

## *Views from Inside the Net: How Websites Affect Young Adults' Political Interest*

Arthur Lupia

University of Michigan

Tasha S. Philpot

University of Texas at Austin

We use multiple methods to examine how individual websites affect political interest (i.e., citizens' willingness to pay attention to politics at the expense of other endeavors). Our model clarifies necessary conditions for a website to increase political interest. A survey then reveals age-related and site-specific interest changes that are consistent with the model's logic. Respondents of all ages report greater political interest after viewing sites that they rate as effective and efficient than they do after viewing other sites. Age-related interest effects occur because young and old disagree about which sites have these desired attributes. This work makes two contributions: our methods offer a template for understanding the influence of participatory appeals while our finding can help political entrepreneurs engage young adults more effectively.

**P**olitically interested citizens are often described as an important part of a well-functioning democracy. When used in such contexts, the term *political interest* refers to a citizen's willingness to pay attention to political phenomena at the possible expense of other topics. When we say that someone is very interested in politics, we mean that they spend considerable time focusing on politically oriented tasks or materials. When we describe someone as totally uninterested, we mean that they devote all of their time and energy to nonpolitical pursuits.

Like other scholars, we care about political interest because it corresponds to other socially desirable attributes. Verba, Scholzman, and Brady, for example, argue that "citizens who are interested in politics—who follow politics, who care about what happens, who are concerned with who wins and loses—are more likely to be politically active" (1995, 345). Delli Carpini and Keeter find that "Reported interest . . . in politics was a significant predictor of nearly every type of political knowledge we examined" (1996, 175). Others argue that high political interest benefits society (see, e.g., Mansbridge 1999) and individuals (see, e.g., Schuessler 2000) in additional ways.

Given its broad importance, signs of decreasing political interest draw attention and concern. Such is the case with a continuing decline in political interest

levels among the youngest voting age Americans. Using data from “The American Freshman,” Soule reports that

Over the past forty years, no generation has begun with such low levels of interest in politics. Cross-sectional surveys of incoming freshmen reveal that only 26% consider it very important or essential to keep up to date with political affairs. This is a near record low, in contrast to over 50% of students prior to 1970 and 42% in 1990. (2001, 4)

Many scholars are alarmed by this trend and what it portends for future rates of political interest, participation, and information. Some examine why it is happening. Delli Carpini falls into both of these categories and offers the following explanation:

[M]ost of the formal institutions of public life either ignore young adults and the issues that matter to them or are ill equipped to attract young adults and provide them with meaningful opportunities to participate. Parties and candidates see little reason to devote their resources to reaching out to young Americans given that this age cohort is less likely to vote than older Americans. Government officials are unlikely to listen to young Americans, knowing there is little risk that they will be punished for their neglect at the polls. The news media is aimed at an older and increasingly shrinking audience. Traditional civic organizations and interest groups are dominated by issues, governing structures, policy solutions, and/or civic styles that are anathema to younger Americans raised in a faster-paced, entrepreneurial, mass-mediated, and global environment (2000, 344).

In other words, if political institutions, candidates, and organizations can present politics in ways that are more relevant to young voters, the current decline in their political interest levels may be slowed, stopped, or perhaps even reversed.

Following Delli Carpini’s lead, we examine how a focal aspect of public life, the World Wide Web, can increase young adults’ political interest. Our research involves a model and survey that clarify what it takes for politically oriented websites to have such an effect. Our work reveals that viewing a website is more likely to affect a citizen’s political interest if he or she perceives the site as having certain attributes (e.g., nonpartisan, offering unique content, and providing information efficiently). Our survey also reveals an important difference between young and old participants—they disagree about which websites have the desired attributes. The cumulative implication of these results is that increasing young adults’ political interest requires a different communicative strategy than does increasing interest levels in the population at large. One site does not fit all.

## The World Wide Web and Political Interest

We focus on the World Wide Web because it is a plausible venue for increasing political interest.<sup>1</sup> According to the 2000 American National Election Study,

<sup>1</sup> The communicative entity known as the Internet has several components. It includes the World Wide Web, e-mail, file transfer protocols, and bulletin boards. While the terms “Internet” and “World Wide Web” are confounded in common parlance, we aspire to keep the distinction clear. The web, rather than the Internet, is the entity to which we devote our attention. The Internet’s role in our study is to provide the means necessary for people to access the web. We thank an anonymous reviewer for reminding us to remain vigilant in the proper usage of these terms.

63% of respondents had Internet access. And among those aged 18–24, approximately 80% were online. At the same time, the breadth of the World Wide Web continues to increase, including its political space. Web viewers have instant access to content from news organizations large and small, political campaigns, public interest websites, and thousands of government agencies (see, e.g., Adler, Gent, and Overmeyer 1998; Dutton et al. 2004; Owen, Davis, and Strickler 1999).

The web's potential as an instrument for increasing political interest comes from the fact that it allows people to post, at a minimal cost, content that can be viewed all over the world on an ever-increasing array of devices. It facilitates the mixing of text and audiovisual information in ways that can increase interest in, and sharpen memories of, the content (Graber 2001). As a result, it provides a cost-effective way to tailor multimedia political messages to important target audiences—including young adults.

But how audiences will respond to such appeals is an open question. Observers draw the gamut of conclusions. Some, such as Weber, Loumakis, and Bergman “find that participation on the Internet exerts a positive influence on political participation” (2003, 39). Others are more skeptical. Davis argues that “the Internet will not lead to the social and political revolution so widely predicted” (1999, 168), and Bimber concludes that “[t]he new information environment has not changed levels of engagement in any substantial way” (2003, 24). A few claim more dire consequences. Sunstein (2001) contends that the Internet, instead of increasing political interest, will lead people to withdraw further from the public sphere.<sup>2</sup>

We see matters in a different way. The Internet is not a monolith with which people interact as a whole. Instead, individuals interact with specific websites. When one site gets a viewer's attention, the rest of the Internet does not.

“The Internet” is neither the only, nor the best, unit of analysis for gaining information about the medium's effect on political interest. Yet, studies such as those described above base their empirical conclusions on studies in which respondents are asked not about experiences with particular websites, but about general impressions of “the Internet” as a whole. These approaches are problematic—particularly when they produce findings of “no effect”—because only some online presentations leave memorable impressions. While these impressions may, in turn, increase the audience's willingness to pay attention to politics at the expense of other endeavors, they may simultaneously increase others' cynicism or frustration with politics. In such a case, it is entirely possible that the positive

<sup>2</sup> Scholarly research on other communications mediums, particularly television, includes parallel debates. As Norris argues, “the relationship between civic engagement and television viewership is more complex than sometimes suggested” (1996, 479). This literature is divided between scholars who believe media increases engagement (e.g., Norris 1996) and those who believe that media usage depresses political engagement (e.g., Ansolabehere and Iyengar 1995; Patterson 1993; Putnam 2000). Taken together, the evidence suggests that it is not the media per se, but the content of the information being transmitted. Hamilton (2004) adds to the debate by clarifying how market forces affect news content and impact (also see Druckman 2003).

and negative effects just described would reduce each other's visibility in the aggregate. So even if such surveys produce a "no impact" finding, the lack of aggregate movement could mask a sea change in important political dynamics.

Our approach is different. Our study's guiding premise is that questions about how "the Internet" affects a citizen's willingness to pay attention to politics at the expense of other endeavors are better answered by focusing on how *certain kinds of websites* affect *certain kinds of people*. This approach not only clarifies "the Internet's" effect on individual-level political phenomena, but is also more relevant to people who want to use the medium to increase young adults' political interest (e.g., most entrepreneurs can adjust a website's design and content far more easily than they can adjust "the Internet").

From this guiding premise, we offer a study with two parts. The first part is a simple theoretical model. The second part is an unusual web-based survey.

Our model is based on the fact that a web viewer has millions of sites from which to choose, but can concentrate on only one at a time. So if a particular site is to increase a viewer's political interest, the viewer must pay sufficient attention to it and must remember certain things about what he or she viewed. By integrating basic ideas from the empirical study of memory and attention with insights from more formal theories of information search, we characterize the kinds of sites that are likely to increase political interest. We conclude that a viewer's *perception* of a site's *effectiveness and efficiency* is critical. Given the massive competition for a viewer's attention—from other websites and from life in general—viewers are more likely to attend to sites that they perceive as providing interesting information effectively and efficiently. Our model implies that empirical work on viewer perceptions of a website's effectiveness can play an important role in informing debates about how to affect young adults' political interest through electronic mediums.

Our survey is an attempt to collect such data. It was conducted on a representative random sample of American households during the closing weeks of the 2000 general election. Each survey interview was conducted online and began in a standard manner, asking respondents about their attention to news and politics. Then, without prior notice to the respondent, we interrupted the interview and sent every respondent to one-of-nine randomly selected websites for five minutes. Some of the sites were run by leading news and information organizations, such as CNN. Other sites, such as Project Vote Smart, were run by nonprofit organizations. After a few minutes, we asked respondents to evaluate the sites they visited and to report on how the sites affected their political interest. The study shows that viewer perceptions of the kinds of website attributes highlighted in the model play an important role in the site's ability to affect a subject's reported future willingness to pay attention to political phenomena at the possible expense of other topics. It also shows that such perceptions vary by age.

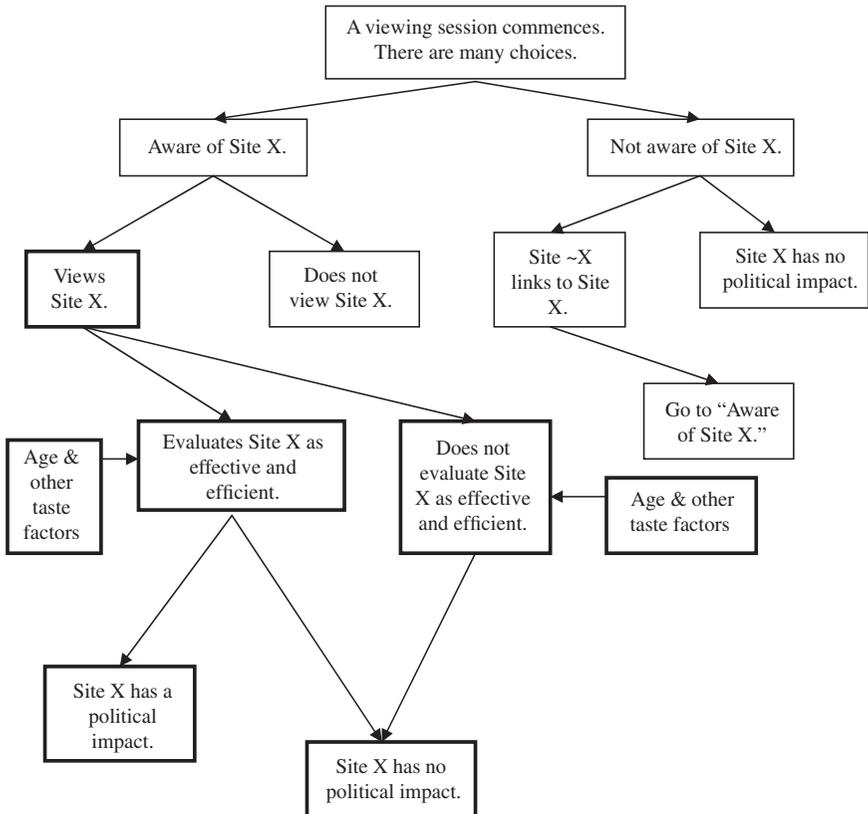
This research has at least two implications. First, findings such as ours cannot be culled from studies of, or conjectures about, "the Internet." Scholars can better understand this communication medium's potential to affect political interest by

augmenting existing “Internet”-level studies with research on how site level phenomena affect individual viewers. Second, web-based attempts to increase young adults’ political interest can benefit from focusing on “views from inside the ‘Net.’” No matter how important or engaging activists or educators might find a particular political presentation, it will have a disappointing impact if young adults perceive the appeal in a different and negative way. Viewer perceptions—and not those of site designers—determine how, and for whom, a website can change political interest.

### Theory of Website-Political Interest Relationship

Our theory builds from the premise that it is worthwhile to focus on how websites affect individuals. Figure 1 depicts our website impact model. The model

FIGURE 1  
Website-Political Interest Relationship



begins (at the top of the figure) with a viewer and an Internet connection in a context that we call a “viewing session.” The model focuses on whether and how a site visited during the session affects the viewer. The figure’s end nodes (towards the bottom of the figure) describe possible results of the viewing session. Following various paths in the figure, as we shall now take a moment to do, clarifies when viewing a particular website affects a viewer’s political interest. The bold parts of the figure denote the focus of our empirical work, a topic to which we shall return.

At the beginning, millions of websites exist, but the viewer can concentrate on only one site at a time. At this moment, she is either aware of Site X or she is not. If she is not aware, then she does not view Site X. If one of the sites she views during this session subsequently alerts her to the existence of Site X (perhaps through a link, a reference, or an advertisement), she becomes aware of it. Otherwise, she concludes the viewing session unaware of Site X and it cannot affect her political interest during that session. If the viewer is aware of Site X, she views it or she does not. If she does not view Site X, it cannot affect her political interest during the session.<sup>3</sup>

Now consider the case where she is viewing Site X during the session. She can stop viewing it at any moment. She may switch to any of the other millions of other available sites or choose to do something other than surf the web. To affect her political interest, however, the site must engage her attention for a sufficient period of time. Otherwise, the site’s content can never make the leap from short-term memory (which is little more than a cognitive holding center with low capacity and high rates of decay, Kandel, Schwartz, and Jessell 1995, 664) to long-term memory (which is a necessary condition for the stimulus to affect future attitudes and actions). We discuss attention and memory requirements briefly, and in turn.

Following the logic of information search models in several social sciences, the viewer will devote her scarce cognitive resources to the site only if it provides her with greater perceived benefits than other objects to which she can attend (see, e.g., the review in Lupia and McCubbins 1998, Chapter 2). The exact attributes of a stimulus that can retain a person’s attention vary with the person’s expectations and context (see, e.g., Schacter 2001). For present purposes, we simply state that the site will retain the viewer’s attention and is eligible to affect her subsequent political interest only if she perceives the site as providing interesting information effectively and efficiently. In such a case, she is less likely to trade viewing the current site for other opportunities, such as “changing the channel” or “logging off.” That is, if the site provides information that is uninteresting, or if it provides interesting information in a manner that the viewer perceives as

<sup>3</sup> It is possible that a Site Y could post on its own site content from Site X. For the purpose of this study, we count Site Y as having the impact on the viewer if it is where the viewer engages the relevant content. In this case, the designer of Site Y made a decision about content that was sufficient, given that the viewer was already at Site Y, to impact the viewer.

slow or difficult to retrieve, then the viewer is more likely to direct her attention elsewhere.<sup>4</sup>

If she stays on the site long enough and engages it with sufficient energy, then she will begin to elaborate on its content (see, e.g., Kandel, Schwartz, and Jessell 1995, Chapter 35; Petty and Cacioppo 1986). In so doing, she will compare the content to her current beliefs. If she perceives the new information is sufficiently relevant and credible, she will devote mental energy to updating her beliefs. If she devotes sufficient energy and if the new information is sufficiently novel, then Site X will produce a distinct memory.

Changing an aspect of memory (where the change can either create a new memory or entail the reinforcement or inhibition of an existing memory) is a *necessary condition* for the site to increase the viewer's political interest. For if Site X changes her belief about absolutely nothing, then she has no basis for paying a different amount of attention to politics than she had before. The belief change can be about the personal importance of a particular political issue (e.g., encountering a new fact about environmental policies or partial birth abortions), a realization that becoming informed about politics is easier or more difficult than previously anticipated, or even a conclusion that Site X is worth revisiting—a conclusion which brings her back to the “Views” stage of our model and provides Site X with new chances to affect her.

In sum, Site X can increase a viewer's political interest during a viewing session only if she:

- is aware of the site or visits a site that makes her aware of it;
- views the site;
- perceives the site as providing interesting information effectively and efficiently;
- stays on it long enough to elaborate on the site's content; and
- the elaboration changes her beliefs about some phenomena, which, in turn, changes her interest in politics.

Failure to satisfy *any* of these conditions is sufficient for Site X to have no impact during the viewing session.

It also follows that just because Site X satisfies the conditions for one type of person, say an older adult, the site need not satisfy the conditions for others, such as young adults. Indeed, existing research reveals substantial age-related differ-

<sup>4</sup> This dynamic also depends on perceived attributes of other sites. If, for example, a viewer believes that 100 sites offer interchangeable information on a particular topic, then we expect her to be less patient with any particular site, and if she has a bad experience with a site, she will believe it easy to find a substitute. If, however, the viewer perceives that a particular site is the only one with the information she needs—such as is the case when a viewer attempts online commerce with a vendor who sells a particular product only on its own website, then the viewer may put up with slower performance. Given the large number of news and political sites that closely resemble those in our empirical study, we suspect if viewers perceive them to be ineffective or inefficient, they are less likely to draw or retain a viewer's attention.

ences in which kinds of Internet-based content (Iyengar and Jackman 2003; Lenhart, Rainie, and Lewis 2001) and websites (Frydlewicz 2002) interest young and old. Therefore, for those who seek to determine whether a particular site can affect the political interest of a particular target audience such as young adults, the theory highlights the importance of collecting data on whether the audience perceives the site in ways that allow satisfaction of the conditions listed above.

## Survey Data and Methodology

As noted above, some scholars have made broad claims about the Internet's impact on individual political phenomena. However, few base their conclusions on direct reasoning about, or evidence of, site-user interactions. In what follows, we describe a survey that examines such effects and, in so doing, allows us to evaluate the nulls of three key hypotheses about the correspondence between website viewing and political interest that follow from the theoretical model and empirical literature cited above. They are:

- The Internet's effect on political interest depends on the website(s) viewed;
- A website's effect on political interest depends on the viewer's age; and
- A website's effect on political interest depends on how viewers perceive the site.

The survey was commissioned and funded by the Markle Foundation. It focuses primarily on sites in the Web White & Blue Network. This nonpartisan consortium of 17 of the largest Internet news and news organizations worked together to highlight the Internet's potential to expand citizen participation. Network members included CNN, Fox News, *The New York Times*, *USA Today*, and Yahoo. In addition, a Markle-funded site called [webwhiteandblue.org](http://webwhiteandblue.org) offered innovative content.<sup>5</sup> Our study focuses on the sites named above plus others, such as [vote-smart.org](http://vote-smart.org), for which comparisons to the Web White and Blue project proved useful.<sup>6</sup>

Respondents were drawn from a randomly selected subset of the Knowledge Networks panel.<sup>7</sup> It is a national sample, compiled in the same manner as leading telephone-based surveys, with the firm obtaining respondent names from a nationally focused random digit dialing sampling procedure. Once contacted,

<sup>5</sup> The site, which received over 7.5 million page views from June 28, 2002 to Election Day, contained a "Rolling Cyber Debate" between the presidential candidates, a daily selection of links to online political information from the 17 charter sites, a Featured Non-Profit Site of the Week, and a unique and widely used directory of state-by-state election information.

<sup>6</sup> More information about this study is available in Lupia (2001) and Lupia and Baird (2002). While these studies use the same data as ours, the analyses do not overlap.

<sup>7</sup> Following large-scale experimental design principles articulated by Sniderman and Grob (1996), Knowledge Networks selected each respondent randomly and without prejudice to whether or not they had used, or even heard of, the sites in which we were interested.

potential respondents are offered WebTV (a utility that allows people to access the Internet through television sets) access and other rewards in exchange for serving as a member of the Knowledge Networks panel. Panel members then complete surveys that are administered online.<sup>8</sup> Our sample included 1,199 members of the panel who were interviewed between October 13 and November 6, 2000. Using the standard AAPOR measure, the response rate was 55%.<sup>9</sup> The interview was conducted online.

While not yet standard practice in political science, web-based surveys offer several important advantages over other more conventional means of collective data. The first advantage is that any question that can be read on the phone can be printed on the screen, which helps respondents control the interview's pace. The second advantage is that a web-based survey allows visual attributes to become part of the experimental design (see, e.g., Prior 2002). For our study, as shall soon become apparent, the main advantage was that the Knowledge Networks technology allowed us to conduct a study involving seamless transitions between survey interviews and website viewing sessions.<sup>10</sup>

The interview begins with standard questions about political behavior and Internet usage. Then, a random number generator determines which version of the question "Have you ever heard of [SITE]?" a respondent receives. There are

<sup>8</sup> A critical aspect of the Knowledge Networks sampling strategy is to employ contacts and callbacks in a manner that produces a representative sample on major socioeconomic dimension. Analyses of the Knowledge Networks panel by leading scholars not affiliated with the company have found its representative qualities to be comparable to that of leading phone surveys (Krosnick and Chang 2001). One respect in which the KN panel is not representative is that all of its members have Internet access. However, Krosnick and Chiang's analysis seeks the panel's representativeness even at the economic extremes of the socioeconomic spectrum. While it is more difficult for KN to get very wealthy (more likely to have broadband access already) and very poor (less likely to have space or home infrastructure), the firm's professional reputation depends on its ability to succeed at these tasks. The Krosnick and Chiang work provides solid evidence that KN has achieved success on this front. Of course, given that those who have utilities such as WebTV and broadband are also more likely to have answering machines, caller ID, and other call filtering devices, it may be that the Krosnick and Chiang results reveal nothing more than that all large-scale electronic-based surveys are now biased away from those who do not want to be bothered with responding. To us, the implication is that large-scale surveys do not provide perfect data but remain the most cost effective means for constructing large N data sets consisting of individual-level data that, if sampling and other design elements are transparent and theoretically defensible, has many scientifically desirable qualities.

<sup>9</sup> Additional information about the response rate and alternate measures are included as Appendix A.

<sup>10</sup> A disadvantage of this survey mode is that we expect Knowledge Networks panel members to be more frequent users of the web than the American population at large (though given the steady growth in Internet access generally we expect the difference to continue to diminish over time). We are mindful of this fact when drawing inferences, but contend that its effect on our results is limited by the fact that we make no claims about the percentage of Americans taking any particular actions. Instead, we document and attempt to explain differences *in reactions* to the websites in our study. For that reason, it is more important that our respondents be randomly assigned to particular websites than it is for respondents to be representative of the general population in terms of Internet usage.

nine versions of the question, each of which corresponds to one of the nine sites in our study. Those who answer “yes” are also asked, “Do you ever go onto [SITE] to get news and information on the presidential campaign?” After answering these questions, and without warning, respondents receive a message:

Now we are going to send you to [SITE]. For the next five minutes, we would like you to use this site to learn about the candidates in the presidential campaign. At the end of the five-minute session, this interview will resume and we will ask you questions about it.

453 respondents were interrupted once, 746 were interrupted twice. The first interruption sent all respondents to [webwhiteandblue.org](http://webwhiteandblue.org).<sup>11</sup> The second interruption randomly assigned respondents to one of eight sites: [cnn.com](http://cnn.com), [foxnews.com](http://foxnews.com), [isyndicate.com](http://isyndicate.com), [politics.yahoo.com](http://politics.yahoo.com), [politicalinformation.com](http://politicalinformation.com), [nytimes.com](http://nytimes.com), [usatoday.com](http://usatoday.com) and [vote-smart.org](http://vote-smart.org). By interrupting the survey and randomly assigning respondents to various websites, we can gain leverage on the causal impact of viewing various websites.<sup>12</sup> Random assignment allows us to avoid selection bias that may arise as a result of either prior knowledge of a particular website or prior levels of political interest.<sup>13</sup>

The number of sites used in the second interruption is a function of the sample size and a desire to have at least 75 respondents view each site. Markle’s criterion for choosing sites was that most—but not all—be part of the Web White and Blue Network. Our criteria were that the sites vary in whether they were commercial or nonprofit in origin, and that they vary in whether respondents are likely

<sup>11</sup> The rationale for this choice is one of efficacy. While Markle organized the Web White and Blue Network, the only site whose content it controlled was [WWB.org](http://WWB.org). Therefore, we were asked to gather large amounts of data on [WWB.org](http://WWB.org) because lessons learned about its impact could be implemented directly.

<sup>12</sup> The purpose of the interruption is to gauge the impact on an individual of exposure to a specific site. We felt it important to measure responses to specific sites while attributes of the sites were still fresh in respondents’ minds. Such data is very difficult, to get over the phone and likely impossible with a large representative national phone sample. To do so, not only would all respondents need to get internet access within a particular time interval of being interviewed, they would have to be induced to view particular sites. Absent our design, it is far less likely that respondents using the Internet will remember that they encountered certain kinds of content at specific sites—particularly if their viewing session entailed a quick sequence of visits to multiple sites. A secondary reason for this intervention is the following desire: given the sites we use, their random assignment to respondents, and our attempt to attract a diverse sample of respondents—our hope was that many respondents would be seeing the site in question for the first time.

<sup>13</sup> Random assignment does not allow us to test the part of our theory that explains how people choose among websites. On a large random sample, it is impractical to try to run a study such as this while giving people such a choice—with the large number of websites it is unlikely that more than a few in a population of 1000 respondents would choose any particular site. Elsewhere (Lupia 2001, 109–64), we have run such a study in a laboratory setting. There, respondents were given lists of websites that varied in length and content. These experiments showed that the impact of individual sites depended greatly on the content of other sites on the list. In other words, the kind of competition for attention among websites described in this paper’s theoretical section affected viewer responses in that study.

to have heard of or used them. After each viewing session, we asked respondents to agree or disagree with a set of statements. Some statements sought *site evaluations*, such as “I can use [SITE] to get the information I want quickly and easily.” Others probed *personal impact*—measures of whether the site affected respondents’ political interest. In other words, our study focuses on the parts of the website impact model whose boxes and fonts are in bold. It begins at the point where a respondent views a particular site and ends with consequences of viewing the site.

Our analysis begins with the assumption that respondents in our sample have varying levels of political interest. Given existing levels of political interest among the respondents, we examine whether these levels are marginally affected by viewing different websites. In the process, we focus on whether the impact of individual websites is contingent on age.

Like scholars (e.g., Almond and Verba 1963; Verba and Nie 1972) before us, we measure political interest as a function of respondent’s willingness to pay attention to politics at the expense of other endeavors. Our measure of this dependent variable as a three-item additive index built from answers to the following interest-oriented statements:

- [Site] makes me want to learn more about politics.
- [Site] makes me more likely to talk about politics with others.
- [Site] makes me more likely to vote in the November election.

We code answers to each of these questions from zero to one, where responses receive a one if the respondent strongly agreed with the statement, zero if the respondent strongly disagrees, .25 and .75 for the values in between. We then add the score for each item into a political impact index that ranges from 0 to 3. The interitem correlation of these items ranges from .55 to .72 and the reliability coefficient for these items is .83.<sup>14</sup>

Our primary independent variables measure what site a respondent saw and his or her age. To measure site-specific effects, we include dummy variables for all but one of the websites to which our respondents were randomly assigned. The excluded website is foxnews.com, so the coefficients of site-specific dummy variables reflect the effect of the named website in comparison to foxnews.com. The variable *Age* is a dummy variable and equals 1 for age 18–24 and zero for age 25 or older. We present age in this way to highlight differences between the youngest respondents and others. We have also used more continuous measures of age and achieved similar results. To document age-specific effects on particular sites, we interact age with each of the site-specific dummy variables.

<sup>14</sup> Except where noted, we scale all independent variables in our analysis to the [0, 1] range to make the effects of these variables easier to compare. In each case, the coefficient represents the effect on political impact of moving the named independent variable from its minimum value to its maximum value.

Each of our OLS regressions includes a set of control variables. The first set of controls act as proxies for factors that have been linked to outcomes such as political interest. These variables measure basic demographic (race, gender, income, and education level) and political factors (the respondent's party identification and level of partisan attachment). We also gauge the respondent's prior Internet use to elicit differences between frequent and infrequent Internet users (whether the respondents have previously used the Internet, or the site to which they were randomly assigned).

## Results

As stated earlier, the youngest cohort of voters are the most likely to be online but the least likely to be politically engaged. Table 1 confirms that our sample is no different and shows that young respondents are less likely than others to go online for general news and less likely to seek political news on the occasions when they look for news. These findings reinforce the common stereotype of younger citizens as relative "slackers" when it comes to politics. It also shows that the mere existence of online opportunities to obtain political information is not sufficient to engage many young adults. Such findings, however, do not address questions about whether, and for whom, a particular site can make a difference. So while many Internet and politics studies conclude with the kinds of results displayed in Table 1, we now turn to an analysis of what happens when people interact with individual sites. In so doing, we focus on the three hypotheses that motivated our empirical discussion.

TABLE 1  
News and Political Information Internet Viewing Habits, by Age  
(in percent)

	18-24	25-54	55+
Do you ever get any kind of news online?	69	79	73
Did you happen to do this with the past week, or not?	43	56	54
How often do you go online for this type of information?			
Every day	13	28	29
3-5 days/week	17	24	26
Less	67	47	44
Do you ever look for news or information about politics or the presidential campaign?	23	48	51
Did you happen to do this within the past week, or not?	9	23	25
How often do you go online for this type of information?			
Every day	0	16	18.5
3-5 days/week	36	20	27
Less	64	64	54
N	70	849	279

Table 2 presents our main results. The table contains four data columns, where each column refers to a separate estimation. We will first direct your attention to the two left-most data columns, which lie under the heading “Age and Website.” Later, we will direct your attention to the two right-most data columns and draw an important comparison. The reason for two regressions under each heading is that we ran one for *webwhiteandblue.com*, the first site that all respondents viewed, and one for the other eight sites to which respondents were randomly assigned.<sup>15</sup>

The two left-most columns of Table 2 provide initial evidence against the nulls of the first two hypotheses. The site-specific variables’ coefficients reveal differences in how sites affected respondents’ political interest. Respondents who were randomly assigned to I-syndicate, *The New York Times*, and *USA Today* reported significantly lower levels of political interest than subjects who were randomly assigned to the excluded category, *foxnews.com*. By contrast, respondents who were randomly assigned to Project Vote-Smart’s site reported significantly higher levels of political interest. Overall, such findings work against the null hypothesis, “The Internet’s effect on political interest does not depend on the website(s) viewed.” Sites matter.

The two left-most columns also offer evidence against the null hypothesis, “A website’s effect on political interest does not depend on the viewer’s age.” The coefficients on the variables that interact I-Syndicate and *politicalinformation.com* with age suggest significant age-related effects in how being randomly assigned to these sites affects political interest. The negative impact on political interest of being randomly assigned to each of these sites increased significantly with age. In the Web White and Blue regression, the *Age* coefficient is also significant.

In sum, we observe site- and age-based effects in the left-most columns of Table 2. We now offer an explanation of these effects. The explanation comes from the website impact model described above. In it, a website is more likely to have an impact if a viewer perceives the site as providing important information effectively and efficiently. Our measure of these perceptions is our viewers’ responses to the following statements:

- I can use [site] to find information that I have not seen elsewhere;
- I can use [site] to find information that is accurate and nonpartisan; and
- I can use [site] to get the information I want quickly and easily.

<sup>15</sup> Each respondent saw one or two sites, depending on the number of times their interview was interrupted. Therefore, in our data matrix taken as a whole, we have two observations per respondent. An implication is that if we ran a single regression on the entire matrix without correcting the standard errors, we would be drawing statistical inferences that are based on a false assumption—that the observations are independent. Statistically, there are a number of ways to proceed from such a point. We have chosen a conservative path, one that does not require additional and untested assumptions about the estimation’s error structure, which is to run one regression for *webwhiteandblue.com* and one regression for the other eight sites.

TABLE 2  
OLS Estimates of Political Interest

	Age and Website		Age, Website, and Evaluation	
	WWB	Eight Other Sites	WWB	Eight Other Sites
<b>Focal Variables</b>				
Age	.192 (.12)*	-.470 (.62)	.042 (.10)	.204 (.53)
Site Evaluation			.645 (.03)*	.456 (.03)*
<b>Site Dummies</b>				
Vote-Smart		.259 (.14)*		.186 (.12)*
Yahoo		.048 (.14)		-.061 (.12)
I-Syndicate		-.212 (.14)*		-.114 (.12)
CNN		-.188 (.15)		-.206 (.13)*
Political Information		-.006 (.15)		.043 (.13)
NY Times		-.341 (.15)*		-.109 (.13)
USA Today		-.195 (.14)*		-.204 (.12)*
<b>Age Site Interactions</b>				
Vote-Smart * Age		.447 (.73)		-.197 (.64)
Yahoo * Age		-.504 (.87)		-.433 (.76)
I-Syndicate * Age		-1.553 (.88)*		-.896 (.76)
CNN * Age		-.737 (.72)		-.587 (.62)
Political Information * Age		-1.923 (1.07)*		-.688 (.93)
NY Times * Age		-.224 (.74)		-.084 (.64)
USA Today * Age		-1.104 (.73)*		-.318 (.64)
<b>Control Variables</b>				
Black	.069 (.13)	.160 (.16)	.032 (.11)	.072 (.14)
Education	-.065 (.02)*	-.060 (.03)*	-.028 (.02)*	-.038 (.02)*
Income	-.009 (.01)	-.009 (.01)	-.002 (.01)	-.011 (.01)
Female	.088 (.05)*	.079 (.07)	.069 (.04)*	.067 (.06)
Party Identification	-.009 (.01)	-.003 (.02)	-.012 (.01)	-.003 (.02)
Partisan	.049 (.03)*	-.006 (.04)	.036 (.02)*	-.015 (.03)
News Online	.023 (.07)	.053 (.10)	-.003 (.06)	.076 (.09)
Politics Online	.180 (.06)*	.185 (.08)*	.180 (.05)*	.238 (.07)*
Has Previously Visited Site		.269 (.14)*		.081 (.12)
Constant	1.401 (.17)*	1.502 (.25)*	.031 (.15)	.319 (.23)*
N	1,019	574	1,019	574
Adjusted R-squared	.02	.05	.37	.29

Standard errors appear in parentheses beside coefficients. Omitted website is Fox News.

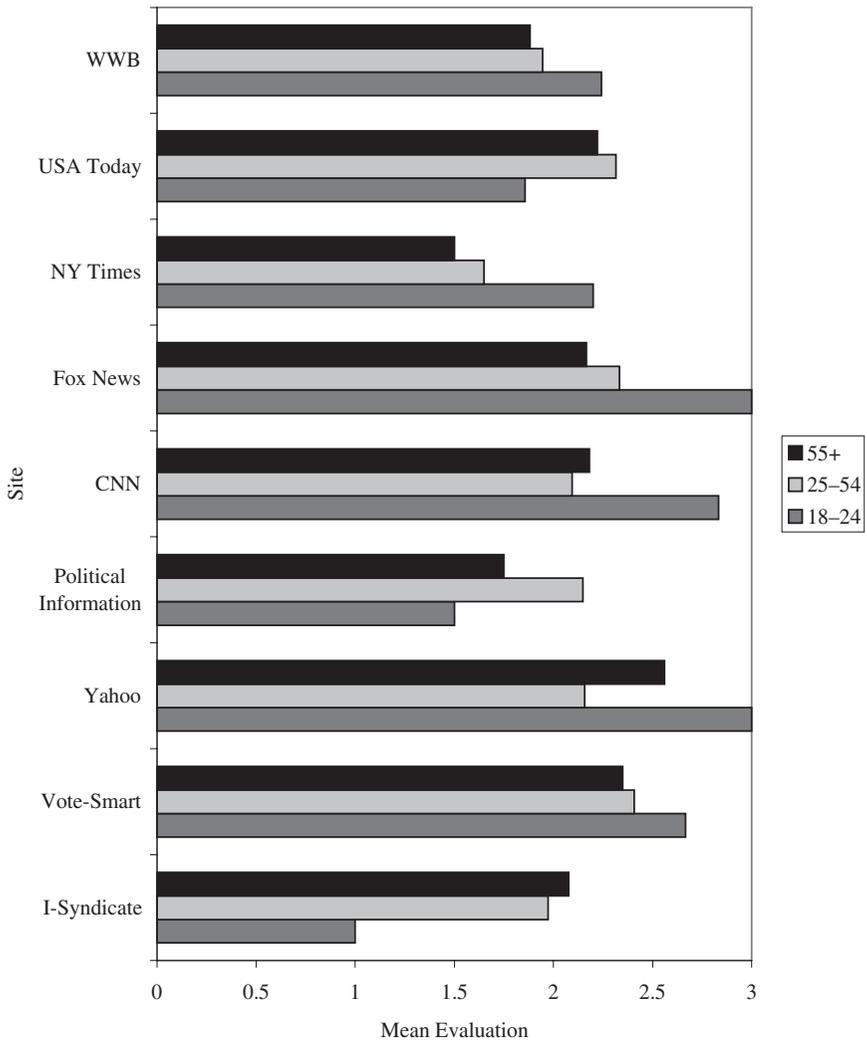
\* $p < .10$  (one-tailed test).

We code each response as 0 if the respondent disagrees with the statement and 1 if the respondent agrees with the statement. To simplify the presentation, we combine these responses into a *site evaluation* index that ranges in value from 0 (disagrees with all three statements) to 3 (agrees with all statements). The

interitem correlations of the three measures ranged from .76 to .77 and the Chronbach's alpha was .91.

Figure 2 depicts the values of the evaluation indices for the nine websites in our study. It shows a lot of variation by age and site. For instance, on average

FIGURE 2  
Site Evaluation by Age



18–24 year olds give Yahoo and Fox News the highest possible rating, while older respondents liked the Yahoo and Vote-Smart sites best, on average.

We now examine how the site evaluations correspond to what respondents say about their political interest later in the interview. Our model predicts that as the value of the site evaluation index increases (i.e., as respondents are more likely to perceive a site as providing important information effectively and efficiently) the site's political impact should increase (i.e., respondents are more likely to report increased interest in politics). We therefore expect our analysis of the data to provide evidence against our third and final null hypothesis, "A website's effect on political interest does not depend on how viewers perceive the site." For this purpose, we return to Table 2.

Table 2's right-most columns offer a modified version of the first two OLS regressions. The new estimations differ in that they add the relevant site evaluation index. Our model leads us to expect positive coefficients for the new variable. The results are consistent with this expectation. Positive site evaluations correspond significantly to increases in reported political interest after viewing a randomly assigned website. Viewer perceptions of the site to which they were randomly assigned are an important component in understanding respondents' reactions to the political interest questions.

Table 2 also explains the age and site-specific findings described earlier. Once we control for respondents' site evaluations, the age-site interactive effects we saw earlier dissipate, though they do not disappear. For instance, where there was a 1.1 unit difference between 18–24 year olds and others in the reported political impact of viewing *USA Today*, this difference decreases to .31 once we control for site evaluation. Similarly, the difference between these age groups who viewed the CNN website is .74 before controlling for site evaluation and .59 after site evaluation is included in the model. In short, when you control for site evaluation, age-site interactive effects shrink.

When we combine the shrinking coefficients of Table 2 with the age-specific variations in site evaluations documented in Figure 2 we conclude that when it comes to using "the Internet" to increase political interest, *one site does not fit all*. Young adults evaluate the sites in our study differently than do older respondents. Some sites that younger adults perceive as providing important information effectively and efficiently, older adults do not—and vice versa. However, once young adults find a site with such attributes, the positive effect that it has on their political interest is not that different than the effect that similarly perceived websites have on other age groups.

The key, therefore, to an effective online strategy for increasing young adults' political interest is website design strategies that this group perceives as providing interesting information effectively and efficiently. Such strategies may be unconventional. They may lead to a presentation of political news that is more like MTV than *The Economist*. If, however, the goal is to increase young adults' interest in politics, capturing their attention implies engaging them on their own

terms. As Delli Carpini's quote at the beginning of this paper suggests, those who want to increase young adults' interest can succeed if they make politics more relevant to them.

## Conclusion

Websites are a relatively new communicative medium. While this fact has provided social science with a limited window to explore their impact, it has one attribute about which all can agree—its potential to affect political interest is substantial. Larsen and Rainie, for example, extrapolate from a survey of 2000 Americans to conclude that “42 million Americans have used government Web sites to research public policy issues. 23 million Americans have used the Internet to send comments to public officials about policy choices. 14 million have used government Web sites to gather information to help them decide how to cast their votes,” and “13 million have participated in online lobbying campaigns” (2002, 2). Such results suggest that the Internet is an important means by which citizens interact with, and learn about, politics. They also suggest that the Internet has great potential to affect political interest.

Unlike many current observers, we conclude that “the Internet,” and specifically “the web,” can increase young adults' interest in politics. We argue, however, that finding such effects requires looking “inside the Net.” For if the web is going to affect people's political interest it is going to be because a particular site catches their attention and induces them to think about some aspect of politics in ways that they had not before. Our work provides a template for examining such effects. The model clarifies why some sites are more likely than others to affect political interest. The survey design offers a way to document and test such relationships.

We also observe age differences in how individual sites affect political interest. The differences are explained, in part, by the fact that young and old evaluate the same sites differently. This result implies that people who are interested in using the web to reverse recent declines in political interest can increase their likelihood of success by understanding their target audiences' perceptions of key website attributes. A logical next step for future researchers is to delve into what it is about a website's content, presentation, and design—a topic known as usability studies (Nielsen 2000)—that drive the kinds of site and age differences we observe.

Another topic for further investigation entails applying aspects of our research design to other forms of political communication such as television programs, advertisements, and campaign materials. We think this will be fruitful because how *any* kind of political communication affects cognitive factors such as political interest depends on its ability to win the battle for the target audience's attention. This battle is a core of our theoretical perspective—for if an appeal is ignored then it cannot change a person's future willingness to pay attention to political phenomena at the possible expense of other topics. We have found this

point easier to convey in the case of the Internet because it is common knowledge that it contains millions of individual websites. Scholarly audiences readily accept the premise that competition for viewer's attention just has to be part of the analytic equation. However, this aspect of Internet-centered studies just makes apparent a dynamic that is true for all forms of political communication—there is a constant competition for the attention of target audiences. Just like the Project Vote Smart site competes with millions of other sites for the attention of web viewers, political communications of all forms face billions of competitors—namely everything else to which a person can pay attention (most of which is nonpolitical). To drive this point home, we once again present the final conclusion of our theory section after replacing references to a particular website with references to any political appeal.

“Appeal X can increase a citizen's political interest only if she:

- is aware of the appeal or encounters someone or something that makes her aware of it;
- is exposed to the appeal;
- perceives the appeal as providing interesting information effectively and efficiently;
- focuses on it long enough to elaborate on the site's content; and
- the elaboration changes her beliefs about some phenomena, which, in turn, changes her interest in politics.

Failure to satisfy *any* of these conditions is sufficient for the appeal to have no impact during the exposure.” If we can agree that for an appeal of any kind to increase young adults' political interest, the appeal must persuade them to pay attention to politics at the expense of other endeavors, then it can be constructive to think about the conditions under which such persuasion occurs. Such work exists (see, e.g., the review in Graber 2001) but much more work in this vein—particularly on the theoretical side—can be done.

In sum, we are not under the impression that a website or two is sufficient to reverse broad aggregate declines in political interest. Many factors are feeding it. The Internet, however, does provide an opportunity. Young adults spend time on it. There are moments at which they encounter political content. These moments have the potential to change their beliefs about the value of being politically active or engaged. Political science can be more relevant to achieving the potential in such moments than it is today, but only if it expands its repertoire of studies about “the Internet's” impact to include analyses of how websites and individuals interact.

## Appendix A

*Response Rate Report*

N Cases Fielded	1562	
<b>Survey Response Rate Components</b>	<b>Rate</b>	<b>Note</b>
A. Panel Recruitment Response Rate	.554	AAPOR Response Rate 3
B. Household Profile Rate	.73	
C. Survey Completion Rate	.675	
<b>Response Rate Calculations</b>		
ORR2	27.3%	A*B*C
ORR3	37.4%	A*C
<b>Methodological Notes</b>		
1. All stages of nonresponse are represented in the table.		
2. For A, and B, the approach taken was to calculate the pertinent rate for each RDD panel recruitment replicate that contained a sampled case. This mean value for the replicate was assigned to the case that was sampled from that replicate. The mean rate across all the sampled cases was then calculated for A and B separately.		
3. The HH Profile Rate is the percentage of households recruited at A where an adult completed the demographic profile survey.		
4. The Household Retention Rate is the percentage of households profiled at B where an adult was active and available for sampling for the web survey.		
5. The Survey Completion Rate is the percentage of sampled cases that completed the web survey.		
7. ORR2 is the overall response rate excluding the impact of panel attrition, treating nonresponse bias as ignorable from this source. In methods research, nonresponse bias due to panel attrition has been estimated at 1 percentage point over 323 social, political, value, and consumer behavior measures.		
8. ORR3 is the overall response rate excluding the impact of non-profiles of households and panel attrition. The basis for treating nonresponse as ignorable rests on methods research on panel attrition impacts (see ORR2) and the KN survey sample selection protocol, which selects random samples to correspond to Census benchmarks for age, gender, race/ethnicity, and education status.		

## Acknowledgments

We thank the Markle Foundation for funding this research. We also thank Sean E. Cain, Michael X. Delli Carpini, J. Michael Dennis, James N. Druckman, James H. Kuklinski, Justin Magouirk, Jesse O. Menning, Samuel L. Popkin, and seminar participants at the University of North Carolina, the University of Texas, Yale University, and the American National Election Studies workshop at the University of Michigan for helpful advice.

*Manuscript submitted April 1, 2004*

*Final manuscript received June 9, 2005*

## References

- Adler, E. Scott, Chariti E. Gent, and Cary B. Overmeyer. 1998. "The Home Style Homepage: Legislator Use of the World Wide Web for Constituency Contact." *Legislative Studies Quarterly* 23(4): 585–95.

- Almond, Gabriel A., and Sidney Verba. 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Princeton: Princeton University Press.
- Ansolabehere, Stephen, and Shanto Iyengar. 1995. *Going Negative: How Political Advertisements Shrink and Polarize the Electorate*. New York: Free Press.
- Bimber, Bruce. 2003. *Information and American Democracy: Technology in the Evolution of Political Power*. New York: Cambridge University Press.
- Davis, Richard. 1999. *The Web of Politics: The Internet's Impact on the American Political System*. Oxford: Oxford University Press.
- Delli Carpini, Michael X. 2000. "Gen.com: Youth, Civic Engagement, and the New Information Environment." *Political Communication* 17(4): 341–49.
- Delli Carpini, Michael X., and Scott Keeter. 1996. *What Americans Know About Politics and Why it Matters*. New Haven: Yale University Press.
- Druckman, James N. 2003. "The Power of Television Images: The First Kennedy-Nixon Debate Revisited." *The Journal of Politics* 65(2): 559–71.
- Dutton, William, Brian Kahin, Ramon O'Callaghan, and Andrew W. Wyckoff. 2004. *Transforming Enterprise*. London: MIT Press.
- Frydlewicz, Rob. 2002. *DoubleClick 2002 Summer Cross Media Reach Study*. New York: DoubleClick.
- Graber, Doris A. 2001. *Processing Politics: Learning from Television in the Internet Age*. Chicago: University of Chicago Press.
- Hamilton, James T. 2004. *All the News That's Fit to Sell: How the Market Transforms Information into News*. Princeton: Princeton University Press.
- Iyengar, Shanto, and Simon Jackman. 2003. "Technology and Politics: Incentives for Youth Participation." Paper presented at the International Conference on Civic Education Research, New Orleans.
- Kandel, Eric R., James H. Schwartz, and Thomas M. Jessell. 1995. *Essentials of Neural Science and Behavior*. Norwalk, CT: Appleton and Lange.
- Krosnick, Jon A., and LinChiat Chang. 2001. "A Comparison of the Random Digit Dialing Telephone Survey Methodology with Internet Survey Methodology as Implemented by Knowledge Networks and Harris Interactive." Paper presented at the Annual Meeting of the American Association for Public Opinion Research. Montreal.
- Larsen, Elena, and Lee Rainie. 2002. *The Rise of the E-Citizen: How People Use Government Agencies' Web Sites*. Washington: Pew Internet and American Life Project.
- Lenhart, Amanda, Lee Rainie, and Oliver Lewis. 2001. *Teenage Life Online: The Rise of the Instant-Message Generation and the Internet's Impact on Family Relationships*. Washington: Pew Internet and American Life Project.
- Lupia, Arthur. 2001. *Evaluation: The Web White and Blue Network, 2000*. New York: The Markle Foundation.
- Lupia, Arthur, and Mathew D. McCubbins. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need to Know?* New York: Cambridge University Press.
- Lupia, Arthur, with Zoe Baird. 2003. "Can Web Sites Change Citizens? Implications of Web White and Blue 2000." *PS: Political Science and Politics* 36(1): 77–82.
- Mansbridge, Jane. 1999. "On the Idea that Participation Makes Better Citizens." In *Citizen Competence and Democratic Institutions*, eds. Stephen L. Elkin and Karol E. Soltan. University Park, PA: Penn State Press, pp. 291–325.
- Nielsen, Jakob. 2000. *Designing Web Usability: The Practice of Simplicity*. Indianapolis: New Riders Publishing.
- Norris, Pippa. 1996. "Does Television Erode Social Capital? A Reply to Putnam." *PS: Political Science and Politics* 29(3): 474–80.
- Owen, Diana, Richard Davis, and Vincent James Strickler. 1999. "Congress and the Internet." *Harvard International Journal of Press/Politics* 4(1): 10–29.
- Patterson, Thomas E. 1993. *Out of Order*. New York: Knopf.
- Petty, Richard E., and John T. Cacioppo. 1986. *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*. New York: Springer-Verlag.

- Prior, Marcus. 2002. "More Than a Thousand Words: Visual Cues and Visual Knowledge." Paper prepared for the Annual Meeting of the Midwest Political Science Association.
- Putnam, Robert D. 2000. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster.
- Schacter, Daniel L. 2001. *The Seven Sins of Memory: How the Mind Forgets and Remembers*. Boston: Houghton Mifflin.
- Schuessler, Alexander A. 2000. *A Logic of Expressive Choice*. Princeton: Princeton University Press.
- Soule, Suzanne. 2001. "Will They Engage? Political Knowledge, Participation and Attitudes of Generations X and Y." Prepared for the 2001 German and American Conference, "Active Participation or a Retreat to Privacy."
- Sniderman, Paul M., and Douglas B. Grob. 1996. "Innovations in Experimental Design in Attitude Surveys." *Annual Review of Sociology* 22: 377–99.
- Sunstein, Cass. 2001. *Republic.com*. Princeton: Princeton University Press.
- Verba, Sidney, and Norman H. Nie. 1972. *Participation in America: Political Democracy and Social Equality*. New York: Harper and Row.
- Verba, Sidney, Kay Lehman Schlozman, and Henry E. Brady. 1995. *Voice and Equality: Civic Volunteerism in American Politics*. Cambridge: Harvard University Press.
- Weber, Lori, Alysha Loumakis, and James Bergman. 2003. "Who Participates and Why? An Analysis of Citizens on the Internet and the Mass Public." *Social Science Computer Review* 21(1): 26–42.

Arthur Lupia (lupia@umich.edu) is professor of political science and research professor of the Institute for Social Research, University of Michigan, Ann Arbor, MI 48104-2321.

Tasha S. Philpot (tsp228@mail.la.utexas.edu) is assistant professor of political science, The University of Texas at Austin, Austin, TX 78712-0119.