

Media Use Measures for the ANES 2007-9 Panel Study

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The degree to which people seek and retain information about politics is a key variable for understanding why people think, feel, and act as they do politically. Yet while learning from campaigns has long been of interest to political scientists going back to Lazarsfeld's work at Columbia, the difficulty of tracking the individual-level development of campaign knowledge still leaves us uncertain about how attitudes, perceptions, and affective reactions to events and candidates develop over time in the context of campaigns. Ample evidence suggests that reliance on different media sources and processing goals should affect campaign learning in different ways, but the traditional ANES media use measures—developed mainly in the early 1980s—are not only out of step with this growing body of evidence, but poorly mapped onto a contemporary media environment that has undergone radical transformation over the past two decades.

The design of the ANES 2007-9 Panel Study will offer unparalleled insight into these processes if it includes appropriate instrumentation for documenting individual-level changes in primary sources of campaign information as well as the underlying cognitive goals that lead respondents to acquire certain types of information in particular ways. We propose a novel battery of information acquisition measures that leverages the causal power of the 2007-9 panel study design, corrects for known shortcomings in the traditional ANES items, and better integrates the ANES instrumentation with key theoretical constructs developed by social psychologists for understanding how new information is used to construct and defend political attitudes.

Adapting to a Changed Media Environment

The 2004 American National Election Studies contained a battery of eight media exposure items. However, these traditional items suffer from two important limitations. First, because these items have been added and adjusted at different points in time over the last 25 years, the questions for different media are often inconsistently worded and thus difficult to compare.¹ Second, the existing media exposure questions are unevenly distributed across the contemporary media environment, with a heavy emphasis on newspapers and television programs but little coverage of the Internet or radio news sources. During the average 15-

¹ For example, one question assesses the number of days in the past week that the respondent was exposed to national network news on television; another asks whether people have been exposed to political talk radio, which excludes other forms of news exposure on the radio and does not measure that exposure as days in the past week; a third exposure question asks whether the respondent has access to the Internet or the World Wide Web, without asking how frequently the respondent uses the Internet or whether the respondent uses the Internet to keep up with news.

minute block of the weekday drivetime period, approximately two percent of American adults are listening to news formats on commercial radio stations and another three-quarters of a percent are listening to news programming on public radio stations. Although this average combined drivetime audience for commercial and public radio news is twice the size of the average audience for primetime news programming on CNN, Fox, and MSNBC combined (Althaus, 2007), the ANES currently has no media exposure question for news programs on radio. Likewise, Pew surveys show that nearly a quarter of Americans went online for news every day in 2006, but the ANES still lacks a question designed to capture general patterns of weekly news exposure on the Internet.²

Integrating Current Theories of Information Processing

The new media options available today have segmented citizens into media products generating different types of political content. Not only have the content options on cable television differentiated along ideological lines (Pew Research Center, 2004), but the radio and online news environments are rapidly changing as well, with increased diversity of information flows as a result. Understanding where and how people learn about politics today may be just as important as knowing what they learn, because we now understand that the effects of campaign learning are conditioned both by cognitive processing goals and by the likelihood that citizens actively consider and reflect on the information they find.

Cognitive processing goals. The literature in psychology has frequently identified two meta-goals that help determine how people seek, acquire, and process information. Kruglanski (1990) has referred to the domains as *hypothesis generation* and *validation*. When hypothesis generation is the dominant processing goal, people avoid closure in their thinking and seek to continually test and refine their opinions in the pursuit of judgmental accuracy (e.g., Chaiken, Liberman, & Eagly, 1989). When validation is the dominant processing goal, people seek rapid closure in their thinking that encourages them to avoid exposure to potentially dissonant information. The growing popularity of partisan information sources in the new media environment suggests that researchers will increasingly need to rely on individual-level measures of information processing goals to predict what people will do with the availability of partisan information.

Elaboration likelihood. In addition to assessing whether people may be drawn to particular types of news content, it seems increasingly important that researchers assess what people will do with campaign information once they receive it. For the purpose of predicting how much knowledge is acquired from exposure to information, communication researchers have been looking at news elaboration. The greater the likelihood of cognitive elaboration on news content, the greater the likelihood of knowledge retention and subsequent changes in beliefs, attitudes, and behaviors resulting from news exposure (Eveland, 2002).

² In 2004 a question about use of online newspapers was added, and in 2004 the average respondent reported visiting an online newspaper site two days per week. However, online newspapers represent only a fraction of the political information sources available on the Internet. A broader question is clearly warranted.

As current dual-process theories of attitude change like the elaboration-likelihood model (Petty & Wegener, 1999) and the heuristic-systematic model (Chaiken & Eagly, 1993; Chen & Chaiken, 1999) propose that the effect of any piece of information depends on the amount of active thought given to it, a measure of elaboration likelihood should be a core feature of any research design that aims to understand how people use information to update attitudes and shape perceptions.

A New Approach to Measuring Information Exposure

We propose that the panel study incorporate a range of exposure measures that include radio and Internet news sources. More importantly, we propose that the panel study document the basic cognitive orientations of citizens toward political information, orientations that influence not only whether citizens will seek out campaign news but also how citizens use the information they acquire. The goals of this new approach are fivefold:

1. Fielding an internally consistent battery of media exposure questions
2. Modifying the traditional battery of media exposure measures to better map the current contours of the media landscape
3. Collecting information about the relative priority of campaign news sources for each respondent
4. Identifying the information processing goals that should determine how information exposure is related to changes in beliefs, values, attitudes, and behaviors
5. Determining the likelihood that respondents elaborate on what they've received from the news

Our proposed measurement strategy was partially tested in the 2006 ANES pilot study. As will be discussed below, the results of this trial run recommend a more complete implementation of this approach in the ANES 2007-9 panel study.

Media Exposure Items

We propose a media exposure battery consisting of five items: one question to determine the information sources most commonly used by citizens to track campaign news, and four additional questions to track weekly exposure to the four most popular news media in the United States.

The first question is a branching question that captures the main sources of political news used by respondents, before any other media exposure questions are asked. This question, based on an item used by the Pew Research Center, asks people to report their main sources of information about the campaign for president. This question is not designed to quantify exposure, but rather to

prioritize and record the most important sources from which people feel they are getting information about the election. It should matter to people's perceptions of politics whether they depend more on cable news channels or network broadcasts, just as it should matter if they primarily rely on National Public Radio or Rush Limbaugh.

A recent analysis of this question found that respondent perceptions of primary information sources sometimes shift rapidly in response to new events, and that these perceptions are independent of actual exposure levels. For instance, the percentage naming newspapers as a primary information source drop precipitously in times of national crisis even though newspaper readership rates are unaffected by such crises (Althaus, 2007). This suggests that determining which news medium is perceived as a primary source for campaign news cannot be tracked reliably with exposure measures alone, but require a separate question asking respondents to prioritize among the news media that they normally follow.

The other five proposed questions extend the traditional "how many days per week" media use and conversation measures to include not only television and newspapers but also radio news and the Internet. The four media use items were tested in the 2006 ANES pilot study and found to yield a superior map of media exposure patterns compared to traditional ANES questions (correlations between the 2004 and 2006 measures are reported in Table A). The average pilot study respondent reported seeking news sources on the Internet 2.5 days per week (s.d. = 2.8), reading a newspaper 3.7 days per week (s.d. = 2.8), watching television news programs 5.2 days per week (s.d. = 2.3), and listening to radio news 3.0 days per week (s.d. = 2.7).

Consistent with the recent trends toward audience specialization, only two of the four exposure measures were correlated with one another at conventional levels of significance (Table C): after controlling for political knowledge and a range of demographic variables, there remained a slight positive relationship between newspaper and television news exposure ($\beta = .21, p < .01$) and a slight negative relationship between newspaper and Internet news exposure ($\beta = -.11, p < .05$). Moreover, regression analysis revealed that political knowledge was positively and significantly related to Internet, newspaper, and radio news exposure even after controlling for partisan identification, partisan extremity, education, income, gender, and race (Table D).

Measuring only newspaper and television exposure is clearly an inadequate strategy for understanding patterns of information acquisition today. This conclusion is underscored by additional pilot study findings regarding differences in the perceived issue positions of the 2004 presidential candidates and the two major political parties (Table D). Regression analysis shows that newspaper and Internet news exposure had no consistent relationship with the perceived issue distances of candidates and parties after controlling for political knowledge levels and a host of other variables. Television news exposure was significantly associated with smaller perceived issue distances between candidates and

parties, while radio news exposure was significantly associated with larger perceived issue distances between candidates. Even after controlling for political knowledge levels, the apparent issue stances of political actors were more polarized in the minds of radio audiences but more homogenized in the minds of television news audiences.

In addition to the potential influences of media exposure on information gains and perceptions of the major players, the pilot study data show that patterns of media exposure correlate with political behavior in different ways (Table F). Using Internet news sites was positively and significantly related to frequency of political talk, an index of campaign involvement, and an index of community involvement, but reading newspapers was not. Exposure to television and radio news was positively related to frequency of political talk, but not significantly so to voter turnout. Exposure to newspapers was a significant correlate of voter turnout, but turnout was not related to exposure to the other media.

In sum, the pilot study data confirm that (1) citizens are distributing themselves broadly among the four major media offerings, (2) they tend to specialize in particular media rather than giving equal levels of attention to several, and that while (3) exposure to all three out of four major media was positively related to political knowledge—only television news exposure was unrelated—(4) perceptions of candidates and parties as well as different forms of political participation were associated with exposure to different types of information outlets.

If these relationships are not accurately captured in the ANES 2007-9 Panel Study, we will miss an important opportunity to delve beyond these correlations and clarify the causal relationships between media exposure, information gain, and information use. More importantly, cross-sectional data like the 2006 ANES pilot study cannot rule out selection bias as a factor in the apparent effects of exposure to different media. Certain kinds of people may be drawn to radio more than the Internet, and the different perceptions of radio listeners could be due to their reasons for following that medium rather than exposure to the medium itself. The multi-wave structure of the ANES 2007-9 panel study can clearly reveal whether perceptions start out being polarized or become so only after repeated exposure to particular kinds of news media. To the media exposure measures tested in the 2006 ANES pilot study we have added the politics conversation measures used in prior ANES studies (2004 ANES, V045153 and V045153a), converted to the single-question format we propose for the media measures. Capturing the contributions of political conversation is a sensible complement to our efforts to assess media use.

Processing Goals and Elaboration Likelihood

Kruglanski and colleagues (Kruglanski, Webster, & Klem, 1993; Webster & Kruglanski, 1994) developed and validated a Need for Closure scale with several

subscales for tracing the impact of processing goals on a variety of judgmental tasks. Decisiveness and closed-mindedness are two subscales that seem particularly well suited for assessing individual-level processing goals in the ANES. Both represent defensive processing goals and should therefore be associated with increased polarization of perceptions about candidates and parties. The 2006 pilot study included single-item measures from each of these subscales (see Table B for correlations between these measures, other available cognitive style indicators, and political knowledge). Although single-item measures are noisy, and despite the small N of the preliminary pilot data (n=579 for the regression analyses reported here), the initial findings suggest merit in including longer and more reliable subscales into the 2007-9 panel study. As predicted, decisiveness was positively and significantly related to the perceived issue distances between candidates and parties, even after controlling for close-mindedness, political knowledge and media exposure (Table D). Likewise, close-mindedness had a marginally significant positive relationship with perceived party distance, and a nonsignificant but positive relationship with perceived candidate distance.

If defensive processing goals reliably predict greater perceived issue distances between candidates and parties, then elaboration likelihood should be associated with smaller perceived issue distances, as accuracy goals lead citizens to reflect at greater length and detail upon the campaign information they have received. One of the most influential and widely-tested measures of elaboration likelihood is Cacioppo and Petty's (1982) Need for Cognition scale. The 2004 ANES included an item from this scale that could be used to test this expected relationship (Table B contains correlations between this item and other cognitive style indicators as well as political knowledge).³ After controlling for political knowledge, media exposure, and a host of demographic controls, need for cognition was negatively associated with perceived party distance, but in the case of perceived candidate distance this same relationship was just outside marginal levels of significance (Table D).

In short, the pilot study data confirm the usefulness of measuring processing goals and elaboration likelihood along with media exposure, for the three variables contribute differently (and independently) to individual-level patterns of knowledge acquisition and use.

Conclusion

We propose a new strategy for measuring information acquisition and information retention that is more consonant with important developments in social psychological research on information processing, and likely to be better suited than the traditional ANES measures to the new media environment of the

³ The item used to represent Need for Cognition is the 5-category V045220a. The V045221 variable is also taken from the Need for Cognition scale, but its dichotomized response stem makes it an inferior measure on reliability grounds, and this variable correlates at only .53 with the former. Since combining these items would produce a Cronbach's alpha of only .67, we elected to use the 5-category operationalization instead.

21st century. To establish baseline levels of media exposure and track how those patterns change over the course of the campaign, we propose including the battery of five media use questions in wave 1 (September 2007), wave 10 (June 2008), and wave 14 (October 2008). Short five-question scales measuring decisiveness, close-mindedness, and need for cognition could be spread throughout the remaining waves, as these scales measure stable personality traits and are not expected to be time-sensitive. Since these scales are non-political in nature, they could even be included in the non-ANES waves of the panel. But if they were put into ANES waves, we would recommend measuring decisiveness in wave 13 (September 2008), need for cognition in wave 15 (November 2008) and close-mindedness in wave 21 (May 2009). This would ensure that one measure of defensive processing and the stand-alone measure of elaboration likelihood are included in pre-election waves.

Proposed Questions for the 2007-2009 NES Panel Study in Order of Presentation

Media Exposure (adapted from 2006 ANES Pilot Study and Pew)

- 1) How have you been getting most of your information about the campaign for president? From television, from newspapers, from radio, from the Internet, or from some other source?
 - * Interviewers would record up to two responses. If only one response is given, the interviewer would probe for an additional response.
 - * If the respondent says “other,” the interviewer records a verbatim identification of the source.
 - * For each medium named, further prompts should be given
 - a) If response is television (or satellite or cable):
 1. On television, do you get most of your news about the campaign for President from (randomize order) local news programming, ABC Network news, CBS Network news, NBC Network news, CNN Cable news, MSNBC Cable news, the Fox News Cable Channel, CNBC Cable news, or The News Hour on PBS?
 - b) If response is newspapers
 1. Is that a local or national newspaper, or both?
 - c) If response is radio
 1. Is that mainly a news program or one that encourages people to share their opinions on current events, public issues, and politics?
 - d) If response is Internet
 1. Is that mainly a news site or one that encourages people to share their opinions on current events, public issues, and politics?

Now, on another subject...

2) During a typical week, how many days do you watch news on TV?

* Interviewers record the number of days (range 0 to 7).

3) During a typical week, how many days do you listen to news on the radio?

* Interviewers record the number of days (range 0 to 7).

4) During a typical week, how many days do you watch or read news on the Internet?

* Interviewers record the number of days (range 0 to 7).

5) During a typical week, how many days do you read news in a printed newspaper?

* Interviewers record the number of days (range 0 to 7).

6) During a typical week, how many days do you discuss politics with your family or friends?

* Interviewers record the number of days (range 0 to 7).

Decisiveness Scale Note: A revised version of Item 8 was asked in the 2006 ANES Pilot Study.

I'd like to read you a few statements about public life. I'll read them one at a time. Please tell me how strongly you agree or disagree with each of them.

7) I tend to struggle with most decisions (r). Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?

1. Agree strongly
2. Agree somewhat
3. Neither agree nor disagree
4. Disagree somewhat
5. Disagree strongly

8) I would describe myself as indecisive (r). Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?

- 9) I usually make important decisions quickly and decisively. Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?
- 10) When trying to solve a problem I often see so many possible options that it's confusing (r). Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?
- 11) When faced with a problem I usually see the one best solution very quickly. Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?

Closed-Mindedness Scale Note: A revised version of Item 12 was asked in the 2006 ANES Pilot Study.

- 12) When thinking about a problem, I consider as many different opinions on the issue as possible (r)

1. Agree strongly
2. Agree somewhat
3. Neither agree nor disagree
4. Disagree somewhat
5. Disagree strongly

- 13) When considering most conflict situations, I can rarely see how both sides could be right
- 14) I always see many different solutions to problems I face (r)
- 15) I do not usually consult many different opinions before forming my own view
- 16) Even after I've made up my mind about something, I am always eager to consider a different opinion (r)

Need for Cognition Scale (Adapted from Cacioppo and Petty, 1982) Note: Item 16 and the follow-up branch were asked in the 2004 ANES.

- 17) Some people like to have responsibility for handling situations that require a lot of thinking, and other people don't like to have responsibility for situations like that. Do you like having responsibility for handling situations that require a lot of thinking, do you dislike it, or do you neither like it nor dislike it?

- a) If the respondent says he/she likes situations requiring lots of thinking/If respondent says he/she dislikes situations requiring lots of thinking: Do you [like/dislike] it a lot or just somewhat?

1. Dislike strongly
2. Dislike somewhat
3. Neither like nor dislike
4. Like somewhat
5. Like strongly

- 18) Some people prefer to solve simple problems instead of complex ones, whereas other people prefer to solve more complex problems. Do you like solving simple problems, do you dislike it, or do you neither like it nor dislike it? (r)
- 19) Some people prefer thinking abstractly, while other people enjoy thinking in more concrete terms. Do you like thinking abstractly, do you dislike it, or do you neither like it nor dislike it?
- 20) Some people only like to think as hard as they have to, while other people like to think as hard as they can. Do you like to think as hard as you can, do you dislike it, or do you neither like it nor dislike it?
- 21) Some people would rather do something that requires little thought, while others would rather do something that is sure to challenge their thinking abilities. Do you like doing things that require little thought, do you dislike it, or do you neither like it nor dislike it? (r)

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Appendix A

Preliminary Analyses of 2006 ANES Pilot Study Data, with Variable Definitions

Table A: Correlations among News Exposure Measures

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|-------------------------------|-------|--------|--------|------|-------|-------|-------|
| 1. Internet Use 2006 | | | | | | | |
| 2. Newspaper Use 2006 | -.03 | | | | | | |
| 3. TV News Use 2006 | -.08* | .22** | | | | | |
| 4. Radio Use 2006 | .03 | .08* | -.06 | | | | |
| 5. Newspaper Use 2004 | .10* | .67** | .13** | .08* | | | |
| 6. Online Newspaper Use 2004 | .45** | -.13** | -.11** | .03 | .06* | | |
| 7. TV News Use 2004 Pre-Wave | .07† | .18** | .44** | -.06 | .20** | .01 | |
| 8. TV News Use 2004 Post-Wave | -.04 | .22** | .56** | -.06 | .20** | -.06* | .50** |

† p<.10 * p<.05 ** p<.01

All measures are scored in days per week.

Table B: Correlations among Various Cognitive Style Indicators

| | 1. | 2. | 3. | 4. | 5. |
|----------------------------------|-------|-------|------|------|-------|
| 1. Need for Cognition | | | | | |
| 2. Partisan Extremity | .09** | | | | |
| 3. Decisiveness ^a | .11** | .04 | | | |
| 4. Close-mindedness ^a | .05 | -.00 | .02 | | |
| 5. Political Knowledge | .25** | .22** | -.01 | .01 | |
| 6. Time of Voting Decision | .04 | .26** | -.05 | -.01 | .13** |

† p<.10 * p<.05 ** p<.01

^a Item appeared in the 2006 pilot study. Unmarked variables were administered in the 2004 ANES study.

Table C: Predictors of 2006 News Exposure

| | Internet Use (Days/Wk) | Newspaper Use (Days/Wk) | TV News Use (Days/Wk) | Radio Use (Days/Wk) |
|-------------------------|---------------------------|----------------------------|--------------------------|------------------------|
| Internet Use (Days/Wk) | ... | -.110* | -.031 | -.043 |
| Newspaper Use (Days/Wk) | -.107* | ... | .214** | .067 |
| TV News Use (Days/Wk) | -.03 | .213** | ... | -.050 |
| Radio Use (Days/Wk) | -.04 | .062 | -.047 | ... |
| Need for Cognition | .085* | -.006 | -.035 | .015 |
| Decisiveness | -.030 | .009 | .033 | -.015 |
| Close-mindedness | .030 | -.057 | -.151** | .042 |
| Adj. R ² = | .126 | .102 | .100 | .045 |
| N= | 579 | 579 | 579 | 579 |

† p<.10 * p<.05 ** p<.01

Cells contain standardized (beta) coefficients from a multiple OLS regression model. All equations also control for political knowledge, party identification, partisan extremity, gender, education, income, and race (coefficients not shown). Media use, decisiveness, and close-mindedness measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Table D: Political Knowledge and Perceived Issue Distances Separating Presidential Candidates and National Parties

| | Average Candidate Distance | Average Party Distance | Political Knowledge |
|-------------------------|----------------------------------|------------------------------|------------------------|
| Internet Use (Days/Wk) | .037 | .028 | .133** |
| Newspaper Use (Days/Wk) | -.046 | -.029 | .119** |
| TV News Use (Days/Wk) | -.074* | -.128** | .054 |
| Radio Use (Days/Wk) | .084* | .050 | .119** |
| Need for Cognition | -.057 | -.078* | .052 |
| Decisiveness | .083* | .077* | -.022 |
| Close-mindedness | .045 | .059† | -.024 |
| Adj. R ² = | .301 | .373 | .378 |
| N= | 579 | 579 | 579 |

† p<.10 * p<.05 ** p<.01

Cells contain standardized (beta) coefficients from a multiple OLS regression model. The first two equations also control for political knowledge, party identification, partisan extremity, gender, education, income, and race (coefficients not shown). The third controls for all but political knowledge, which is used as the dependent variable. Media use, decisiveness, and close-mindedness measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Table E: Correlates of 2004 Interest and Attention Measures

| | Campaign Interest (Pre) | Campaign Interest (Post) | Attention to News about Government | Attention to News about the Campaign |
|-------------------------|-------------------------------|--------------------------------|--|---|
| Internet Use (Days/Wk) | .055 | .023 | .072† | .093* |
| Newspaper Use (Days/Wk) | .076* | -.008 | .151** | .035 |
| TV News Use (Days/Wk) | .0124** | .081* | .112** | .155** |
| Radio Use (Days/Wk) | .094* | .055 | .027 | .043 |
| Need for Cognition | .044 | .100* | .079* | .084* |
| Decisiveness | -.034 | .030 | -.002 | .014 |
| Close-mindedness | .055 | .068† | .060† | .000 |
| Adj. R ² = | .260 | .233 | .321 | .198 |
| N= | 579 | 579 | 576 | 579 |

† p<.10 * p<.05 ** p<.01

Cells contain standardized (beta) coefficients from a multiple OLS regression model. All equations also control for political knowledge, party identification, partisan extremity, gender, education, income, and race (coefficients not shown). Media use, decisiveness, and close-mindedness measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Table F: Correlates of Participation Measures (Criterion Variables)

| | Frequency of Political Talk | Campaign Activity Index | Community Involve- ment Index | 2004 Turnout | 2006 Turnout |
|---------------------------------------|-----------------------------------|-------------------------------|-------------------------------------|-----------------|-----------------|
| Internet Use (Days/Wk) | .158** | .091* | .120** | -.047 | .000 |
| Newspaper Use (Days/Wk) | .043 | -.006 | .060 | .044 | .142** |
| TV News Use (Days/Wk) | .098* | .002 | .044 | .006 | .078 |
| Radio Use (Days/Wk) | .113** | .037 | .070† | .000 | .060 |
| Need for Cognition | .047 | .026 | .089* | .388 | -.251 |
| Decisiveness | -.023 | .032 | -.004 | -.549 | .237 |
| Close-mindedness | .036 | .000 | .054 | .002 | .312 |
| Adj. R ² = Model chi-sq | .147 | .142 | .118 | 88.559** | 112.581* |
| N= | 579 | 579 | 576 | 579 | 579 |

† p<.10 * p<.05 ** p<.01

Cells in first four columns contain standardized (beta) coefficients from a multiple OLS regression model; cells in last two columns contain logistic regression coefficients. All equations also control for political knowledge, party identification, partisan extremity, gender, education, income, and race (coefficients not shown). Media use, decisiveness, and close-mindedness measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Appendix B

Variable Construction Showing Stata Command Syntax

Need for Cognition (2004 post)

```
recode V045220a (5=0) (4=.25) (3=.5) (2=.75) (1=1),  
gen(like_think)
```

PID extremity (2004 pre)

```
gen pid_extremity=0  
replace pid_extremity=1 if V043116==2 | V043116==4  
replace pid_extremity=2 if V043116==1 | V043116==5  
replace pid_extremity=3 if V043116==0 | V043116==6
```

Decisiveness and Close-mindedness (2006 pilot)

```
mvdecode Mod3_6 Mod3_8, mv(8,9)  
recode Mod3_6 (5=0) (4=.25) (3=.5) (2=.75) (1=1),  
gen(decisiveness)  
recode Mod3_8 (5=0) (4=.25) (3=.5) (2=.75) (1=1),  
gen(closemindedness)
```

Political Knowledge Index [number of items=9, Cronbach's alpha=.71]

```
gen unemp_rate=0  
replace unemp_rate =1 if V043101==1  
  
gen majority_house=0 if V041001~=0  
replace majority_house=1 if V045089==5  
gen majority_senate=0 if V041001~=0  
replace majority_senate=1 if V045090==5  
  
gen richpoor_gap=0 if V041001~=0  
replace richpoor_gap=1 if V045113==1  
  
gen party_cons=0 if V041001~=0  
replace party_cons=1 if V045160a==5  
  
gen office_hastert=0 if V041001~=0  
replace office_hastert=1 if V045162==1  
  
gen office_cheney=0 if V041001~=0  
replace office_cheney=1 if V045163==1  
  
gen office_blair=0 if V041001~=0  
replace office_blair=1 if V045164==1
```

```
gen office_rehn=0 if V041001~=0
replace office_rehn=1 if V045165==1
```

```
gen zinfo=(unemp_rate + majority_house + majority_senate +
richpoor_gap + party_cons + office_hastert + office_cheney +
office_blair + office_rehn )/9
```

Time of Voting Decision (2004 post)

[Note: time of decision between pres'l candidates in months prior to election day, from midpoints of V045027]

```
mvdecode V045027, mv(87, 88, 89)
```

```
recode V045027 (1=9) (2=6.5) (11=6.5) (3=4) (4=3) (5=2)
(6=1.5) (7=1) (8=.5) (9=.25) (10=.03), gen(decision_time)
```

Average Candidate and Party Issue Distance

```
mvdecode V043087 V043088 V043090 V043091 V043138 V043139
V043140 V043141 V043144 V043145 V043146 V043147 V043154
V043155 V043156 V043157 V043160 V043161 V043162 V043163
V043184 V043185 V043198 V043199 V043200 V043201 V045126
V045127 V045128 V045129 V045130 V045131 V045130, mv(8, 9)
```

```
mvdecode V045134 V045135 V045136 V045137 V045138 V045139,
mv(7, 8, 9)
```

```
gen ideol_cand=0
replace ideol_cand=1 if V043087>V043088
gen ideol_cand_dist=abs(V043087-V043088)
replace ideol_cand_dist=0 if ideol_cand_dist==.
```

```
gen ideol_party=0
replace ideol_party =1 if V043090<V043091
gen ideol_party_dist =abs(V043090-V043091)
replace ideol_party_dist =0 if ideol_party_dist==.
```

```
gen spend_cand=0
replace spend_cand=1 if V043138<V043139
gen spend_cand_dist=abs(V043138-V043139)
replace spend_cand_dist=0 if spend_cand_dist==.
```

```
gen spend_party=0
replace spend_party=1 if V043140>V043141
gen spend_party_dist=abs(V043140-V043141)
replace spend_party_dist =0 if spend_party_dist ==.
```

```
gen defense_cand_dist=abs(V043144-V043145)
replace defense_cand_dist =0 if defense_cand_dist ==.
gen defense_party_dist=abs(V043146-V043147)
replace defense_party_dist =0 if defense_party_dist ==.
```

```
gen joblive_cand_dist=abs(V043154-V043155)
replace joblive_cand_dist =0 if joblive_cand_dist ==.
gen joblive_party_dist=abs(V043156-V043157)
replace joblive_party_dist =0 if joblive_party_dist ==.
```

```
gen blkaid_cand_dist=abs(V043160-V043161)
replace blkaid_cand_dist =0 if blkaid_cand_dist ==.
gen blkaid_party_dist=abs(V043162-V043163)
replace blkaid_party_dist =0 if blkaid_party_dist ==.
```

```
gen envjobs_cand_dist=abs(V043184-V043185)
replace envjobs_cand_dist =0 if envjobs_cand_dist ==.
```

```
gen women_cand_dist=abs(V043198-V043199)
replace women_cand_dist =0 if women_cand_dist ==.
gen women_party_dist=abs(V043200-V043201)
replace women_party_dist =0 if women_party_dist ==.
```

```
gen intervene_cand_dist=abs(V045126-V045127)
replace intervene_cand_dist =0 if intervene_cand_dist ==.
gen intervene_party_dist=abs(V045130-V045131)
replace intervene_party_dist =0 if intervene_party_dist ==.
```

```
gen abort_cand_dist=abs(V045134-V045135)*1.75
replace abort_cand_dist =0 if abort_cand_dist ==.
gen abort_party_dist=abs(V045138-V045139)*1.75
replace abort_party_dist =0 if abort_party_dist ==.
```

```
gen combined_cand_dist= (ideol_cand_dist+ spend_cand_dist +
defense_cand_dist + joblive_cand_dist + blkaid_cand_dist +
envjobs_cand_dist + women_cand_dist + intervene_cand_dist+
abort_cand_dist)/9
```

```
gen combined_party_dist= (ideol_party_dist+ spend_party_dist+
defense_party_dist+ joblive_party_dist+ blkaid_party_dist+
women_party_dist+ intervene_party_dist+ abort_party_dist)/8
```

Campaign Interest

```
gen camp_interest_04pre=0 if V043001~=.
replace camp_interest_04pre=.5 if V043001==3
replace camp_interest_04pre=1 if V043001==1
```

```
gen camp_interest_04post=0 if V045001~=.
```

```
replace camp_interest_04post=.5 if V045001==3
replace camp_interest_04post=1 if V045001==1
```

Attention to News about Government and the Campaign

```
recode V045095 (4=0) (3=.33) (2=.67) (1=1) ,
gen(govt_newsattn)

recode V045006 (5=0) (4=.25) (3=.5) (2=.75) (1=1),
gen(camp_newsattn)
```

Frequency of Political Talk

```
gen poltalk_days_pastwk=0 if V041001~=0
replace poltalk_days_pastwk=1 if V045153a==1
replace poltalk_days_pastwk=2 if V045153a==2
replace poltalk_days_pastwk=3 if V045153a==3
replace poltalk_days_pastwk=4 if V045153a==4
replace poltalk_days_pastwk=5 if V045153a==5
replace poltalk_days_pastwk=6 if V045153a==6
replace poltalk_days_pastwk=7 if V045153a==7
```

Campaign Activity and Community Involvement Indices

```
mvdecode V045010 V045011 V045012 V045013 V045014 V045153
V045153a, mv(8, 9)
```

```
gen influence_vote=0 if V041001~=0
replace influence_vote=1 if V045010==1
```

```
gen attend_campmeet=0 if V041001~=0
replace attend_campmeet=1 if V045011==1
```

```
gen wear_button=0 if V041001~=0
replace wear_button=1 if V045012==1
```

```
gen camp_volunteer=0 if V041001~=0
replace camp_volunteer=1 if V045013==1
```

```
gen camp_donor=0 if V041001~=0
replace camp_donor=1 if V045014==1
```

```
gen contact_official=0 if V041001~=0
replace contact_official=1 if V045167==1
```

```
gen attend_communmeet=0 if V041001~=0
replace attend_communmeet=1 if V045168==1
```

```
gen attend_protest=0 if V041001~=0
```

```
replace attend_protest=1 if V045169==1
```

```
gen camp_activity_sum= influence_vote+ attend_campmeet +  
wear_button+ camp_volunteer+ camp_donor  
gen comm_activity_sum= contact_official + attend_communmeet +  
attend_protest
```

2004 Turnout

```
gen voted04=0 if V041001~=0  
replace voted04=1 if V045018x==1
```

2006 Turnout

```
gen voted06=0 if R_gender~=.  
replace voted06=1 if Mod26_2summ==1
```