will have the most seats after the newly elected U.S. House of Representatives?” Responses included the Democrats, Republicans and Not Sure. For both questions “Democrat” was coded as the correct answer.

<sup>4</sup> In any election some people are not able to vote because they are sick or busy or have some other reason, and others do not want to vote. How about you? Did you vote in the election held on Tuesday, November 7, 2006?” Coded as 1 if yes and 0 if No.

<sup>5</sup> Discussing politics is an important form of engagement. The survey asked “During the past three months, did you try to persuade anyone else to vote or how to vote?” A response of yes was coded 1 and 0 for no.

<sup>6</sup> *Competitive Senate Race (1-vote margin)*- The difference between the percent of votes for the winner and the percent for the loser are turned into decimals, by placing the difference in the formula  $1-(\% \text{ for winner} - \% \text{ for runner up})$ . *Competitive Gubernatorial Race (1-vote margin)*- The difference between the percent of votes for the winner and the percent for the loser are turned into decimals, by placing the difference in the formula  $1-(\% \text{ for winner} - \% \text{ for runner up})$ .

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<sup>7</sup> The use of CCES survey weights prevents us from estimating the models using hierarchical linear modeling.