Toward a New Generation of
Media Use Measures for the ANES

Report to the Board of Overseers
American National Election Studies

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by

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Executive Summary

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. But measuring information acquisition has proven to be fraught with challenges. As a consequence, in recent years political scientists have shifted their measurement strategies to focus on information retention, most commonly in the form of factual knowledge questions. Interest in this approach has grown so much that some political scientists have begun to question whether the traditional media exposure measures are still worth asking. We argue that while the existing ANES media exposure measures may be problematic on methodological grounds, it is important to continue asking questions about the process of information acquisition. A measurement strategy based on information retention, we contend, requires survey instrumentation that is election-specific and unlikely to be valid over long stretches of time. The resulting problems of longitudinal continuity make this approach unsuitable as a stand-alone measurement strategy for the ANES.

The current battery of media exposure items can be traced back to the 1980 and 1984 ANES surveys. Many items had been introduced in 1980 and refined in 1984 to improve upon the variety of media use measures that had been employed up to that time without much consistency or continuity (Traugott 1985; cf Erbring and Clark 1979). The validity of these items was rigorously tested for the first time in the 1989 ANES pilot study (Price & Zaller 1993) and the items were subsequently updated after the 1995 pilot (Bartels 1996, 1996; Buhr, Crigler et al. 1996; Zaller 1996). In recent years, additional media use questions have been added to account for the growing importance of the Internet and local news as sources of information about national political campaigns. However, our review of the available pilot study reports, technical reports, and methods publications detailing these media use measures suggests that there has been no overall reassessment of the purpose for and basic measurement strategy underlying this battery of questions since it was first introduced a quarter century ago.

Our consideration of the best ways to measure media use today and in the future raises serious questions about how we measure political information acquisition from mass media sources. We are concerned that the ANES has not kept up with important developments in our understanding of how people process information, and that it is not well equipped to react to changes in the media environment that are already happening today. Recent research has underlined the place of media use and interpersonal talk (as well as their interaction) in the mobilization of citizens (e.g., Nisbet & Scheufele 2004; Shah & Scheufele 2006), but the ANES may not be well equipped to assess how these patterns change over time. What is needed is a better way of measuring information exposure, one that not only addresses important methodological concerns with the existing media exposure and interpersonal talk measures, but more importantly one that can adapt to the changing media landscape without requiring changes in question wording or the addition of new questions. In other words, we believe the time is past due for the ANES to overhaul its existing strategy for assessing information exposure to bring it in line with advances in our understanding of the psychology of information acquisition as well as to better match the changing media landscape of the 21st century.

Adapting to a Changed Media Environment

The 2004 American National Election Studies contained a battery of eight media exposure items. 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 and radio news sources that attract such large audiences today.[2]

The 2006 ANES pilot study featured a new set of media exposure questions designed to replace those used in prior ANES instruments. These measures included questions assessing the number of days in a typical week and minutes per day that Americans obtain news from newspapers, television, the Internet, and radio.

Key findings from the 2006 ANES pilot study:

- Extending the traditional "how many days per week" questions to include not only television and newspapers but also radio news and the Internet yields a superior map of media exposure patterns compared to traditional ANES questions. The average pilot study respondent reported seeking news sources on the Internet 2.5 days per week, reading a newspaper 3.7 days per week, watching television news programs 5.2 days per week, and listening to radio news 3.0 days per week.
- Measuring the number of minutes per day that respondents report using a news medium adds no new information beyond that obtained from measuring how many days per week a respondent reports using a news medium.
- None of the standard measures of respondent demographics, knowledge levels, or party identification is a strong predictor of self-reported exposure to the four news media considered here.
- The traditional focus in National Election Studies on newspaper and television news exposure may help to explain why previous analyses tended to conclude that news exposure had little unique explanatory power once political knowledge levels are

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[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.

[2] During the average 15-minute block of the weekday drive time 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 drive time 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. 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.

controlled. Our analysis replicates this general pattern for newspaper and television news exposure, but also finds that Internet and radio news exposure have unique effects on knowledge acquisition, perceptions, and frequency of political talk even after controlling for levels of political knowledge. This finding is likely a result of the increased content and audience diversification in the news industry that is found in 2006 relative to previous pilot study data collection efforts in 1995 and 1989.

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, particularly in the context of interpersonal conversations about politics. Thus, there appears to be a pressing need for the ANES to assess how people process political information as they are exposed to it.

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. High levels of defensive processing goals should reliably predict greater perceived issue distances between candidates and parties. Similarly, higher levels of 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.

Single-item measures of decisiveness and closed-mindedness were included in the 2006 pilot, and a single-item measure of need for cognition was included in the 2004 ANES. Key findings from the 2006 ANES pilot study:

- Decisiveness was positively and significantly related to the perceived issue distances separating the presidential candidates and national parties, even after controlling for closed-mindedness, political knowledge and media exposure.
- Closed-mindedness had a marginally significant positive relationship with perceived party distance, and a nonsignificant but positive relationship with perceived candidate distance.
- Need for cognition was negatively and significantly associated with perceived issue distances separating the national parties, but the same relationship with perceived issue distances separating the presidential candidates fell just outside marginal levels of significance.

- Although none of the three variables was a consistent predictor of media exposure, need for cognition had a significant positive association with Internet news use, and closed-mindedness had a significant negative relationship with television news use.

Recommendations

1. Continue the use of self-reported media exposure questions along with questions that measure political knowledge, since each has unique effects on a range of dependent variables even when controlling for the other.

2. Reconfigure the traditional battery of media exposure measures to better map the current contours of the media landscape by focusing on exposure to newspapers, television news, radio news, and news sources on the Internet.

3. Standardize the measures of exposure to each of the four news media as days in a typical week.

4. Add a new media exposure question that asks respondents to identify where they have been getting most of their information about the presidential campaign. Given content differences between newspapers, television news, radio news, and Internet news sources, prioritizing the relative importance of these media would allow the NES community to better assess the political consequences of exposure to particular media.

5. Retain a measure of political discussion formatted to match the days per week scale of the media exposure measures.

6. Consider adding longer scales that measure information processing goals (i.e., decisiveness and closed-mindedness) and need for cognition in order to further clarify the relationships of these variables to knowledge acquisition and a wide range of political attitudes, perceptions, and behaviors.

Do We Still Need Media Use Measures at All?

The measurement problems associated with the current battery of ANES media exposure items are by now well known. They are unreliable (Bartels 1993) and overstate apparent media use far beyond levels obtained in behavioral measures such as Nielsen television ratings and newspaper circulation data (Price and Zaller 1990, 1993; Prior 2005). Moreover, an index of factual political knowledge turns out to predict the ability to recognize recent news stories better than measures of self-reported media exposure (Price and Zaller 1993). It would seem, in other words, that measuring both political knowledge and media exposure is at best redundant and at worst a waste of resources, if both measures tap the same concepts, and if retained knowledge is a more valid measure of "messages received."

We disagree with this common perception for three reasons. First, the literature on online information processing reveals that "messages received" is not the same as "messages remembered," and knowledge-based measures only tap the latter (e.g., Lodge and Stroh 1993). While knowledge-based measures may accurately assess the degree to which respondents can recall correct facts about politics from long-term memory, they will miss a sizable portion of the population that updates beliefs, values, feelings, and preferences immediately upon exposure to new information, but for reasons of cognitive efficiency never commits that information to long-term memory. In other words, the preferences of these respondents have been updated in response to information exposure, but they don't show it when tested with knowledge-based measures. Actual information exposure is therefore more widespread in the population than would seem to be revealed by knowledge-based measures of information retention.

Second, the strategy of measuring information retention instead of information exposure begins to look less appealing when the task is not to predict knowledge for a specific year and topical domain, but to come up with a standard measure of knowledge that can be used 10, 20, or 30 years in the future. The experience of researchers who have used ANES knowledge measures over extended periods of time is not heartening (Neuman 1986; Smith 1989; Zaller 1992; Althaus 2003). As political referents change, either the knowledge questions must change as well, or the knowledge questions become increasingly difficult to interpret.[3] We believe that this problem is so severe that it would be unwise to rely solely on a knowledge-based measure of media exposure over long periods of time.

Third, the changing media landscape will increasingly invalidate knowledge-based measures of information retention. Back in 1989, when Price and Zaller were conducting their path-breaking validation study, CNN was a barely a fledgling network, and the networks dominated television news. Popular access to the Internet was limited, consisting mainly of e-mail and file exchanges using text-based software like Telnet, Gopher and FTP. The media landscape has changed dramatically since then, in part because of technological developments that have led to a

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[3] In addition, the knowledge questions themselves are rarely validated (for an exception, see Delli Carpini and Keeter 1996), a process that requires labor-intensive content analysis that, to our knowledge, never has been done systematically or comprehensively. For instance, how do we know empirically that candidate A's position on something like defense spending is really to the left of candidate B on a seven-point scale? Making such determinations becomes a critical issue if knowledge measures are to become stand-alone measures of both information exposure and retention.

blossoming of cable, satellite, and Internet news outlets, and in part because the evolving media environment now encourages news providers to cater to segmented rather than mass audiences. The number of news programs and formats on television has increased, and there has been an accompanying steady migration of audiences away from the network news programs and printed newspapers to these new options (Althaus 2007). Moreover, the overall trends away from traditional news outlets obscure important and dramatic changes in media use among younger cohorts of Americans, who are overwhelmingly turning to non-traditional and online sources for political information (Zukin et al. 2006). Not only are there more media outlets today, and as a result news audiences are now highly segmented into different media products, but there is mounting evidence that the content options on cable television are differentiating along ideological lines (Pew Research Center 2004), a trend that may bring us back to a more powerful model of news effects. Of course, the online environment is also changing rapidly, as news, campaign, discussion, and commentary options increase in number and reach.

One reaction to the proliferation of news channels and content options would be to eschew the measurement of media exposure entirely and rely instead on general political knowledge. However, we believe that would be a mistake. We would not be surprised if the standard finding that general political knowledge is the best measure of news reception turns out to have been context dependent, an artifact of the homogeneous media system in place at the time much of the formative research in this literature was being undertaken. This research was conducted, for the most part, during an era in which audiences for mainstream news media were much larger than today and news content was more homogeneous across different news outlets. In such an environment, the source of information exposure was less important than whether the person was exposed at all, in large part because a news system catering to mass audiences tended to focus on the same news stories and report them in similar ways (cf Zaller 1996). We are no longer in such an era. We expect, to the contrary, that general political knowledge should become increasingly unreliable as a measure of both media exposure and news reception in an era of highly segmented news audiences, nontraditional news formats, and ideologically polarized media options.

In sum, then, we believe that the necessity of accurately measuring media exposure is becoming stronger over time. As a result, we see an urgent need to improve the quality of the measures used in the ANES.

What Are the Problems with Current Media Use Measures?

The 2004 American National Election Studies contained eight media exposure items, two political talk items, and 12 questions measuring attention to the presidential campaign in various media (see Appendix A). Among the media exposure items, one question assessed the number of days in the past week that the respondent was exposed to national network news on television, while two similarly-worded questions tapped exposure to local television news. Another question measured days in the past week that the respondent read a daily newspaper, followed by a similar question about reading a daily newspaper on the Internet (even though the first newspaper question did not exclude Internet newspapers as a possibility). One question asked whether people have been exposed to political talk radio, but the question is not measured as days in the past week and it excludes other forms of news exposure on the radio. A final exposure question

asks whether the respondent had 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.[4] Even though the presidential campaign attention items also ask about magazines and radio news programs, no media exposure items ask respondents about their attentiveness to such media.

Not only are many of these questions inconsistently worded and thus difficult to compare, but the 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 nontraditional sources of information about politics and current events. Yet, the challenges of using the standard ANES media exposure items run deeper than problems of comparability and unbalanced coverage of important media outlets. These questions have been criticized for well-known reliability and validity problems as well.

The "days in the past week" exposure questions are known to be unreliable (Bartels 1993; cf. Price, 1993), and this low reliability seems most likely to arise from the heavy cognitive demands that these questions place on respondents. Respondents must retrieve information about seven different days, as well as determine whether "past week" refers to the previous seven calendar days or the previous Sunday through Saturday week. Asking respondents about a "typical week" seems to produce responses with fewer reliability problems than the "past week" wording (Chang and Krosnick 2003), but this version of the question still requires respondents to accurately report the number of days in a typical week that they attend to particular media.

A second source of potential reliability problems comes from measuring entire days rather than shorter time intervals when capturing self-reported exposure. This strategy may well capture habitual news exposure that occurs on a daily basis, but it completely ignores the variance in time spent using news media within a given day. For example, the Pew Center's 2004 media use survey found that among the 42% of respondents who read a newspaper "yesterday," 12% read newspapers for less than 15 minutes, 26% read newspapers for between 15 and 29 minutes, 40% read newspapers for between 30 minutes and an hour, and 21% read newspapers for an hour or more. There is clearly a large difference between less than 15 minutes of exposure and more than an hour of exposure, but this important source of daily variation is obscured in the standard ANES measures. Arguably, the amount of time spent each day with a news medium is likely to be more important than the number of days spent with a news medium: Five minutes of daily exposure over seven days yields a total of just more than half an hour a week, but half an hour of daily exposure over three days yields a total of an hour and a half. In this way, we can see that the standard measures do a better job of assessing whether respondents are habitually exposed to news than how much news they are exposed to.

These potential reliability problems are compounded by validity problems. The improbably high rates of self-reported news exposure generated by the standard ANES questions are thought to be produced not merely by the difficulty in accurately reporting such exposure, but also by the fact

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[4] This is a glaring omission given the widespread use of these "new" media for political surveillance. For example, a recently completed a study of audiences for news during the 2000 early presidential primary season (Tewksbury, 2006) found that the audience ratings for cable news and online political news were much more responsive to campaign events than were the audience rating for the network news programs.

that news exposure is widely seen as a socially desirable behavior. If respondents are unable to accurately recall weekly media use on short notice, they may default to giving the answer that the interviewer wants to hear. Researchers today routinely believe that overestimates of media use are driven by social desirability effects, but to our knowledge this relationship never has been tested.

Despite such measurement problems, a wide range of research has concluded that media exposure remains conceptually valid, even if unreliably measured. Media exposure measures predict what we expect them to predict, on a regular basis. For example, Price and Zaller (1993) show that while general political knowledge may work as a proxy for exposure, media use adequately predicts knowledge in and of itself. Also, measures of supposedly stable traits, such as media gratifications (e.g., Palmgreen & Rayburn 1982) and support for a civic duty to use the media (McCombs & Poindexter 1983; Poindexter & McCombs 2001), are reliably predictive of media use. Similarly, one might expect that men and women would differ in their exposure to certain types of news, and research that uses measures of news preferences has shown that they do (Bogart 1989; Stone 1987). Thus, media use measures of various sorts are both predictive of what we expect them to be and are well predicted by relevant constructs.

A New Approach to Measuring Information Exposure

A crucial issue for the future utility of information acquisition items is the need for measures to remain both valid and informative over time. While we want to accurately measure what people are doing today, we also want to be able to see trends as they develop over time. This requires a set of measurement tools that will not become quickly dated as the media environment continues to evolve in unforeseen ways.

One option is clearly unworkable: trying to expand the range of self-reported exposure measures to encompass the full diversity and changing contours of political information outlets available within all existing media. The Pew Center currently attempts the most ambitious use of such an approach, which requires it to use an entire survey for measuring media exposure, and which also requires constant revision and rotation of relevant exposure measures.

Clearly, such a strategy is not suitable to the ANES. The 2006 pilot study featured new questions that may go some way toward providing an alternative solution. Questions included in the study were designed to address a set of basic goals for improving the traditional ANES approach to measuring media exposure:

1. Reducing cognitive demands on respondents for accurately reporting exposure to political information.
2. Testing a more internally consistent battery of media exposure questions that are similarly worded and more sensitive to different amounts of news exposure.
3. Identifying the information processing goals that should determine how information exposure is related to changes in beliefs, values, attitudes, and behaviors.

Media exposure items

The tested framework for measuring media exposure begins with a set of questions that could replace the current set of basic measures in the ANES. Items were designed to measure frequency of exposure to core news media. The basic stem of the questions asked about exposure in a "typical week," which may yield more reliable self-reports than the "past week" version of prior ANES studies by reducing the cognitive demands placed on respondents (Chang and Krosnick 2003). The 2006 pilot study included measures of both days per week and minutes per day spent with each medium that allows us to test the relative strengths of these measurement approaches.

We also test the utility of limiting the number of media to what are now the four major channels for news outlets (television, newspapers, Internet, and radio). This channel-centered approach has the value of retaining conceptual clarity in an age where the same outlets are spread across different media (e.g., CNN on cable versus CNN.com, or a printed newspaper versus its online counterpart). By asking only about time spent monitoring news across a comprehensive set of standard media channels (in combination with existing ANES questions about interpersonal discussion about politics), this approach could capture the full range of time spent acquiring information through whatever outlets and in whatever form those outlets disseminate information. Our analyses will examine the strengths and weaknesses of this approach relative to traditional ANES measures.

Cognitive processing goals

One emerging feature of the new media environment is the growth of partisan information sources, particularly online. We believe that part of accurately assessing the impact of political information in the changing media environment comes from being able to predict what people will do with the availability of partisan information. Thus, a second approach to acknowledging changes in the media landscape is to shift the focus from trying to assess exposure to every possible partisan source in the media environment to identifying the individual-level tendencies that motivate the acquisition of partisan information about politics. Research in selective exposure (e.g., Frey, 1986) suggests that one action people may take when given a choice of information is to focus their exposure to those sources most consonant with their pre-dispositions. Indeed, this is precisely what some people predict may be a broad effect of the Internet (Sunstein, 2001). However, it also seems apparent that people seek more than purely partisan information when it is available, as continuing popular interest in network nightly news broadcasts demonstrates. Sorting out the degree to which individual-level information flows originate in partisan or traditional journalistic news sources will therefore be of great importance for understanding the effects of information exposure as well as the types of information gained from exposure to different sources.

We believe that researchers will increasingly need to rely on individual-level measures of information processing goals to understand how people are acquiring information in a complex media environment. Psychologists have suggested that people have relatively stable traits that may affect which path they choose (e.g., Kruglanski, 1990). A focus of the analyses in this report

is an assessment of whether citizens' cognitive styles are related to news exposure, its measurement, and its relationship with general political knowledge.

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. Validation is a defensive processing goal, and it should inoculate such processors against having their views changed by the flow of information to which they are exposed. Kruglanski and colleagues (Kruglanski, Webster, & Klem, 1993; Webster & Kruglanski, 1994) have developed and validated a Need for Closure scale with several subscales. *Decisiveness* and *closed-mindedness* are two subscales that seem particularly well suited for assessing individual-level processing goals in the ANES (see Appendix B for scale details).

People seeking closure should be drawn to contemporary news content that is heavier on opinion than on balanced information. Indeed, the most partisan presentations of politics should be the most appealing for people seeking closure or reinforcement of their opinions. At the same time, need for closure may condition the effects of exposure to political information. A recent study of the effects of exposure to a message critical of President Bush found an interaction of party identification and need for closure (Holbert & Hansen, 2006). The key finding of this study was that Independents who were high in need for closure felt less ambivalence after exposure relative to a non-exposed control group. Thus, the need for closure may have motivated them to take available information and come to a conclusion about the president.

A similar line of thinking prompted our interest in examining the relationships between media use and citizens' *need for cognition*. Introduced by Cacioppo and Petty (1982) in their development of their Elaboration Likelihood Model (Petty & Cacioppo, 1986), need for cognition assesses whether people seek and enjoy cognitively demanding tasks and problems. We anticipated that need for cognition would predict what people know and believe about politics above what can be predicted from news exposure and standard demographic measures.

Findings from the 2006 Pilot Study

The 2006 ANES pilot study carried a module of media exposure questions that tested several of these alternative measurement strategies. The media exposure module included:

- Measures of media exposure for newspapers, television news, radio news, and news on the Internet. This was the first time that the ANES had measured generic exposure to radio news and news on the Internet.
- Measures of both days per week and minutes per day that the respondent reported using each medium.

- A split-ballot design that tested whether different results were obtained when the time reference for media exposure was to "a typical week" or to "a typical week in the past year".

In addition, another module in the 2006 pilot included single-item measures of decisiveness and closed-mindedness that could be used to assess the impact of processing goals on media use and a variety of attitudes, perceptions, and behaviors. A single-item measure of need for cognition had been included in the 2004 ANES. Although single-item measures are prone to reliability problems, these items nonetheless can suggest whether further testing with longer scales is warranted (details on the longer scales is available in Appendix B).

The 1989 pilot study used a novel and sophisticated procedure to validate the various measures of media exposure. This procedure assessed the degree to which respondents recognized recently-breaking news stories. This procedure also produced complications when it came to analyzing results, as different groups of respondents were asked about different news stories, so there was no way to use all cases at once in the validation testing (Price and Zaller 1993). Our approach uses a less complicated and more conventional method of convergent and divergent construct validation, as was done with data from the 1995 pilot study. Because the 2006 pilot study contained a large number of split-ballot experiments, the only validation measure available from the pilot data is the respondent's self-reported vote in 2006. All other validation measures are taken from the respondent's 2004 pre- and post-election answers. Among the most important of these is an index of factual political knowledge (following the approaches used in previous ANES media exposure assessments). Given the content diversity in the current media environment, as well as the prevalence of partisan information sources on television, the Internet, and on radio, we also test for whether processing goals and use of particular media is associated with the degree of polarization in candidate and party issue placements.

The 2006 pilot study yielded important findings for improving the media exposure measures in the ANES. Since many of our analyses are closely related to one another, we organize the main findings of this report around five research questions as a way to clarify major findings, conclusions, and recommendations:

1. Does asking about media use in "a typical week in the past year" provide more valid self-report data than asking about media use in "a typical week"?
2. Does asking about the amount of time in a typical day spent using a news medium yield additional information beyond that provided by the traditional "days per week" measure of self-reported news media use?
3. Do the different news media attract politically distinctive audiences, or is there broad audience overlap across media?
4. Does exposure to different news media have distinctive relationships with political attitudes and behavior after controlling for knowledge levels, party identification, and demographic characteristics?
5. Does asking about information processing goals yield additional information about political knowledge and perceptions of candidates and parties beyond that provided by the traditional "days per week" measure of self-reported news media use?

RQ1. Does asking about media use in "a typical week in the past year" provide more valid self-report data than asking about media use in "a typical week"?

The 2006 NES Pilot study included a split-ballot experiment designed to test whether media use measures can be improved by a prompt that specifies the range of time that respondents should consider. The 2004 pre and post-election ANES surveys asked the respondents, "How many days in the past week…" they used a set of media. The stem for the 2006 pilot questions (drawn from Chang and Krosnick, 2003) asked respondents to estimate on how many days they use the medium in a typical week. The study featured two versions of the question. One form asked respondents, "During a typical week, how many days do you [use the medium]"; the other asked, "During a typical week *in the past year,* how many days did you [use the medium]."[5] For respondents who report some use, the subsequent question referenced the time frame again and asked about the amount of time they spent with the medium on a typical day. For example, the "typical week" version of the follow-up question for the Internet read, "On a typical day when you watched or read the news on the Internet, about how much time did you spend watching or reading news on the Internet, not including sports?"

At the outset, a few words of caution regarding this analysis are in order because the random group assignment to question wording treatment was a bit unbalanced. Although assignment to questionnaire forms was randomly generated, the "typical week" condition ended up with 67 more respondents than the "typical week in the past year" condition. T-testing revealed that the "typical week in the past year" group had significantly fewer African-Americans (M=7.7% versus M=12.3% for the "typical week" group, t [663] = 1.99, $p < .05$) and marginally higher income levels (M=59.9[th] percentile versus M=55.9[th] percentile for the "typical week" group, t [617] = -1.70, $p = .09$). Perhaps because of this, models in Table 3 through 6 using the different groups tend to differ in the relationship between the criterion variables and some of the control variables (e.g., education, party identification).

Table 1 presents descriptives for the alternative wordings of the media use measures. T-tests reveal no significant differences between question versions. For Internet news use the "past year" version elicited a marginally significant higher report of minutes used in a typical week, but this pattern was not repeated in the other variables. Multivariate analyses testing for the effect of question wording while controlling for education, sex, race, party identification, and party extremity failed to a detect significant effect of question wording for any of the media use variables. Similarly, a measure of the sum of total news exposure for each week across the four media showed no differences across the two groups (typical week $M = 834.11$, $SD = 827.35$; past year $M = 787.17$, $SD = 654.37$; t(662) = .80, *ns*).

Another way to use the data from the questions is to estimate whether respondents used each medium at all in a typical week. We recoded the days per week questions into dichotomies with all reports over zero combined. The analyses of the new variables are presented in Table 2. Here

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[5] In addition, both versions added the phrase "…not including sports" at the end of the questions. For instance, the long version of the Internet question read, "During a typical week in the past year, how many days did you watch or read news on the Internet, not including sports?" This wording has—to our knowledge—never been used before, and we have no way of knowing how it may have affected the responses to these questions. Further testing of this phrase in a split-ballot experiment would be needed before its adoption could be recommended with any confidence.

a pattern of greater reports being elicited by the "past year" version is visible. For newspaper and radio use, respondents prompted to think of the past year were slightly more likely to report having used the medium (the difference is only marginally significant in the case of newspapers; in multivariate tests, the effect of wording was marginally significant for both newspapers and radio news).

We also examined whether the question wording difference affected the relationship between reported media use and a set of relevant criterion variables. In each model, we regressed the criterion variable on a set of controls and the four media use measures. The results of these analyses are presented in Tables 3 through 6. For these analyses, measures of news exposure as both days per week and minutes per day were examined. Because the estimates of minutes per day provided by some respondents were rather high—three or more hours of exposure in a typical day was reported by 13 respondents for Internet news (max = 7 hours per day), by 10 respondents for newspapers (max = 5 hours), by 40 respondents for television news (max = 15 hours), and by 22 respondents for radio news (max = 10 hours)—the raw measures of minutes per day appeared to be highly skewed by the presence of these outliers. To correct for these outliers, we used the natural log of minutes per day in all of the analyses reported below. In addition, to ease the comparison of unstandardized coefficients across models, we recoded both the days per week and the logged minutes per day values to range from 0 to 1.

The first set of models (see Table 3) tested the effects of the alternate question wording on predictors of general political knowledge that had been measured in 2004 (see Appendix C for details on the coding of selected variables used in the models; a complete syntax file for all variables is available from the authors upon request). Table 3 reveals quite a few differences between models using the media question versions. The models using the base "typical week" wording had greater predictive power overall, and the "days per week" columns show that newspaper reading and radio news listening were significant predictors in the base condition only. Looking at minutes per day, the coefficient for radio news was significant only in the base condition. None of the differences in the size of media use coefficients between models was statistically significant.

Differences between models are also found in Tables 4 and 5, with 2004 perceived party and presidential candidate differences as the criterion variables. In the models displayed there, the base condition models were more predictive than the other models (substantially so in the case of perceived candidate differences). In almost all cases, television news viewing is a significant predictor of perceived issue distance only in the base condition. Oddly, the role of radio news differs within the analyses predicting candidate distance. In the days per week regressions, radio is a significant predictor in the "typical week" condition but not in the base condition. The opposite was the case for the minutes per day regressions. Again, no significant differences were observed between the media use coefficients in the two sets of models. The final analyses used 2006 vote turnout as the criterion variable. Table 6 shows that newspaper reading was a significant predictor in the "past year" condition in both cases, but it was only marginally so for the base condition days per week measure and not at all significant for the base minutes per day measure. The opposite pattern is present for radio news. Between-model comparisons of differences in the size of media use coefficients revealed only one marginally significant difference (for radio news exposure in the logged minutes per day models).

In sum, there is some limited evidence that the split-ballot question wording experiment affected reports of media use. Although the overall levels of self-reported news exposure were not significantly influenced by the referenced time frame, the tendency to report any exposure appears to have been somewhat affected. The pattern was for respondents to recall more use of newspaper and radio news when thinking of the past year. This relatively simple result was complicated by the findings comparing wording conditions in the regression models. These latter analyses offer few clues to the influence of the reference period prompts. Direct comparisons between coefficients failed to detect significant differences between the versions of the media use measures: out of 24 comparisons of media coefficients across four tables, we found only one marginally significant difference attributable to the "typical week" versus "typical week in the past year" question wording. This is about what would be expected by chance at a 95% confidence interval.

We offer one possible explanation (not testable here, unfortunately) for the overall pattern of findings. It seems likely that the "past year" prompt encourages respondents to cast back in time within their memories to find examples of media use. In so doing, they may be particularly likely to think of extreme exemplars of their use. Such exemplars should be highly variable in their import for the relationship between media use and the criterion variables. If so, this might have diminished both the validity and the reliability of "typical week in the past year" estimates relative to "typical week" estimates.

The question wording test in the pilot and the time lapse between the 2004 study and the pilot left little room for comparing the media use variables in these studies, but the data for the 2004 pre-election study are included for comparison purposes at the bottom of Table 1. The 2004 pre-election measure of days in the preceding week that respondents read newspapers was very similar to what they reported in both of the 2006 question versions. The same was the case for the measure of television news exposure reported in the 2004 post-election study. A large difference was apparent in the measures of online news reading, however. The 2004 pre-election survey asked about online newspapers whereas the pilot questions referenced the more general category of "news on the Internet". This appears to have resulted in substantial differences in the number of people who replied they had read news on the Internet (2004 = 23.8, 2006 combined measure = 52.7; $\chi^2(663) = 109.2$, p < .01). This apparent jump from 2004 to 2006 is not consistent with the Pew Research Center for the People and the Press (2006) reports that suggest stability in the online news audience over this period. Given that the most frequently named sources of online news are Internet portals (e.g., Yahoo!, Google) and sites of cable news outlets (e.g., MSNBC, CNN; Project for Excellence in Journalism 2007), the use of the "online newspaper" reference in 2004 appears to have resulted in an under-report in online news exposure in that year. This analysis suggests that, if the goal is to assess the frequency with which citizens are obtaining news online, the Internet question should reference online news rather than online newspapers.

Conclusions

- The results offer few definitive signs about the superiority of the "typical week" reference over the "typical week in the past year" prompt or vice-versa. Given the

general assumption that subjective reports of news exposure often overstate news use, the question wording that yields lower levels of self-reported exposure may be preferable. On this count, the "typical week" prompt seems superior to the "typical week in the past year". More importantly, however, there is no compelling evidence that the reference to the past year improved either the reliability or validity of the questions.

- Questions about using an "online newspaper" are clearly different than those referring to "news on the Internet." Given the number of platforms for news online, the latter wording appears to capture a wider variety of venues and seems to provide a more comprehensive picture of Internet news consumption.

Recommendations

- We recommend that the base time frame wording—merely referring to the "typical week"—be retained for future studies.

- We recommend using the 2006 pilot wording for the measure of news exposure on the Internet.

RQ2. Does asking about the amount of time in a typical day spent using a news medium yield additional information beyond that provided by the traditional "days per week" measure of self-reported news media use?

Reliability in self-reported exposure questions could be influenced by measuring news exposure as the number of days per week rather than the number of minutes per day. To test this possibility, the 2006 pilot included two questions for each medium. The first question asked respondents how many days in a typical week they obtain news from the medium. For those who reported at least one day, a subsequent question asked, "On a typical day when you [use the medium; Form B adds "in the past year"], about how much time do you spend [using the medium], not including sports?" Responses were recorded verbatim in hours or minutes, whichever was used by the respondent, and subsequently recoded into the number of minutes per day. In addition, a third variable was calculated by multiplying the logged minutes per day by the number of days per week spent with the medium. Table 1 reports the mean values for these measures.

To understand how these different measures of media exposure are related to one another, we first calculated correlations between days per week and minutes per day of exposure across all four media. Because few consistent differences were found between the "typical week" and "typical week in the past year" split-ballot wordings, in this and all following analyses we pool responses to both wordings of the media exposure questions into combined measures of days per week or minutes per day using each medium. Table 7 shows that the correlations between days per week and minutes per day within each medium tend to be quite strong, running from +.62 for newspaper exposure to +.84 for Internet news exposure. In contrast, the highest cross-medium correlation was only +.22 (for days per week spent with television news and newspapers; the

correlation for minutes per day with television news and days per week with newspapers is +.15), and all of the other cross-media correlations were smaller than +/- .12.

Similarly, the 2004 media use measures exhibited relatively weak relationships across media (see Table 8). The results in Table 8 also show that measures of days of use per week in 2004 predicted only a portion of the variance in the same measure from 2006. The coefficients in bold report the relationships between parallel media use measures. The highest correlation is between 2004 and 2006 newspaper use, but it is only +.67. As we noted earlier, the 2004 Internet question is more limited than the 2006 version and this may account for a correlation lower than the others. But the television news measures are still only accounting for about a quarter of the variance in each other. Thus, the over-time stability in these items is not high. This may be due to recall reliability problems, changes in question wording, actual change in media use, or a combination of all three.

These patterns are inconsistent with the possibility that people tend to report either high or low levels of exposure to news in general across multiple media channels. The patterns are also inconsistent with the possibility that high levels of media exposure are being reported across the board due to social desirability influences. We would expect positive cross-media correlations if respondents were overreporting exposure due to social desirability or systematic errors in memory recall and negative cross-media correlations if audiences were specializing in one medium at the expense of others. Neither pattern is found.

A principal component analysis of the correlations in Table 7 produced a four-factor solution (Table 9). The first factor seems to represent a preference for traditional news media (positive loadings for newspaper and television news, negative loadings for Internet and radio news), the second a general interest in news programming across media (positive loadings for all, with high loadings for newspapers and radio news), the third a preference for "new" media formats (high positive loading for Internet news, high negative loading for radio news), and the fourth a preference for broadcast news media (negative loading for newspapers, positive for the rest). However, the modest Eigenvalues for these factors—ranging in size from a high of 2.07 to a low of 1.31—are consistent with the pattern of correlations in Tables 7 and 8 suggesting no strong tendencies toward parallel use of multiple media.

Measures of days per week and minutes per day may be highly correlated with one another but still have unique explanatory power across a range of dependent variables. To test the impact of news exposure on knowledge gain, we regressed a scale of political knowledge on a set of control variables as well as measures of media use. Separate regressions used media exposure measures capturing days per week, logged minutes per day, and logged minutes per week (Table 10). Days per week of media exposure produces essentially the same set of relationships as the number of logged minutes per week: strong positive relationships between political knowledge and the use of newspapers, Internet and radio news sources. In contrast, the measure of logged minutes per day yields more modest positive coefficients from Internet and radio news use, but no significant relationships with newspaper or television news use.

Newspaper and radio news exposure are significant predictors of knowledge when measured on the level of days per week or logged minutes per week, but when measured on the level of

minutes per day newspaper exposure becomes nonsignificant and the effect of radio exposure is diminished in size. Internet news exposure is a significant predictor of knowledge in all three models, but its effect is half as large in the logged minutes per day model than in the days per week or logged minutes per week model. If we assume that news exposure should be related to general political knowledge (Price & Zaller, 1992), these results provide relatively strong support for the validity of the days per week measure.

Taken together, the findings from Tables 7, 9, and 10 point to the superiority of measuring news exposure in days per week. Taking account of logged minutes per day not only adds essentially nothing to the overall predicted variance of the equations, but also produces the weakest results and poorest fits. In Table 10 the best model fit is obtained with the days per week measure. It is notable that the logged minutes per week measures—which take account of both days per week and logged minutes per day—yield essentially the same results as the stand-alone days per week measures.

From these findings, we conclude that accounting for minutes per day adds no new information to the days per week story. It is also a misleading measure of news exposure that requires logging the number of minutes per day reported by respondents to control for extreme outliers.

Conclusion

- Measuring the number of minutes per day that respondents report using a news medium adds no new information beyond that obtained from measuring how many days per week respondents report using a news medium. The risk of misleading inferences combined with the lack of explanatory power added by the minutes per day measures incline us away from that approach.

Recommendation

- Continue measuring news exposure as the number of days in a typical week that the respondent uses a source of news.

RQ3. Do the different news media attract politically distinctive audiences, or is there broad audience overlap across media?

Our analysis of the demographic characteristics predicting exposure to different news media confirm the patterns of audience behavior already noted in Table 7 and observed in previous ANES reports (e.g., Bartels 1996). Table 11 reports regression models predicting exposure to each of the four news media as a function of demographic characteristics, party identification, political knowledge, and exposure to other news media. Relatively low adjusted r-squareds for these models, ranging from .05 to .13, suggest that exposure to news media occurs largely in response to variables not considered here. Nonetheless, our analysis revealed some clear patterns. Males were significantly more likely than females to use Internet news sources, but no gender differences were noted for the other media. Income was not a significant predictor of news exposure in any of the media considered here. Years of education was negatively correlated with use of television news, while political knowledge was positively correlated with exposure to

each of the media except television news. African-Americans were significantly more likely than whites to use television news, and less likely to use either newspapers or news sources on the Internet.

Although Republicans were somewhat less likely to use Internet news sources than other respondents, no consistent patterns were found between party identification and media use. However, contrary to popular perceptions that radio news should tend to attract distinctively partisan audiences, following news on the radio was negatively associated with partisan extremity. Indeed, the negative effect of partisan extremity had just as large a beta weight as the positive effect of political knowledge. This seems likely to result from the conditions of radio news exposure in today's media environment, where radio news audiences are largest during morning and afternoon drive times. During the average 15-minute block of the weekday drive time 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. This average combined drive time 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). Because exposure to radio news is influenced to such a degree by commuting distances, the audience for radio news tends to be fairly broad demographically, as evidenced by the lack of significant relationships between radio use and every predictor variable save knowledge and partisan extremity.

Exposure to any given news medium is also predicted by patterns of exposure to other news media, though only sporadically. Reading newspapers is positively related to viewing television news and negatively related to using Internet news sources. Viewing television news is positively related to reading newspapers, but has no significant relationship with exposure to other news media. Use of Internet news sources is negatively associated with newspaper reading, but has no consistent relationship with exposure to radio or television news programming. Perhaps as a consequence of its largely captive drive time audience, exposure to radio news is statistically independent of exposure to newspapers, television news, and news sources on the Internet.

Taken together, these findings suggest that exposure to none of the four news media considered here is a simple function of political knowledge levels, demographic characteristics, or partisan identification. Instead, each medium attracts a somewhat distinctive audience for reasons that remain unclear.

Conclusions

- None of the standard measures of respondent demographics, knowledge levels, or party identification is a strong predictor of self-reported exposure to different news media. Political knowledge predicts frequency of news exposure using newspapers, Internet sources, and radio, but the amount of variance in media use accounted for by political knowledge and an array of controls is quite small. Moreover, use of television news is not reliably predicted by political knowledge.

- No single variable is a significant predictor of exposure to all four of the news media considered here. Instead, demographic correlates of news exposure are somewhat medium-specific.

RQ4. Does exposure to different news media have distinctive relationships with political attitudes and behavior after controlling for knowledge levels, party identification, and demographic characteristics?

Previous ANES reports comparing the impact of different measures of television news tended to find little unique explanatory power in news exposure to different types of television news broadcasts (e.g., Bartels 1996; Zaller 1996). However, no previous analyses using the standard ANES measures had tested for differential media effects across as wide a range of media options as was tested in the 2006 pilot.[6] The medium-specific patterns of news exposure and the low levels of variance in media exposure that were explained by common control variables suggest that use of different news sources in the diverse media landscape of the early 21st century may have important consequences for political behavior and attitudes. If exposure to different news media has any unique impact on dependent variables of interest to the ANES community, then this impact is unlikely to be captured with the standard control variables that measure levels of political knowledge or demographic characteristics.

To see whether exposure to different media produced differential effects of potential interest to the ANES community, we examined the impact of media exposure on the perceived issue distances separating the presidential candidates and national parties as well as the number of days per week people reported discussing politics (Tables 12 through 14). All three dependent variables had been measured in 2004. The main predictors of the perceived issue distances separating candidates and the national parties were political knowledge and partisan extremity. But even after controlling for those and other factors, significant effects were observed for television and radio news exposure in the case of candidate issue distances, and for television in the case of party issue distances. People who reported higher levels of television news exposure tended to see smaller differences in the issue positions of presidential candidates and national parties. In contrast, people who reported higher levels of radio news exposure tended to perceive larger differences in those issue positions. These relationships were consistently found in both the days per week and logged minutes per week equations, but the significance and effect size of these relationships were somewhat different in the logged minutes per day equations. The number of days per week respondents reported talking about politics was driven largely by partisanship, but the unique effects of Internet and radio news exposure were of comparable size to that of knowledge. All three models had similar levels of explained variance in these tables.

Taken together, the findings in Tables 12 through 14 point to the need to include Internet and radio use with newspaper and television news exposure measures. In contrast to previous

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[6] The 1995 pilot elicited media use data for a much wider range of broadcast television programming than is considered here. But aside from a question on political talk radio, the usefulness of the 1995 data for cross-media comparisons is quite limited. This is perhaps unsurprising, given that the Fox News Channel wasn't founded until 1996 and the Web had only become popularly accessible in 1993 with the advent of the Mosaic browser. Audience data from the 1995 period confirm that use of cable news and Internet news sources was limited to a narrow audience, with newspapers and broadcast television news holding by far the largest news audiences (Althaus 2007).

analyses that yielded minimal evidence of medium-specific effects, we find strong and unique effects of Internet and radio news use even after controlling for political knowledge and the impact of newspaper and television news use, which were the main media channels traditionally measured in previous ANES studies. The only media use variable to have roughly similar effects across the three models is radio news exposure.

Conclusion

- The traditional focus in National Election Studies on newspaper and television news exposure may help to explain why previous analyses tended to conclude that news exposure has little unique explanatory power once political knowledge levels are controlled. Our analysis replicates this general pattern for newspaper and television news exposure, but also finds that Internet and radio news exposure have unique effects on knowledge acquisition, as well as on perceptions and frequency of political talk even after controlling for levels of political knowledge. This finding is likely a result of the increased content and audience diversification in the news industry that is found in 2006 relative to previous pilot study data collection efforts in 1995 and 1989.

Recommendations

- Continue the use of self-reported media exposure questions along with questions that measure political knowledge, since each has unique effects on a range of dependent variables even when controlling for the other.

- Broaden the range of media exposure measures to include Internet and radio news sources along with newspaper and television news sources.

- A four-item battery of media exposure questions—recording the number of days per week that respondents are exposed to newspapers, television news, radio news, and news on the Internet—seems adequate for capturing a wide range of news exposure in the contemporary media environment.

- Although not tested in the 2006 pilot, we recommend beginning the media exposure battery with a modified Pew question that asks respondents to identify where they have been getting most of their information about the presidential campaign (see Appendix B for question wording). Given content differences between newspapers, television news, radio news, and Internet news sources, prioritizing the relative importance of these media would allow the ANES community to better assess the political consequences of exposure to particular media.

- Additional questions on television news exposure, distinguishing between national and local news programs as well as between network and cable news programs, still have value to the ANES as a means of estimating respondent exposure to political advertising aired by the campaigns. Our proposed four-item media exposure battery is appropriate for estimating news exposure but lacks the level of detail that would be required to estimate a respondent's likely level of advertising exposure (e.g., Goldstein and Freedman 2002;

Goldstein and Ridout 2004). If estimating both news exposure and advertising exposure are important goals for the ANES Board, then our proposed four-item battery might usefully be supplemented with additional questions on exposure to local news broadcasts at different times of day as well as exposure to broadcast versus cable television news programs.

RQ5. Does asking about information processing goals yield additional information about political knowledge and perceptions of candidates and parties beyond that provided by the traditional "days per week" measure of self-reported news media use?

The inclusion of a small number of cognitive processing goal measures allowed us to examine the relationships between those variables, media use, and the 2004 knowledge and perception measures. The issue here is whether people may base their news exposure decisions on what they expect to find on the medium vis-à-vis their long-term information processing goals and tendencies. Table 15 presents the correlations between the processing goals and the 2006 media use measures (in days per week; see Appendix C for information about variable construction). On the bivariate level, a number of weak relationships are visible. As one might expect, the measure of need for cognition is positively associated with Internet and radio news exposure but negatively correlated with television news use. Surprisingly, it is not associated with newspaper use. Decisiveness is not associated with any of the media use measures, but closed-mindedness is negatively associated with both newspaper and television news use. All of these relationships are relatively small.

The next set of analyses placed the processing goals within regression models predicting media use. We anticipated that need for cognition, decisiveness, and closed-mindedness would function as significant predictors of media use with other factors controlled. Table 16 presents the results of those analyses. Few of the bivariate relationships persist in these results. Need for cognition continues to predict exposure to Internet news, but that is the only medium with which it is related. Closed-mindedness remains a relatively robust negative predictor of television news use. Taking other media use into account, people who are particularly unlikely to imagine both sides of an argument being correct tend to watch less television news.

We were also able to test whether the processing goals were related to political knowledge, perceptions of parties and politicians, party extremity, and the timing of respondent voting decisions in 2004.[7] Pilot testing direct measures of processing goals allows us to validate them against longstanding ANES measures that may be useful proxies for direct measurement of processing goals. In particular, we expected that time of decision for choosing between presidential candidates and partisan extremity might be usefully employed as domain-specific measures of individual-level processing goals relevant to political information. Aside from decisiveness and closed-mindedness, all of the other variables in Table 17 were measured in the 2004 study. On a bivariate level, respondent need for cognition was related to knowledge and perceptions in the 2004 election (see Table 17 for a report of correlation coefficients). All relationships were positive; people who report liking to think knew more about politics in general and perceived more distance between the major parties and between the presidential

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[7] For this last measure, higher values indicate earlier self-reported voting decisions in the presidential election. See Appendix C for Stata syntax detailing this variable's construction.

candidates in the 2004 election. Decisiveness was positively related to the perception measures, although the relationships were weak and only marginally significant. Similarly, closed-mindedness was a marginal positive predictor of perceived party differences. These relationships were in the expected direction. But contrary to our expectations, the processing goal measures were unrelated to either partisan extremity or the timing of voting decisions.

Table 18 presents data bearing on how processing goals are associated with levels of political knowledge, average perceived issue distance between the parties, and the average perceived issue distance between the presidential candidates when controlling for media use (and political knowledge, in the case of issue distances). In this multivariate setting, with 2006 media use controlled, all three processing variables predicted the distance perceived between the parties in 2004. As expected, decisiveness and closed-mindedness predicted larger perceived distances between the major parties even after controlling for knowledge and media use. The latter coefficient was only marginally significant, however. Interestingly, the sign for the significant influence of need for cognition had changed direction here relative to what appeared in Table 17. Apparently, that variable's relationship with a number of the other variables in the model affected its relationship with party perceptions. Notably, the variable carried the same sign in its coefficient for the model predicting candidate distances; however, it is not significant. Decisiveness was a significant positive predictor of perceived distances between the candidates, as it was in the previous model.

Conclusions

- Overall, we see ample signs of predictive utility in the processing style variables. These measures predicted some news media use and accounted for some of the distance that people perceived among the major parties and candidates in the 2004 election. Of course, the coefficients associated with these relationships are all relatively small, but that may be expected of single-item measures. Were future ANES instruments to include larger batteries of these items, we believe that researchers may find them to be useful antecedents of where people get their political information and what they do with it. It should be noted that decisiveness and closed-mindedness performed almost identically in the results we presented. Thus, it may not be necessary in future studies to include both concepts.

Recommendations

- Include expanded batteries of need decisiveness and closed-mindedness. Suggested scales can be found in Appendix B.

- Additional questions measuring need for cognition to supplement the two included in the 2004 ANES study. Suggested scales can be found in Appendix B.

Summary of Recommendations

The results of the analyses presented here suggest a number of conclusions and recommendations. We began our inquiry with the question of whether assessments of political knowledge can replace media exposure measures. The results presented here demonstrate that while political knowledge is a reliable predictor of political perceptions and behaviors, media use measures provide additional information of potential use to researchers. For example, the results reported in Table 18 reveal that with political knowledge controlled, measures of television news and radio news exposure predicted perceptions of differences between political parties and between presidential candidates. Thus, to omit the media use measures would leave the ANES community with substantially less predictive power. The multivariable models tested here show that measuring exposure to a range of media improves our ability to predict political knowledge, perceptions, and behaviors. For this reason, we have recommended that the ANES retain the measures of newspaper, television news, Internet news, and radio news exposure tested here.

We also believe that the ANES should retain existing measures of interpersonal communication about politics and reformat them to match the response scales used for media exposure. There is a growing body of research that suggests that interpersonal communication and media exposure interact in their influences on political knowledge, opinion, and behavior (e.g., Nisbet & Scheufele, 2004; Shah & Scheufele, 2006). This literature suggests that measuring one without the other is likely to limit the ability of the ANES community to track political information flows and use.

In addition, prior research in political communication has demonstrated that measuring both exposure and attention increases the predictive power of media use instrumentation (Chaffee, & Schleuder, 1986; Drew & Weaver, 1990). As a result, much of the contemporary research in political communication relies on media measures combine exposure and attention to news (e.g., Eveland, Shah, & Kwak, 2003). We recommend measuring both media exposure and attention to campaign news for newspapers, television news, Internet news, radio news, and interpersonal conversation. The ANES has been doing this for many years, but as can be seen in Appendix A, the existing measures of exposure and campaign attention are poorly matched to both one another and to the contemporary media environment.

In short, we propose re-tooling the standard ANES instrumentation with an updated battery of questions. This battery retains major similarities to previous media exposure and campaign attention questions used since at least the 1980s, so continuity in the time series is maintained. But they also track a wider range of media channels and integrate individual-level traits that research on information processing suggests will be needed to track media exposure in an increasingly complex information environment.

Our proposed replacement battery of questions measuring information acquisition in future ANES data collection efforts is included as Appendix B. The 2004 ANES contained a total of 22 questions in the pre- and post-election waves devoted to measuring media exposure, political talk and attention to the presidential campaign through various media outlets. Our proposed replacement battery consists of 26 questions. If only one of the two proposed processing goal scales is used (either decisiveness or closed-mindedness), the total question count drops to 21. *In*

this way, the total number of "new" information acquisition questions would remain about the same as the number of "old" information acquisition questions used in previous ANES studies.

Our proposed set of questions is able to expand both the breadth of coverage and the depth of psychological antecedents to information acquisition while retaining about the same number of questions as used in previous ANES surveys by consolidating a large number of poorly matched and potentially redundant post-wave questions about attention to the presidential campaign and also consolidating the media exposure questions traditionally asked in the pre-election wave. Adding new scales for decisiveness, closed-mindedness, and need for cognition thus results in only a small net gain in the overall number of questions required to complete the battery. Because the number of proposed questions is about the same as the number of existing questions in the 2004 ANES, our proposed changes to the ANES instrumentation are essentially resource-neutral.

One set of analyses presented here tested the utility of asking respondents about the amount of time they spend with specific media on a typical day of use. The idea behind this strategy was to apply measures that increase the validity of assessments of media exposure frequency. Analyses that compared the measure of days of exposure in a typical week with those that asked about length of exposure in a typical day and combined measures of minutes of exposure in a typical week failed to suggest any advantage of the additional time measures. In the absence of evidence of a clear advantage to asking about daily exposure time, we recommend that only days of use in a typical week be retained for future studies. The marginal utility of daily time measures does not appear to justify the expense in survey resources.

The findings presented here also suggest that including a full set of measures of information processing goals in future studies may allow researchers to explain what information citizens seek and what they are likely to do with it. Two subscales of the need for closure scale (Webster & Kruglanski, 1994) were included in the 2006 pilot and each was represented by only one question. Even so, these single items were associated with news exposure and perceptions of parties and candidates. The latter findings are consistent with prior research looking at how partisans with different goals process political information (Holbert & Hansen, 2006). More complete scale measurement of the need for closure should provide researchers with variables of considerable utility for opinion assessments. If future ANES surveys were to measure both subscales—decisiveness and closed-mindedness—that would ideally involve the addition of five questions for each. We recognize that this may demand too much survey time. If one were forced to choose between the two subscales for inclusion, the data examined here marginally point to decisiveness as the more predictive of the two.

The single-item measure of need for cognition (Cacioppo & Petty, 1982) also was associated with both news exposure and perceptions of political party differences in our analyses. The utility of the concept was not surprising, given the emphasis that the Elaboration Likelihood Model (ELM) is receiving in contemporary public opinion research across the disciplines of political science, communication, and psychology. Need for cognition is a central concept in the ELM (O'Keefe, 2002; Petty & Cacioppo, 1986); its accurate measurement is likely to be increasingly important for the ANES. Consequently, we recommend retention of the measures

used in the 2004 ANES and the addition of a small number of items to facilitate scale construction.

We are less confident of what to recommend about the time frame to apply to questions about media use. Both versions of the news exposure questions asked about use in a typical week. The version that included the reference to a "typical week in the past year" appears to have prompted a slight increase in respondents' propensity to report use of newspapers and radio news. If researchers are concerned that prior media questions have inflated exposure to the news, then the additional "in the past year" prompt may be less desirable than a simple reference to a typical week. Unfortunately, comparison of multivariate models using the two question versions added little to the picture. Models featuring the two versions fared somewhat differently, but the coefficients for media use did not differ significantly by time frame. Thus, what small evidence we have suggests that the simplified version may be slightly preferable to the longer, more specific version.

In addition to these conclusions that come directly from our analysis of the 2006 pilot study data, we forward some additional recommendations based on related data collection efforts in other major national studies.

We believe that the political media environment is crowded today and is likely to be even more so in the future. Researchers seeking to understand how audiences are using the range of sources available to them will increasingly need to rely on information exposure questions that are flexible and can capture changes as they occur. In the past, the ANES has tended to be reactive to changes in the media environment rather than current with them. For example, the ANES did not ask about Internet use in 1996 and added only one question about it for the 2000 study. Our analysis of the 2004 ANES and 2006 pilot study measures of Internet news use suggest that even in 2004 we were not fully assessing political news acquisition via that medium. We see the need for future election studies to include media use measures that can capture shifts in information acquisition while they are occurring.

To address this challenge, we see the need for an open-ended prompt 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 politics: "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?" 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 politics. This measure has the advantage of allowing people to volunteer other sources of political news, such as interpersonal conversations or Weblogs or comedy programs, that they consider primary sources of information about politics before those sources are formally recognized as such by political scientists.

Figure 1 shows the trends in Pew's version of this question over the past two decades. Television is generally the medium most commonly mentioned by Americans, followed by newspapers and radio. But in recent years the Internet has overtaken radio as a main source of information about national and international affairs. A recent analysis of the Pew 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 will require a separate question asking respondents to prioritize among the news media that they normally follow.

We anticipate that responses to this question will show, over time, how people respond to changing options in the media environment. Such information can then be used as the empirical basis for further expansion and development of the media exposure battery over time. The question has the additional advantage of allowing the ANES to limit media-specific exposure questions to only five items (four media channels and one for interpersonal conversation). The open-ended prompts will allow the ANES community to identify sub-categories of news (e.g., specific cable news programs, particular Internet sites) that make up the relatively broad media exposure measured by the items we have already recommended. Thus, researchers will be able to assess media use on a detailed level in a relatively parsimonious manner. It matters, for instance, whether someone reporting five days a week of television news exposure is mainly following the O'Reilly Factor on the Fox News Channel, the Today Show, a local news broadcast, or the Colbert Report on Comedy Central. This first question of our proposed media exposure battery will give ANES users a new way to track these important distinctions.

There are some important limitations to the analyses we present here. The first is the fact that the data we used for our analyses are from the preliminary release of the 2006 pilot study. It may be that the final data, just released, will contain slightly different patterns on the variables and relationships of interest here. We do not believe that the final data will be substantially different than what we have here, but it is a possibility. A second limitation of the data is that the assignment to question wording conditions was not entirely balanced. The 5% of the sample who would have received the "past year" prompt under a fully balanced allocation received the other question instead. Thus, the final split was close to 55-45. This hampered the comparison of models featuring the different wording versions. Still, since the allocation to conditions was nonetheless random, there is no reason to think that the imbalance substantially affected the results. The final uncertainty we are not able to resolve is the influence of the instruction to avoid including exposure to sports in estimates of media use. Given the study design, we cannot determine whether this element of the media questions affected the results. Future research can test whether this reminder reduces potential over-reporting of news exposure. In the meantime, we cannot recommend the inclusion of the phrase in future studies.

In sum, we see great potential for the improvement of the ANES media exposure items. The 2006 pilot study provided data useful for testing a number of questions. We look forward to future conversations about the issues we examined here with the ANES board and members of the research community.

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Appendix A

Media Exposure, Political Talk and Presidential Campaign Attention Questions from the 2004 ANES (22 Items Total)

Media Exposure and Political Talk Items

How many days in the past week did you watch the national network news on TV? (PRE)

How many days in the past week did you watch the local TV news shows such as "eyewitness news" or "action news" in the late afternoon or early-evening? (PRE)

How many days in the past week did you watch the local TV news shows in the late evening? (PRE)

How many days in the past week did you read a daily newspaper? (PRE)

How many days in the past week did you read a daily newspaper on the Internet (online)? (PRE)

How many days in the past week did you watch the news on TV? (POST)

There are a number of programs on radio in which people call in to voice their opinions about politics. Do you ever listen to political talk radio programs of this type? (POST)

Do you have access to the Internet or the World Wide Web? (POST)

Do you ever discuss politics with your family or friends? (POST)

How many days in the past week did you talk about politics with family or friends? (POST)

Presidential Campaign Attention Items

How much attention do you pay to news on national news shows about the campaign for president -- a great deal, quite a bit, some, very little, or none? (PRE)

How much attention do you pay to news on local news shows about the campaign for president -- a great deal, quite a bit, some, very little, or none? (PRE)

Did you read about the campaign in any newspaper? (PRE)

How much attention do you pay to newspaper articles about the campaign for president -- a great deal, quite a bit, some, very little, or none? (PRE)

Did you watch any programs about the campaign on television? Would you say you watched a good many, several, or just one or two? (POST)

How much attention did you pay to news on TV about the campaign for president -- a great deal, quite a bit, some, very little, or none? (POST)

Did you read about the campaign in any magazines?

How much attention did you pay to magazine articles about the campaign for President -- a great deal, quite a bit, some, very little, or none? (POST)

Did you listen to any speeches or discussions about the campaign on the radio? (POST)

Would you say you listened to a good many, several, or just one or two? (POST)

In general, how much attention did you pay to news about the campaign for President -- a great deal, quite a bit, some, very little, or none? (POST)

Have you seen any information about this election campaign on the (Internet/Web)? (POST)

Appendix B

Proposed Questions for Measuring Information Acquisition in the American National Election Studies (26 Items Total)

Media Exposure and Political Talk Items (to be administered in the pre-election wave, 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 talk about politics with family or friends? [Note: this variable is slightly modified from V045153a in the 2004 ANES to match the "typical week" format in the media exposure questions above]

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

Presidential Campaign Attention (to be administered in the post-election wave, modified from the 2004 ANES to match items in the media exposure scale above)

7) How much attention did you pay to news on television about the campaign for President -- a great deal, quite a bit, some, very little, or none?

8) How much attention did you pay to news on the radio about the campaign for President -- a great deal, quite a bit, some, very little, or none?

9) How much attention did you pay to news on the Internet about the campaign for President -- a great deal, quite a bit, some, very little, or none?

10) How much attention did you pay to news in a printed newspaper about the campaign for President -- a great deal, quite a bit, some, very little, or none?

11) How often did the campaign for President come up when talking about politics with family or friends-- a great deal, quite a bit, some, very little, or not at all?

Decisiveness Scale (5-item subscale of Need for Closure adapted from Kruglanski, Webster, & Klem, 1993; Webster & Kruglanski, 1994) Note: A revised version of Item 13 was asked in the 2006 ANES Pilot Study.

I'd like to read you a few statements about different ways that people make decisions. I'll read them one at a time. Please tell me how strongly you agree or disagree with each of them.

12) 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

13) I would describe myself as indecisive (r). Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?
14) I usually make important decisions quickly and decisively. Do you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat, or disagree strongly?
15) 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?
16) 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 (5-item subscale of Need for Closure adapted from Kruglanski, Webster, & Klem, 1993; Webster & Kruglanski, 1994) Note: A revised version of Item 17 was asked in the 2006 ANES Pilot Study.

17) 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

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

Need for Cognition Scale (5-item scale adapted from Cacioppo and Petty, 1982) Note: Item 22 and the follow-up branch were asked in the 2004 ANES.

22) 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

23) 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)
24) 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?
25) 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?
26) 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)

Appendix C

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 info=(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—larger values are scored for people who decide early in the election season]

```
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
```

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
```

2006 Turnout

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

Tables and Figure

Table 1. 2006 Pilot Media Exposure Question Wording Split-Ballot

2006	Typical Week	Typical Week in Past Year	t
Internet News Days/Week	2.53 (2.88)	2.51 (2.77)	.07
Internet News Minutes/Day	19.89 (34.38)	25.32 (47.64)	-1.70†
Internet News Minutes/Week	107.83 (205.59)	133.89 (303.26)	-1.31
TV News Days/Week	5.27 (2.29)	5.04 (2.27)	1.33
TV News Minutes/Day	63.34 (73.29)	59.68 (53.98)	.72
TV News Minutes/Week	398.02 (518.35)	357.83 (384.89)	1.11
Print Newspaper Days/Week	3.58 (2.79)	3.92 (2.80)	-1.53
Print Newspaper Minutes/Day	31.82 (35.56)	35.41 (34.11)	-1.32
Print Newspaper Minutes/Week	155.19 (203.34)	162.80 (204.94)	-48
Radio News Days/Week	2.95 (2.78)	3.12 (2.67)	-.34
Radio News Minutes/Day	31.24 (62.47)	27.64 (49.68)	.81
Radio News Minutes/Week	173.36 (411.25)	133.85 (264.51)	1.43
2004	**Past Week**		
Online Newspaper Days/Week (Pre)	.99 (2.10)		
Newspaper Days/Week (Pre)	3.32 (2.92)		
TV News (Post)	4.68 (2.43)		

† p < .10, * p < .05, ** p < .01, *** p < .001

Values in parentheses are standard deviations. 2004 data are from pre-election and post-election administrations. In addition, a series of OLS regression models with the media use measures as dependent variables and education, sex, race, party identification, party extremity, and question wording version as predictors failed to detect any significant effect of the time frame prompt.

Source: 2006 ANES Pilot Study

Table 2. Percentage Saying They Use a Medium at Least Once in a Typical Week, by Split-Ballot Question Wording

	Typical Week	Typical Week in Past Year	χ^2	N
Newspaper Use	79.5%	85.2%	3.66†	664
TV News Use	92.6	93.3	.10	663
Internet use	53.2	54.4	.10	663
Radio News Use	60.1	67.8	4.12*	664

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Because 2×2 tables containing cells with low frequencies tend to deviate from the chi-square distribution, in accordance with standard practice Fisher's exact test was used to determine the significance of the observed differences (Blalock 1979: chapter 15; Bohrnstedt & Knoke 1988: chapter 9). As an additional check, a set of four logistic regression models with the media use measures as dependent variables and education, sex, race, party identification, party extremity, and question wording version as predictors revealed marginally significant effects of the time frame prompt for newspapers and radio news.

Source: 2006 ANES Pilot Study

Table 3. 2006 Pilot Question Wording Split – Predicting 2004 General Political Information

	Days per Week			Logged Minutes per Day		
	Typical Week	Typical Week in Past Year	Difference	Typical Week	Typical Week in Past Year	Difference
Male	.086***	-.085***	---	.086***	.102***	---
Income (pctile)	.001*	.089	---	.001**	.001†	---
Education (years)	.030***	.001***	---	.030***	.034***	---
Black	-.084*	.034	---	-.099**	.001	---
Democrat	-.125**	-.006*	---	-.125*	-.115*	---
Republican	-.085†	-.121	---	-.091†	-.063	---
Party Extremity	.084***	-.057**	---	.087***	.082**	---
Newspapers	.086**	.047	.039	.074	.016	.058
TV News	.020	.064†	-.044	-.027	.057	-.084
Internet News	.068*	.103**	-.035	.055	.072	-.017
Radio News	.093**	.049	.044	.109**	.038	.071
Constant	-.147†	-.215**		-.106	-.185*	
Adj. R^2=	.387	.352		.356	.307	
N=	327	261		327	261	

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Column labels list the question wording and metric of the media use variables used to predict levels of political knowledge. Cells contain unstandardized coefficients from a multiple OLS regression model. The media use variables have been recoded to a 0-1 scale for ease of interpretation across models. Source: 2006 ANES Pilot Study

Table 4. 2006 Pilot Question Wording Split – Predicting Mean 2004 Party Issue Distance

	Days per Week			Logged Minutes per Day		
	Typical Week	Typical Week in Past Year	Difference	Typical Week	Typical Week in Past Year	Difference
Male	-.122	.019	---	-.114	-.009	---
Income (pctile)	-.001	-.001	---	-.001	-.001	---
Education (years)	.051†	.111***	---	.050†	.111**	---
Knowledge	2.307***	2.084***	---	2.237***	1.958***	---
Black	.366*	.216	---	.355*	.165	---
Democrat	-.511*	-.190	---	-.509*	-.205	---
Republican	-.743**	-.310	---	-.739**	-.289	---
Party Extremity	.511***	.400**	---	.515***	.384**	---
Newspapers	-.031	-.205	.174	-.127	.046	-.173
TV News	-.534**	-.321	-.213	-.820**	-.504	-.316
Internet News	.043	.030	.013	.118	.297	-.179
Radio News	.174	.102	.072	.381†	.086	.295
Constant	.074	-.744†		.114	-.780†	
Adj. R^2=	.354	.342		.353	.336	
N=	327	261		327	261	

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Column labels list the question wording and metric of the media use variables used to predict average perceived issue distances between the national parties. Cells contain unstandardized coefficients from a multiple OLS regression model. The media use variables have been recoded to a 0-1 scale for ease of interpretation across models. Source: 2006 ANES Pilot Study

Table 5. 2006 Pilot Question Wording Split – Predicting Mean 2004 Candidate Issue Distance

	Days per Week			Logged Minutes per Day		
	Typical Week	Typical Week in Past Year	Difference	Typical Week	Typical Week in Past Year	Difference
Male	.134	.071	---	.127	.059	---
Income (pctile)	.000	-.004	---	.000	-.003	---
Education (years)	.001	.064*	---	.001	.060†	---
Knowledge	2.071***	1.760***	---	1.964***	1.782***	---
Black	.131	-.114	---	.152	-.149	---
Democrat	-.478*	-.212	---	-.471*	-.201	---
Republican	-.740**	-.291	---	-.722**	-.270	---
Party Extremity	.471***	.359**	---	.467***	.336*	---
Newspapers	-.122	-.144	.022	-.239	.097	-.336
TV News	-.289†	-.188	-.101	-.312	-.346	.034
Internet News	.002	.205	-.203	.114	.356	-.242
Radio News	.140	.359*	-.219	.484*	.238	.246
Constant	.807*	.045		.724†	.092	
Adj. R^2=	.312	.261		.319	.249	
N=	327	261		327	261	

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Column labels list the question wording and metric of the media use variables used to predict average perceived issue distances between the presidential candidates. Cells contain unstandardized coefficients from a multiple OLS regression model. The media use variables have been recoded to a 0-1 scale for ease of interpretation across models. Source: 2006 ANES Pilot Study

Table 6. 2006 Pilot Question Wording Split – Predicting 2006 Vote Turnout

	Days per Week			Logged Minutes per Day		
	Typical Week	Typical Week in Past Year	Difference	Typical Week	Typical Week in Past Year	Difference
Male	-.033	-.241	---	-.150	-.128	---
Income (pctile)	.006	-.002	---	.007	-.001	---
Education (years)	.002	.167 †	---	-.020	.137	---
Knowledge	2.128 **	2.481 **	---	2.367**	2.936**	---
Black	.515	-1.105 †	---	.517	-.687	---
Democrat	-1.568 *	-.797	---	-1.481*	-.541	---
Republican	-1.655 *	-.856	---	-1.556*	-.749	---
Party Extremity	1.314 ***	.875 *	---	1.281***	.773*	---
Newspapers	.904 *	1.396 **	-.492	.623	1.814*	-1.191
TV News	.142	1.010 †	-.868	-.579	.373	-.952
Internet News	-.312	.619	-.931	-.470	-.474	.004
Radio News	.717 †	.121	.596	1.219*	-.244	1.463 †
Constant	-2.361 *	-4.870 ***		-1.616	-3.938**	
Model chi-sq=	63.24***	63.61***		59.90***	51.53***	
N=	327	261		327	261	

† p < .10, * p < .05, ** p < .01, *** p < .001
Column labels list the question wording and metric of the media use variables used to predict 2006 voting. Cells contain logistic regression coefficients. Source: 2006 ANES Pilot Study

Table 7. Coefficient Matrix for 2006 Media Use Measures

	1.	2.	3.	4.	5.	6.	7.
1. Newspaper Use (Days/Week)							
2. Newspaper Use (logged Mins/Day)	**.62**						
3. TV News Use (Days/Week)	.22	.15					
4. TV News Use (logged Mins/Day)	.09	.12	**.72**				
5. Internet News Use (Days/Week)	-.03	.04	-.08	-.07			
6. Internet News Use (logged Mins/Day)	-.07	.08	-.12	-.06	**.84**		
7. Radio News Use (Days/Week)	.08	.09	-.06	-.06	.03	.02	
8. Radio News Use (logged Mins/Day)	.03	.10	-.06	-.00	.07	.08	**.80**

Note: correlations between measures for the same medium are bolded.

Source: 2006 ANES Pilot Study

Table 8. Correlations of 2004 and 2006 Media Use Measures

	2006 Newspaper Use	2006 TV News Use	2006 Internet News Use	2006 Radio News Use	2004 Pre-Election Newspaper Use	2004 Post-Election TV News Use
2006 Newspaper Use	---					
2006 TV News Use	.22***	---				
2006 Internet News Use	-.03	-.08*	---			
2006 Radio News Use	.08*	-.06	.03	---		
2004 Pre-Election Newspaper Use	**.68*****	.13**	.10*	.08*	---	
2004 Post-Election TV News Use	.22***	**.56*****	-.04	-.06	.20***	---
2004 Online Newspaper Use	-.13**	-.11**	**.45*****	.03	.06*	-.06*

† p < .10, * p < .05, ** p < .01, *** p < .001

Coefficients are Pearson Product Moment Correlations. All variables are measured in days/week.

Source: 2006 ANES Pilot Study

Table 9. Principal Component Analysis

	Factor 1	Factor 2	Factor 3	Factor 4
Newspaper Use (Days/Week)	.39	.56	.12	-.59
Newspaper Use (logged Mins/Day)	.27	.63	.18	-.56
TV News Use (Days/Week)	.69	.31	.29	.45
TV News Use (logged Mins/Day)	.62	.30	.28	.56
Internet News Use (Days/Week)	-.63	.31	.64	.12
Internet News Use (logged Mins/Day)	-.64	.30	.65	.11
Radio News Use (Days/Week)	-.29	.65	-.60	.20
Radio News Use (logged Mins/Day)	-.32	.66	-.55	.26
Eigenvalue=	2.07	1.94	1.70	1.31
Factor interpretation:	traditional media preference	general news interest	new media preference	broadcast news preference

Source: 2006 ANES Pilot Study

Table 10. Predicting Political Knowledge

	Days per Week	Logged Minutes per Day	Logged Minutes per Week
Male	.190***	.200***	.190***
Income (pctile)	.100**	.127**	.116**
Education (years)	.311***	.319***	.324***
Black	-.072*	-.080*	-.071*
Democrat	-.233**	-.230**	-.233**
Republican	-.143*	-.157*	-.141*
Partisan Extremity	.340***	.353***	.331***
Newspaper Use	.124***	.045	.115**
TV News Use	.056	.008	.067†
Internet Use	.149***	.074*	.131***
Radio Use	.125***	.090**	.111**
Adj. R^2=	.377	.339	.371
N=	588	588	588

† p<.10 * p<.05 ** p<.01 *** p<.001

Column labels list the metric of the media use variables used to predict levels of political knowledge. Cells contain standardized (beta) coefficients from a multiple OLS regression model. The equations also control for party identification, partisan extremity, gender, education, Income (pctile), and race (coefficients not shown).

Source: 2006 ANES Pilot Study

Table 11. Predictors of 2006 News Exposure

	Newspaper Use (Days/Wk)	TV News Use (Days/Wk)	Internet Use (Days/Wk)	Radio Use (Days/Wk)
Male	-.003	-.059	.182***	.057
Income (pctile)	.061	-.036	.030	.070
Education (years)	.059	-.138**	.070	-.015
Knowledge	.178***	.082	.209***	.192***
Black	-.073†	.110**	-.076†	.009
Democrat	.036	.009	-.010	.138
Republican	-.078	-.008	-.135†	.104
Party Extremity	.037	.051	.098	-.191*
Newspapers	…	.231***	-.108**	.063
TV News	.225***	…	-.041	-.061
Internet	-.110**	-.043	…	-.033
Radio	.060	-.059	-.031	…
Adj. R^2=	.105	.081	.125	.048
N=	588	588	588	588

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Cells contain standardized (beta) coefficients from a multiple OLS regression model. Media use measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Table 12. Predicting Perceived Issue Distances Separating Presidential Candidates

	Days per Week	Logged Minutes per Day	Logged Minutes per Week
Male	.051	.047	.053
Income (pctile)	-.047	-.043	-.048
Education (years)	.051	.052	.051
Knowledge	.416***	.404***	.425***
Black	.016	.015	.014
Democrat	-.152*	-.150*	-.147*
Republican	-.236**	-.229**	-.236**
Partisan Extremity	.379***	.370***	.378***
Newspaper Use	-.047	-.025	-.054
TV News Use	-.079*	-.056	-.082*
Internet Use	.030	.053	.016
Radio Use	.083*	.095**	.072*
Adj. R^2=	.294	.291	.292
N=	588	588	588

† p<.10 * p<.05 ** p<.01 *** p<.001

Column labels list the metric of the media use variables used to predict average perceived issue distances between the presidential candidates. Cells contain standardized (beta) coefficients from a multiple OLS regression model. The equations also control for political knowledge, party identification, partisan extremity, gender, education, Income (pctile), and race (coefficients not shown).

Source: 2006 ANES Pilot Study

Table 13. Predicting Perceived Issue Distances Separating Parties

	Days per Week	Logged Minutes per Day	Logged Minutes per Week
Male	-.026	-.028	-.028
Income (pctile)	-.025	-.021	-.028
Education (years)	.142***	.144***	.144***
Knowledge	.438***	.418***	.443***
Black	.076*	.072*	.074*
Democrat	-.141*	-.143*	-.139†
Republican	-.221**	-.216**	-.220**
Partisan Extremity	.378***	.373***	.380***
Newspaper Use	-.032	-.008	-.043
TV News Use	-.131***	-.109**	-.125***
Internet Use	.012	.046	.013
Radio Use	.045	.061†	.049
Adj. R^2=	.355	.351	.355
N=	588	588	588

† p<.10 * p<.05 ** p<.01 *** p<.001

Column labels list the metric of the media use variables used to predict average perceived issue distances between the national parties. Cells contain standardized (beta) coefficients from a multiple OLS regression model. The equations also control for political knowledge, party identification, partisan extremity, gender, education, Income (pctile), and race (coefficients not shown).

Source: 2006 ANES Pilot Study

Table 14. Predicting Days per Week Discussing Politics

	Days per Week	Logged Minutes per Day	Logged Minutes per Week
Male	-.077†	-.090*	-.083†
Income (pctile)	.075†	.090*	.085†
Education (years)	.025	.002	.032
Knowledge	.141**	.171***	.142**
Black	-.058	-.052	-.052
Democrat	-.186*	-.176*	-.184*
Republican	-.184*	-.178*	-.180*
Partisan Extremity	.297***	.287**	.290***
Newspaper Use	.036	.079*	.043
TV News Use	.085*	.026	.073†
Internet Use	.157***	.114**	.159***
Radio Use	.113**	.119**	.114**
Adj. R^2=	.140	.136	.143
N=	588	588	588

† p<.10 * p<.05 ** p<.01 *** p<.001

Column labels list the metric of the media use variables used to predict days per week discussing politics. Cells contain standardized (beta) coefficients from a multiple OLS regression model. The equations also control for political knowledge, party identification, partisan extremity, gender, education, Income (pctile), and race (coefficients not shown).

Source: 2006 ANES Pilot Study

Table 15. Correlations of 2006 News Exposure and Processing Goal Measures

	Newspaper Use (Days/Wk)	TV News Use (Days/Wk)	Internet Use (Days/Wk)	Radio Use (Days/Wk)	Need for Cognition	Decisive-ness
Newspaper Use (Days/Wk)	--					
TV News Use (Days/Wk)	.22**	--				
Internet Use (Days/Wk)	-.03	-.08*	--			
Radio Use (Days/Wk)	.08*	-.06	.03	--		
Need for Cognition	.04	-.09*	.19**	.08*	--	
Decisiveness	.00	.03	-.02	-.01	.11**	--
Closed-mindedness	-.08*	-.17**	.05	.03	.05	.02

† p < .10, * p < .05, ** p < .01, *** p < .001

Coefficients are Pearson Product Moment Correlations

Source: 2006 ANES Pilot Study

Table 16. Predictors of 2006 News Exposure

	Newspaper Use (Days/Wk)	TV News Use (Days/Wk)	Internet Use (Days/Wk)	Radio Use (Days/Wk)
Male	-.008	-.068	.172***	.058
Income (pctile)	.065	-.027	.021	.062
Education (years)	.065	-.124**	.071	-.004
Knowledge	.172**	.078	.187***	.182***
Black	-.080†	.088*	-.075†	.011
Democrat	.037	-.008	.023	.151†
Republican	-.076	-.019	-.107	.118
Party Extremity	.038	.069	.063	-.212†
Newspapers (Days/Wk)	---	.214***	-.107*	.067
TV News (Days/Wk)	.213***	---	-.030	-.050
Internet (Days/Wk)	-.110*	-.031	---	-.043
Radio (Days/Wk)	.062	-.047	-.040	---
Need for Cognition	-.006	-.035	.085*	.015
Decisiveness	.009	.033	-.030	-.015
Closed-mindedness	-.057	-.151***	.030	.042
Adj. R^2=	.102	.122	.126	.045
N=	582	582	582	582

† p < .10, * p < .05, ** p < .01, *** p < .001

Cells contain standardized (beta) coefficients from a multiple OLS regression model. Media use, decisiveness, and closed-mindedness measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Table 17. Correlations of 2006 Processing Goal Measures and 2004 Political Variables

	Political Knowledge	Average Party Distance	Average Candidate Distance	Party Extremity	Timing of Voting Decision	Need for Cognition	Decisive-ness
Political Knowledge							
Average Party Distance	.52***						
Average Candidate Distance	.49***	.82***					
Party Extremity	.20***	.31***	.28***				
Timing of Voting Decision (higher values indicate earlier decisions)	.13**	.17***	.20***	.28***			
Need for Cognition	.25***	.11**	.12**	.06	.02		
Decisiveness	-.01	.07†	.07†	.04	-.05	.11**	
Closed-mindedness	.01	.07†	.04	-.00	-.01	.05	.02

† p < .10, * p < .05, ** p < .01, *** p < .001

Coefficients are Pearson Product Moment Correlations

Source: 2006 ANES Pilot Study

**Table 18. Predictors of 2004 Political Knowledge and Perceptions**

	Political Knowledge	Average Party Distance	Average Candidate Distance
Male	.181***	-.017	.063
Income (pctile)	.096*	-.021	-.042
Education (years)	.311***	.135**	.056
Knowledge	---	.461***	.429***
Black	-.076*	.086*	.017
Democrat	-.212**	-.163*	-.154*
Republican	-.126†	-.233**	-.235**
Party Extremity	.317***	.392***	.372***
Newspapers (Days/Wk)	.119**	-.029	-.046
TV News (Days/Wk)	.054	-.128***	-.074*
Internet (Days/Wk)	.133***	.028	.037
Radio (Days/Wk)	.119***	.050	.084*
Need for Cognition	.052	-.078*	-.057
Decisiveness	-.022	.077*	.083*
Closed-mindedness	-.024	.059†	.045
Adj. R^2=	.378	.373	.301
N=	582	582	582

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Cells contain standardized (beta) coefficients from a multiple OLS regression model. Media use, decisiveness, and closed-mindedness measures are from the 2006 pilot study; all other variables collected in the 2004 ANES study.

Source: 2006 ANES Pilot Study

Figure 1. Responses to the Question "How have you been getting most of your news about national and international issues? From television, from newspapers, from radio, from magazines, or from the Internet?" [Trends for Magazines Omitted]
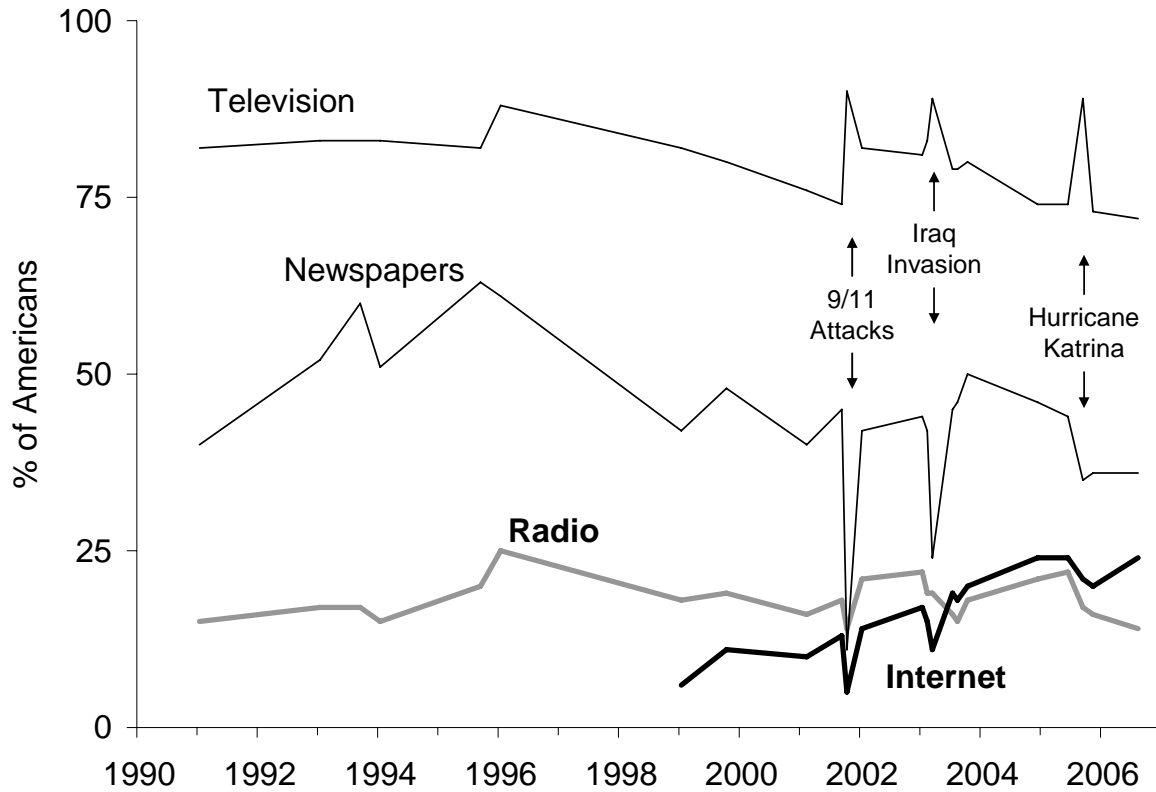
Source: Pew Center for the People and the Press, Althaus (2007) "Free Falls, High Dives, and the Future of Democratic Accountability"