

How Content Preferences Limit the Reach of Voting Aids

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Jonathan Mummolo¹ and Erik Peterson¹

Abstract

Voters are often uninformed about the political candidates they choose between. Governments, media outlets, and civic organizations devote substantial resources to correcting these knowledge deficits by creating tools to provide candidate information to voters. Despite the widespread production of these aids, it remains unclear who they reach. We collect validated measures of online voter guide use for more than 40,000 newspaper readers during a state primary election. We show this newspaper-produced voter guide was primarily used by individuals with high levels of political interest and knowledge, a finding in contrast to earlier hypotheses that providing guides directly to voters online would reduce disparities in use based on political interest. A field experiment promoting the voter guide failed to diminish these consumption gaps. These results show that the same content preferences that contribute to an unequal distribution of political knowledge also impede the effectiveness of subsequent efforts to close knowledge gaps.

Keywords

media effects, voter knowledge, voting aids

When they cast their votes, citizens often have limited information about the candidates they choose between (Converse, 1964; Delli Carpini & Keeter, 1996). These information deficits are politically consequential, with a number of studies estimating substantial changes to individuals' issue

¹Stanford University, CA, USA

Corresponding Author:

Jonathan Mummolo, 616 Serra St, Stanford, CA 94305, USA.

Email: jmummolo@stanford.edu

positions (Althaus, 1998; Delli Carpini & Keeter, 1996; Gilens, 2001) and voting decisions (Bartels, 1996; Boudreau, Elmendorf, & MacKenzie, 2015; Fowler & Margolis, 2014) were they to become more politically informed. Long-standing concerns about low levels of voter information have prompted a number of governments, media outlets, and civic organizations to create non-partisan voting aids that provide relevant information about political candidates, ballot initiatives, and the voting process to low-information voters in easily interpretable formats that do not require them to pay constant attention to politics (Boudreau et al., 2015; League of Women Voters, 2015; Schudson, 1999, pp. 196-197). These tools have grown increasingly sophisticated in recent election cycles with a number of organizations offering personalized, interactive voter guides online (e.g., e.thePeople, 2015; Living Voters Guide, 2015; Project Vote Smart, 2012). Voter guides have also gained attention from scholars and are suggested as a tool to inform voters (Boudreau et al., 2015) and curb partisan polarization (e.g., Bonica, 2015; Prior & Stroud, 2015).

Despite the widespread production of voting aids and convincing demonstrations of their effects should voters encounter them (Boudreau et al., 2015; Fowler & Margolis, 2014; Gottlieb, 2016), it remains unclear how much of the information contained in these guides eventually reaches voters. Extant research establishes competing theoretical views on the ability of voter guides to attract low-information voters. In one view, their ease of use and limited attention costs may prove sufficient to attract those they are designed to inform. Indeed, earlier research hypothesizes that online campaigns providing this sort of information directly to voters will “reach entertainment fans through the wall of disinterest” and lead individuals with low levels of political interest to engage with political content (Prior, 2007, 284; see also Bimber, 2003). However, voter guides must still overcome the same impediments that contribute to the unequal distribution of political knowledge they aim to correct. These include content preferences that lead many people to avoid encountering political information (Arceneaux & Johnson, 2013; Prior, 2007). Consistent with this more pessimistic view, several studies identify other instances in which efforts designed to increase political engagement reinforce, rather than diminish, pre-existing disparities in political involvement (e.g., Berinsky, 2005; Enos, Fowler, & Vavreck, 2014). Studying voter guide use also presents a measurement problem. Self reports of media consumption tend to inflate the amount of news an individual consumes (Guess, 2015; Prior, 2009), and these issues remain even when survey respondents are asked about encountering specific pieces of content in close proximity to the time they would have done so (Prior, 2012; Vavreck, 2007). These concerns have made measuring voter guide use infeasible in many settings.

In what follows, we examine several questions related to the availability and use of these voting tools in the context of newspaper-produced online voter guides. Given that the existing literature has typically focused on guides produced by non-profit organizations (e.g., Bedolla & Michelson, 2009; Boudreau et al., 2015), we first use several large collections of newspaper coverage to establish the availability of newspaper-produced voter guides and the efforts made by many newspapers to promote them. We then assess individual-level consumption of newspaper voter guides. In particular, we examine validated measures of online voter guide consumption for more than 40,000 individuals during the 2014 California state primary election obtained through collaboration with the *Sacramento Bee*, a mid-sized daily newspaper in California. Using these data, along with a survey of a subset of these newspaper readers and an additional survey of a different set of California voters, we show that voter guides are primarily used by individuals with high levels of political interest and knowledge. Finally, we examine the effect of an outreach effort designed to increase voter guide use. Although broader outreach to voters by organizations that produce these guides offers one potential solution to differential usage, we present results from a field experiment designed to increase voter guide use and find that this outreach effort failed to produce more voter guide consumption and did not diminish disparities in consumption among those with different levels of political interest. When combined, these results reveal an additional manner in which content preferences matter for political knowledge. Not only does variation in political interest contribute to an uneven distribution of political information among voters (Prior, 2007), these same content preferences also impede the effectiveness of subsequent efforts by civic organizations and media outlets to close knowledge gaps. For practitioners, these findings demonstrate that, in addition to producing voting aids, it is crucial to consider avenues through which these tools might reach and be used by their intended audience.

In the next section, we review existing literature on this topic. We then outline the data used in this study to address voter guide availability, the correlates of voter guide use and the effectiveness of appeals designed to motivate guide use. Following this, the empirical sections analyze data in each of these three areas. In our final section, we discuss the implications of these findings.

Political Knowledge Deficits

A central finding of public opinion research is that many voters have limited knowledge about politics (Berelson, Lazarsfeld, & McPhee, 1954; Campbell, Converse, Miller, & Stokes, 1960; Converse, 1964; Delli Carpini & Keeter,

1996; Zaller, 1992). These deficits stem from a combination of weak incentives to acquire political information (Downs, 1957), a changing media environment that allows many to avoid news (Prior, 2007), and economic pressures that limit the ability of media organizations to consistently provide political information (Curran, Iyengar, Lund, & Salovaara-Moring, 2009; Hamilton, 2004). Only those with an appetite for political information, whether because they consider it a source of entertainment or view staying informed as part of their civic duty, acquire a detailed view of political candidates (Downs, 1957; Fiorina, 1990; Poindexter & McCombs, 2001; Prior, 2007).

Knowledge deficits may be inconsequential if voters can use cue taking (e.g., Campbell et al., 1960; Downs, 1957; Lupia, 1994) and heuristics (e.g., Popkin, 1991; Sniderman, Brody, & Tetlock, 1991) to behave as if they were fully informed. However, there are limits on the ability of uninformed voters to use these strategies to overcome their lack of knowledge. Even simple decision rules often require substantial levels of political sophistication to implement (Delli Carpini & Keeter, 1996, pp. 51-53; Sniderman & Bullock, 2004, pp. 340-341) and may lead voters to different conclusions than they would reach if fully informed (Kuklinski & Quirk, 2000). To this point, a number of studies examine “information effects”—changes in public opinion brought about by increases in political knowledge. Several studies conclude that many voters would hold different attitudes and select different political candidates were they to become more informed (Althaus, 1998; Bartels, 1996; Delli Carpini & Keeter, 1996; Gilens, 2001, but see Sekhon, 2004). Information increases brought about by learning over the course of a campaign (Hirano, Lenz, Pinkovskiy, & Snyder, 2014) or structural differences in the alignment between political districts and media markets (Hall, 2015) make voters better able to select candidates who share their ideology. Experiments that expose voters to varying levels of political information find that greater amounts of information increase the extent to which individuals select ideologically proximate candidates (Boudreau et al., 2015) and change some respondents’ views of which political party better represents their interests (Fowler & Margolis, 2014).

Increasing Voter Information

Long-standing concerns about the public’s low levels of information have led to a number of proposed interventions to increase political knowledge. These consist, at one end of the spectrum, of broad efforts to create or reform institutions. Ackerman and Fishkin (2004) propose creating a national “Deliberation Day” in which voters would be paid to spend a day learning

about and discussing political issues 2 weeks before an election. Critiques of civic education in the United States (see, for example, Dewey, 1916; Gutmann, 1987) have motivated proposals to restructure aspects of the education system to better promote voter competence (Center for Information & Research on Civic Learning and Engagement, 2003). In contrast to these broad reforms, another set of proposals focuses on distributing additional information to voters in the form of voting aids that provide condensed, easy to use information about the election to voters. In the United States, some state governments began providing guides explaining ballot initiatives in 1907 (Schudson, 1999, p. 196), and campaigns to increase voter knowledge from civic organizations, such as the League of Women Voters, date back to the 1920s (Maxwell, 2007). In what follows, we focus on the provision of one type of voting aid in contemporary elections. Today, a number of newspapers produce non-partisan voter guides that provide voters with information about politicians, ballot initiatives, and voting procedures relevant to upcoming elections.

Voter guides are a unique information source that researchers suggest as a potential solution to problems raised by low levels of voter information (e.g., Bonica, 2015; Prior & Stroud, 2015). However, voter guides have received limited attention in empirical research (Bedolla & Michelson, 2009; Boudreau et al., 2015 are notable exceptions). These guides differ in several important ways from other pieces of campaign information available in the news. First, in contrast to endorsements from civic groups or newspapers (e.g., Ansolabehere, Lessem, & Snyder, 2006; Lupia, 1994), these guides do not advocate for a particular candidate or issue position. Instead, they focus on providing relevant information about a candidate's background, issue positions, and priorities if elected to office that allows voters to make their own decision. Second, the guides we study provide functional information designed to aid voters in very specific tasks (e.g., registering to vote or choosing between candidates for a particular office). This differentiates them from voter education efforts that provide more general civic knowledge (e.g., Green et al., 2011) and distinguishes this study from research on the overall effects of education on political behavior (Sondheimer & Green, 2010; Verba, Schlozman, & Brady, 1995). Third, these guides typically contain a concentrated dose of information. Unlike "stenographic" campaign coverage, voter guides are not focused on a particular development in the campaign and concentrate a substantial amount of information (e.g., candidate issue positions on a number of issues) that would be unavailable or spread across multiple news stories into a single information source. Finally, the newspaper-produced guides we consider here differ from other sources of media campaign coverage because they are purposefully designed to attract individuals

who are otherwise uninterested in following politics day to day by containing interactive elements (e.g., Project Vote Smart, 2012) and design features (e.g., tables of information) to facilitate comparisons between candidates (League of Women Voters, 2015).

Who Uses Voter Guides?

Although many organizations produce these guides and devote substantial resources to doing so, it remains unclear which members of the public utilize them. The “full information” counterfactuals estimated in previous studies offer evidence that, should information reach voters, it can have a substantial effect on voting behavior and political attitudes. However, limited scholarly attention has been devoted to increasing voter information outside of forced-exposure settings, where information is directly provided to recent voters (Boudreau et al., 2015) or survey respondents (Fowler & Margolis, 2014).

Studies examining the public’s news consumption preferences produce the expectation that voter guide content will rarely reach low-information voters (e.g., Prior, 2007). From this perspective, these guides are simply one more piece of political news that voters might consume. This means that many voters, in particular the low-information voters these guides are designed to reach, will tend to avoid them in a choice-rich media environment. This expectation stems from findings that individuals have largely stable (Prior, 2010) and generally low (e.g., Converse, 1990; Zaller, 1992) levels of political interest. Should they have the option to select other content, most would prefer to avoid detailed information about a candidate’s issue positions in favor of news coverage of more entertaining aspects of politics such as campaign strategy (Iyengar, Norpoth, & Hahn, 2004), “soft news” that melds news coverage with entertainment (Baum, 2002), or pure entertainment programming (Arceneaux & Johnson, 2013; Prior, 2007).

But there are also features of voter guides that may allow them to overcome these impediments. For one, guides are offered in close proximity to the election, a time period when voters appear more interested in learning about politics (Gelman & King, 1993) and where the utility of candidate information, a key driver of news consumption in other studies (Atkin, 1973; Johnson, Bichard, & Zhang, 2009; Stroud, 2008), is particularly high. The organizations providing voter guides also take great pains to make them both accessible for low-information voters and entertaining to use. To the extent that interactive elements (Project Vote Smart, 2015) and clear, accessible information displays (League of Women Voters, 2015) lead to a positive user experience with voter guides (Lupia & Philpot, 2005) and distinguish these guides from typical news stories, they may be able to attract a different audience than is common for political news.

This attractive information is often paired with approaches that attempt to distribute guides to voters who otherwise avoid political news. For example, we later show these guides are frequently promoted in online venues that enable incidental exposure to political information among otherwise uninterested individuals (Pew Research Center, 2013). In our empirical section, we examine the results of an online campaign in which we sent out email invitations to visit a newspaper-produced online voter guide. The online delivery of these guides eliminates the search costs associated with finding candidate information and makes the content readily available to users. Earlier research hypothesizes that this approach will reduce disparities in use based on political interest (Bimber, 2003; Prior, 2007, p. 284).

Appealing to Motivations for Voter Guide Use

In addition to the correlates of voter guide use, another question is whether outreach campaigns promoting voter guides can effectively increase their use. Here, we review several basic motivations for political news consumption identified in previous research that serve to underpin appeals in a field experiment promoting these guides. Emphasizing any of these potential motivations for voter guide consumption when making an appeal to voters may help to increase voter guide use by making considerations that lead to political information consumption more salient (see also Robison, 2014).

First, a number of studies explain political information consumption as the result of a *civic duty* to stay informed about politics (see, for example, Poindexter & McCombs, 2001). Although the instrumental costs of gathering political information may often outweigh the direct benefits that individuals receive (e.g., Downs, 1957), a social norm to engage with politics is frequently cited as the reason for departures from a narrow model of self-interested political participation (e.g., Riker & Ordeshook, 1968, p. 28).

Second, while it may not apply for all individuals or in all settings, the *instrumental benefits* obtained by consuming political information may also drive political information acquisition. In the purest form of instrumentally motivated interest, the livelihoods of some individuals depend upon obtaining information about politics (Downs, 1957, pp. 249-250). For example, government workers and contractors might devote attention to political events that may alter their salaries and employment. The same notion of instrumental political interest lies behind notions of “issue publics” or groups that pay particular attention to certain policy areas because of the consequences these policies hold for their own lives (Bolsen & Leeper, 2013; Converse, 1964).

Third, entertainment is another motivation frequently cited for information consumption. Some devote attention to the latest political events not

because doing so provides them with increased material benefits or because they believe such attention is required of them. Rather, as Downs (1957) states, “some people obtain information as an end in itself” (p. 217; see also Prior, 2007).

Researchers focusing on this entertainment motivation for political interest examine the extent to which soft, entertainment-focused news may convey information to individuals who would not otherwise devote attention to politics (Baum, 2005). The entertainment motivation for consuming political news also helps to explain the proliferation of “horse race” stories about campaign strategy and news coverage focusing on partisan conflict (e.g., Iyengar et al., 2004; Mutz, 2015).

Data

We use several different sources of data for three different purposes in this study. First, given limited existing research that focuses specifically on newspaper-produced voter guides, we use data on *news content* to establish the widespread availability of these guides. Second, we use several sources of data on *guide use* to document the correlates of voter guide consumption. Finally, we use a *field experiment* in this online setting to examine the effects of different appeals on voter guide consumption.

Our population of interest in this study is newspaper readers. We focus on this population for several reasons. For one, by focusing on a group that is most likely to encounter voter guides, we provide what may be regarded as an upper bound on the consumption rates of these materials. Knowing this allows us to better characterize the potential reach of voter guides. Relatedly, studying newspaper readers provides a degree of external validity absent in much prior work on political news consumption, which often relies solely on survey instruments containing self-reported consumption measures administered to the general population. This measurement technique is known to be severely biased (Prior, 2009). By collaborating with a real news outlet and soliciting their list of likely readers, we help ensure that the trends and effects we report are not simply artifacts of a sampling scheme that includes individuals unlikely to ever encounter political news content of this kind. Finally, news consumers are likely to be among the most politically engaged citizens (Prior, 2007). So while newspaper readers comprise only a fraction of the general public, it is crucial to understand the ways in which this group consumes political information.

We now describe each of these data sources in turn.

Voter Guide Availability Data

As previous research focuses primarily on voter guides provided by non-profits and other civic organizations (e.g., Boudreau et al., 2015), we collect some data to provide insight into the availability of newspaper-produced voter guides in contemporary elections. We examine two large collections of newspaper-produced text. The first corpus consists of newspaper stories available in two digital archives, Proquest and Newsbank, for national elections from 2004 to 2014. These digital archives include daily or weekly newspapers and contain an average of 1,772 papers per election for the years we consider. The second collection of text consists of all posts made to the Facebook pages of daily U.S. newspapers leading up to national elections from 2010 to 2014.¹ An average of 1,025 papers (77% of all daily papers in the United States) maintain a Facebook page each year during this time period.

In each case, we searched for articles/posts containing the phrase “Voter Guide” or “Election Guide” during October and November of federal election years. This approach not only identified many voter guides but also matched some articles that were irrelevant for our purposes such as news stories about third-party voter guides or stories that only contained a list of endorsed candidates and no additional contextual information that could be used in evaluating candidates.² We removed these irrelevant matches using a supervised ensemble classifier (for content from the digital archives; Grimmer, Westwood, & Messing, 2015; van der Laan, Polley, & Hubbard, 2007) or entirely through hand-coding (for Facebook posts). The result is a count of the number of newspapers offering a voter guide during each election.

Voter Guide Use Data

We use several different data sources to examine voter guide use. This approach serves to offset any potential weaknesses that might be present in a single source. To the extent that our results remain consistent using several approaches, we can have greater confidence that they are not artifacts of one particular measurement strategy or sample.

As many scholars have noted, self-reported measures of news consumption are typically noisy and inflated measures of actual news consumption (Guess, 2015; Prior, 2009; Vavreck, 2007). One data source we use to overcome these concerns was collected in partnership with the *Sacramento Bee*, a mid-sized California daily newspaper, prior to a statewide primary election in spring 2014. The newspaper regularly emails readers promoting its content.

Prior to the election, the newspaper produced an online interactive voter guide in cooperation with e.thePeople, a non-profit organization that produces voter guides for a large number of news outlets (e.g., *Dallas Morning News*, *Detroit Free Press*) and civic organizations (e.g., League of Women Voters, AARP Voter Guide). After providing their location, individuals were able to evaluate candidates for each office on the ballot in the primary election. The guide offered individuals information about each candidate's biography and their stance on a set of office-specific issue position questions that candidates were surveyed on by the *Bee*. While completing the guide, respondents also provided their own positions on these same issues and the guide compared their position on each issue with the candidates they evaluated.³

In cooperation with newspaper staff, we created four versions of a promotional email for the paper's online election guide and assigned one of the four versions—or no email at all—to be sent to a randomly selected subset of the newspaper's email list 4 weeks before the election (73,646 readers).⁴ The newspaper tracked which individuals opened the email and, most importantly for our purposes, clicked on a link inside the email directing them to the online election guide. This provides a validated measure of online election guide use for the approximately 54,000 readers who received a promotional email.

In addition to measures of consumption, the newspaper maintained some information about email recipients.⁵ The covariates are fairly limited in scope and include, for example, estimates of a recipient's income and whether they have children living in the home.⁶ To obtain measures of other relevant covariates, such as interest in politics, we conducted a follow-up survey on the same individuals who were sent the voter guide invitation 11 days after they received the first email.⁷ These invitations offered survey respondents a chance to win one of several US\$50 gift cards to Amazon.com in a raffle in exchange for participation. Of the 73,646 invitations sent, 3,683 responses were obtained (of which 2,920 were paired with validated consumption data), for a response rate of 5%. A drawback of this approach is that we examine a narrow sliver of the newspaper's readers who may not be representative in terms of their news consumption patterns, but among this group, we are able to examine which types of readers are most likely to consume an election guide.⁸

In assessing patterns of survey response based on the covariates available for individuals on the email list, we observe that, relative to individuals who did not respond to the survey, they are older, have higher incomes, are less likely to have children in the home, have lived longer at their current residence, and are more likely to subscribe to *Capitol Alert*, a newsletter on state politics produced by the *Bee* and sent to readers via

email (see Table 9, Online Appendix C for a table containing this information). Clearly, these survey respondents are likely to have greater political interest than the general public. To the extent examining this population has consequences for our results, it is likely to provide a tough test that variables like political interest are related to voter guide consumption as all survey respondents in general have a high degree of political interest. As a result, these findings should be interpreted from the perspective that even more pronounced relationships may be found in a general population sample.

In combination, the previous two data sources allow for a thorough analysis of election guide consumption patterns across readers with different levels of political interest and knowledge. However this environment, while realistic, also fails to capture a crucial component of news consumption: a diverse choice set over various types of news topics (Arceneaux & Johnson, 2013; Prior, 2007). There is also selection onto the newspaper email list from which we sampled. At some point, the individuals on the list opted to encounter newspaper content in their email inboxes, meaning this group as a whole likely has greater interest in news than the general population. To gain insight into consumption patterns when multiple news items are simultaneously available and among a set of individuals who did not all opt into receiving newspaper content, we conducted another survey on a sample recruited using Amazon's Mechanical Turk in the month leading up to the primary election. In this survey, respondents were asked to engage in repeated choice tasks similar to a conjoint design (Hainmueller, Hopkins, & Yamamoto, 2014) between randomly assembled pairs of news headlines modeled after real content that appeared on major news websites in 2014 (see Online Appendix D).

To ensure that voter guide content would have utility for respondents, we only permitted individuals with an Internet protocol (IP) address originating from California to complete our survey. In the first choice task respondents encountered a random pairing of headlines that did not include the California Election Guide, the second task was a face-off between the election guide and a randomly chosen headline on another topic, and the final task was another random pairing of non-election guide headlines. Although responses to the second task were of primary interest, the first and third tasks were included to prevent respondents from inferring the intention of the exercise: to see how frequently election guides were chosen over other possible news items on topics including foreign affairs, celebrity news, and crime. After revealing their preferences over these news content options, respondents answered questions about their interest in politics and their knowledge of state and national politics.

Field Experiment Evaluating Voter Guide Appeals

Finally, we examine the effect of different appeals to use the guide on voter guide consumption. The emails distributed by the *Bee* took one of four forms modeled after existing claims about the motivations for political news consumption. All email treatments contained the same visual content, a picture of the California State House. Across email conditions, subject lines were manipulated to convey one of four message types, and text in the body of the email further bolstered each message. The bottom of each email contained a call to action which prompted readers to “Click here to see our interactive voter guide for the 2014 June Primary.”⁹

The first email version, dubbed the “Civic Duty” treatment, stressed this concept with the subject line “Good government in California requires good citizens. Visit sacbee.com!” In the body of the email, the following message was displayed: “There’s no good government without good citizens. The Sacramento Bee has all the information you need to keep California’s elected officials in check.”

Research on issue publics and instrumental motivation for news consumption emphasizes the role of clear potential benefits as a motivation for news consumption. With this in mind, the second email stressed education, an issue of particular interest to parents. The subject line of this “Instrumental Gains” condition read, “Concerned about funding for California’s schools? Visit sacbee.com!” and the body read, “The Sacramento Bee tracks every dime. Roughly 6 of every 10 dollars used to fund California’s K-12 schools comes from the State Capitol.” Our hypothesis was that readers with children living in the home would be particularly likely to respond to this message.

A third motivation for information consumption is entertainment. Recent research has emphasized the entertaining aspects of stories focused on partisan conflict (e.g., Mutz, 2015). For this reason the third email condition, dubbed the “Partisan Conflict” treatment, highlighted partisan divisions in the California State House. The subject line read, “Track California’s Partisan Divide. Visit sacbee.com!”, and the body continued, “The Sacramento Bee has both sides of the aisle covered. Democratic and Republican lawmakers in Sacramento disagree more than in any other state legislature.”¹⁰

Finally, a “placebo” email provided a reference point for the effects of the above appeals in the experiment. This email encouraged individuals to use the guide and provided a link, but did not include an additional encouragement message.

Having reviewed our sources of data, the next section begins to analyze the evidence on voter guide availability.

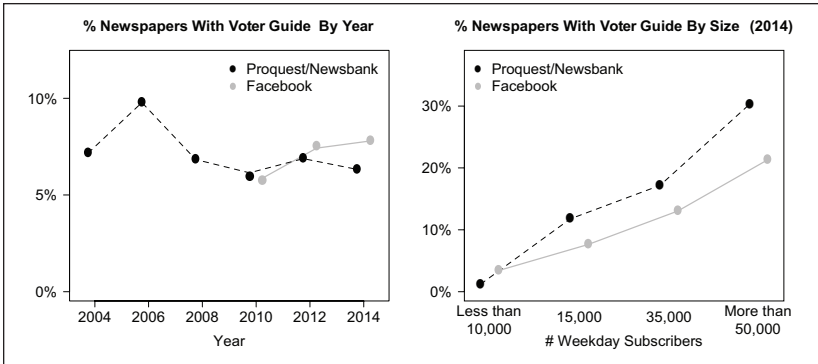


Figure 1. Vote guide availability in newspapers.

Note. The figure displays Voter Guide availability in newspapers based on searches in (a) two digital newspaper archives (Proquest and Newsbank) and (b) postings on newspapers' public Facebook pages. The newspaper subscription data in the right panel come from Editor and Publisher's 2015 databook. Additional information is available in Online Appendix A.

Voter Guide Availability

Before moving to our specific focus on voter guide use, we first use data collected on voter guide availability in newspapers to provide context for this study, as previous research focuses primarily on voter guides provided by non-profits and other civic organizations (e.g., Boudreau et al., 2015). This section helps to establish the widespread availability of newspaper voter guides and the efforts made by many newspapers to promote them.

In the left panel of Figure 1, we document the availability of voter guides in newspapers over time.¹¹ Typically, 6% to 7% of newspapers offer a voter guide during election season. Although low, this number is due in part to the many small newspapers included in the analysis that tend not to provide these guides. In the right panel of Figure 1, we plot the availability of voter guides during the 2014 election by the size of a newspaper's subscriber base. Here, we show that voter guides are relatively common among larger newspapers. Among papers with a weekday subscriber base that exceeds 50,000 (the largest 130 papers in the country lie above this cutoff), voter guide content was featured on the Facebook pages of 21% of these papers and was present in the digital archives for 30% of available papers. This provides some evidence of the widespread production of these guides by newspapers and shows that newspapers promote these guides on Facebook, an increasingly important source of incidental exposure to political information for many individuals (Pew Research Center, 2013). These numbers also represent only part of the

overall universe of voter guides. In 2012, 18 states offered some form of a candidate election guide (Ballotpedia, 2015) and a number of other organizations such as local governments, television stations, and civic groups have also produced guides during recent elections cycles (e.g., Bedolla & Michelson, 2009; Boudreau et al., 2015; e.thePeople, 2015).

Voter Guide Use

If tools such as election guides are to have any chance of helping to inform disinterested individuals about politics, these individuals need to consult guides when given the opportunity. Amid the numerous and diverse sources of content online, one obstacle to such consumption may be locating these election guides when they become available. Our first analysis aims to minimize this obstacle by presenting a “most-likely case” (Eckstein, 1975) for consumption by distributing email invitations to use the election guide which include a direct link to the guide itself, making no mention of additional competing content contained on the newspaper’s website. Earlier work expresses optimism that this sort of email invitation may lead even people with a clear preference for entertainment to engage with political information (Prior, 2007, p. 284). If disinterested readers fail to read the election guide in this context, there is a limited chance they will seek it out on their own.

In the next several plots, we compare the rates of email opens and click-throughs by several variables. Since socioeconomic status is generally positively correlated with interest and political knowledge (Verba et al., 1995), we begin by examining voter guide use by income, a rough proxy for these concepts, in Figure 2. In this case, these income measures come from the consumer data maintained by the newspaper.¹² Although there is a general positive relationship between income and the probability that the user clicked through to the voter guide from the email and opened the email, the base rates, particularly on email click-throughs, are low. Even among the highest income group, only 1.6% of which clicked through to the voter guide. Rather than voter guide provision upsetting typical patterns of news consumption, this pattern looks remarkably similar to patterns of income and news consumption in general.

Along with our email response data, the *Bee* provided us with information on individuals who subscribed to *Capitol Alert*, a newsletter produced by the newspaper concerning state politics that is distributed via email. Because these subscriptions represent a reasonable proxy for general interest in political news, we compare the relationship between income and voter guide use with the relationship between income and subscribing to the newsletter. In testing for a difference in the slope of the income–consumption relationship

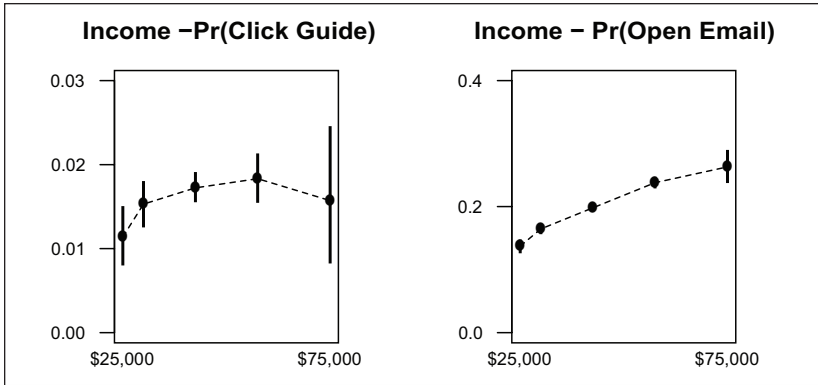


Figure 2. Voter guide use in email campaign ($N = 40,188$).

Note. The figure displays predicted probabilities from a bivariate linear regression of voter guide use on levels of income. Each level of a variable enters discretely into the model. We construct five bins for the income variable. Bars represent 95% confidence intervals for these predicted probabilities obtained from 2,000 bootstrap resamples (Efron & Tibshirani, 1994).

for voter guide use and newsletter subscriptions, we fail to reject the null hypothesis that the relationship between income and news consumption is the same for both of these outcome variables ($-.0005$, 95% confidence interval = $[-.002, .001]$). This provides a further indication that, in terms of the attributes of consumers, voter guides can be viewed as a case of political news content in general.

Although using the consumer data enables an examination for a large sample of email recipients, the income measure serves as only a rough proxy for variables such as political interest. To examine these variables directly, we turn to the follow-up survey conducted of email recipients. Using this survey, we relate survey respondents' self-reported levels of income, interest in politics, and attention to the California primary campaign to click-throughs to the voter guide, our validated measure of guide consumption. As Figure 3 reveals, relative to income, the last two variables more strongly predict voter guide consumption. A key point to note in this figure is the low base rates of consumption among low-interest readers. Among those who reported having "not much interest" in public affairs, virtually no one clicked on the voter guide link, and among those who followed the campaigns "hardly at all," not a single reader clicked through. However, rates of consumption increase markedly at each level of both covariates. Among high-interest/attention readers, 7.48% and 6.45% clicked on the link, respectively.

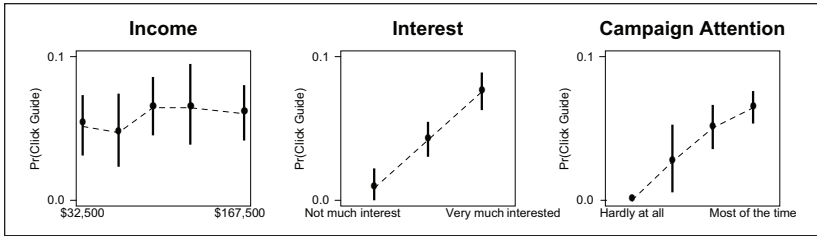


Figure 3. Voter guide use in news reader survey ($N = 2,920$).

Note. The figure displays predicted probabilities from bivariate linear regressions of voter guide use on the listed variable. Each level of a variable enters discretely into the model. We construct five bins for the income variable. Bars represent 95% confidence intervals for these predicted probabilities obtained from 2,000 bootstrap resamples. No confidence interval appears in the first bin of the “Campaign Attention” plot because no individuals in that bin clicked through to the voter guide.

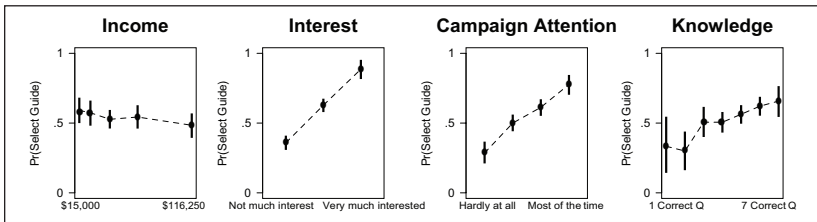


Figure 4. Voter guide use in MTurk survey ($N = 781$).

Note. The figure displays predicted probabilities from bivariate linear regressions of voter guide use on the listed variable. Each level of a variable enters discretely into the model. We construct five bins for the income variable. Bars represent 95% confidence intervals for these predicted probabilities obtained from 2,000 bootstrap resamples.

Finally, Figure 4 uses the MTurk survey and displays selection rates of the voter guide item in the paired choice task along the same three covariates and also an additional measure of general political knowledge of national and state politics.¹³ It should be noted that since individuals were required to select one of the two pieces of content in this design, it inherently produced much higher rates of selection than were exhibited in the previous analyses where respondents could opt out of encountering any content at all. However, the goal of this experiment was not to uncover rates of selection, but rather to examine the *relative* popularity of voter guides across groups of respondents with varying interest/knowledge of politics. Here income again has an insubstantial relationship with the probability of selecting the voter guide in a conjoint task. In contrast, political interest, campaign attention, and general

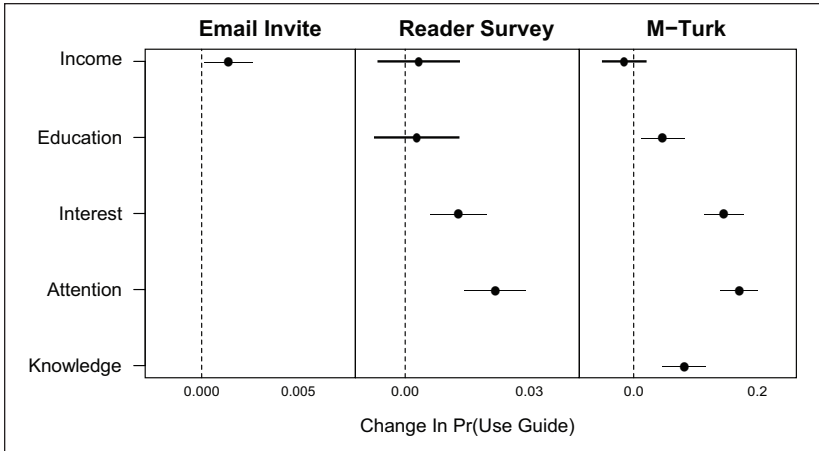


Figure 5. Bivariate relationship between variables and voter guide use (standardized).

Note. The figure displays changes in the predicted probability of using a voter guide based on a one standard deviation change in the listed variable. Probabilities were obtained from bivariate linear regressions of voter guide use on the listed variable. Bars display 95% confidence intervals based on robust standard errors.

political knowledge all have substantial, positive relationships with the probability of selecting the voter guide over other pieces of news content. For example, those in the highest tier of political interest selected the voter guide at very high rates (89%) over a randomly chosen alternative option.

To provide a more concise summary of the results across our three sources of data, Figure 5 reports the predicted change in the probability an individual chose to use the voter guide based on a one standard deviation shift in the listed variable. These probabilities are obtained from a linear probability model regressing an indicator variable for voter guide use on each of these covariates separately. Because the relationships between the variables appear roughly linear in the previous plots, covariates were coded continuously. This standardization shows the relative strength of the relationship between each of these variables and voter guide use while also displaying confidence intervals to assess the statistical significance of the bivariate relationships. This serves to highlight the substantial relationship between variables such as political interest, campaign attention, and general political knowledge with voter guide use, while also showing the more limited relationship between voter guide use and income and education across the three sources of data.¹⁴

Table 1. Estimated Email Effects Relative to Placebo Version.

	Pr(email open)	Pr(email click)
(Intercept)	0.160* (0.005)	0.025* (0.002)
Civic duty	0.016* (0.005)	-0.002 (0.002)
Instrumental	0.007 (0.005)	-0.005* (0.002)
Partisan conflict	0.014* (0.005)	0.002 (0.002)
N	53,638	53, 638

Note. Robust standard errors in parentheses. Indicators for blocks included but not displayed.
*Significance at $p < .05$.

Effect of Appeals on Voter Guide Use

The previous section demonstrates that disengaged voters are unlikely to consume election guides. However, it remains possible that different appeals to use the voter guide may be able to increase general interest in using these guides. There is also the possibility that targeted appeals may particularly increase voter guide use among low-interest individuals. If this occurs, these messages could be used to reduce gaps in voter guide consumption identified in previous sections. With this question in mind, this section explores whether the effects of the experimental email treatments varied by readers' level of political interest and knowledge.¹⁵

We can first examine the main effects of these email treatments, relative to the placebo version, on the rates of email opens and click-throughs among all individuals who received an email. As Table 1 shows, the email version highlighting partisan conflict in the California state house boosted the probability of opening the newspaper's promotional email by 1.4 percentage points, while the "Civic Duty" message caused a 1.6 percentage point increase. No other treatment lifted the rate of email opens to a statistically significant degree.

These increases in opens did not translate to click-throughs as no email treatment increased actual consumption of the election guide. The only statistically significant effect is a decline in click-throughs among individuals receiving the Instrumental Gains condition, although the size of this effect is relatively small at half a percentage point. In addition, we found no statistically significant interactions between having children and assignment to the Instrumental Gains email condition.¹⁶

Overall, these appeals had little effect on election guide consumption relative to the placebo condition. However, it remains possible that the emails' effects varied by the characteristics of respondents. To test this while preserving statistical power, a treatment indicator was generated which equaled 1 if

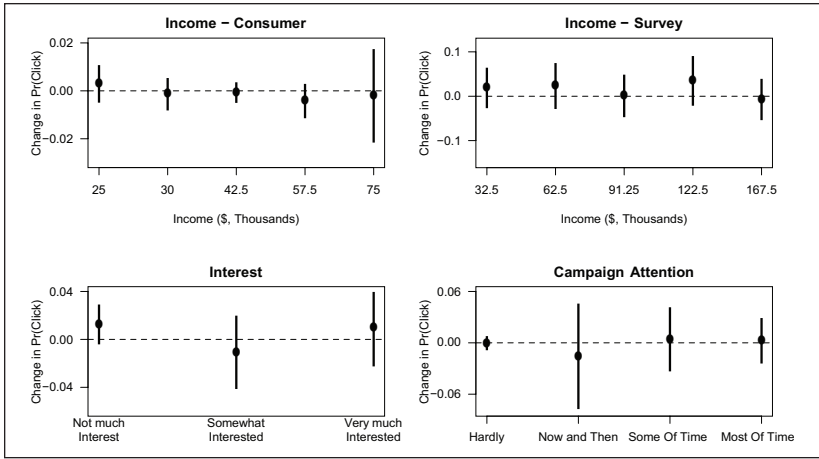


Figure 6. Heterogeneous effects of email treatments.

Note. The figure displays effects of email treatments, relative to a placebo email, among different subsets of individuals. Treatment effects obtained from linear probability models regressing voter guide use on an indicator for whether an individual received a non-placebo email. Bars represent 95% confidence intervals from robust standard errors.

a respondent got an email besides the placebo message, and 0 if they received the placebo. This pooled treatment was then interacted with each level of the covariates available from either consumer data or the follow-up survey.

As Figure 6 shows, treatment effects remain relatively constant and near-zero at all levels of income, political interest and campaign attention. Even prior to making any sort of corrections to our estimates of uncertainty due to multiple comparisons that take place in this figure, we do not find a statistically significant increase in voter guide use among any subgroup. Overall, these results suggest that a range of messages were unable to activate interest in election-related materials among uninformed individuals relative to the generic invitation email.

Taken together, this set of null findings highlights a limit on the ability of news organizations to generate greater voter guide use. Although the treatments used here were confined to altering the subject line and header included in the email invitations—perhaps raising concerns that some sort of “stronger” treatment regime could increase voter guide use to a greater extent—the manipulations used in this experiment accurately reflect the options available to groups attempting to increase voter guide use in a real-world digital setting. These types of short messages are the most feasible route to capture reader attention. Moreover, this sort of approach is not inherently prone to

producing null findings, as previous studies using similarly short treatments to promote other types of online content among more politically interested individuals have found significant messaging effects (e.g., Broockman, 2014; Ryan, 2012). Instead, the limited effects here are attributable to the particular difficulty of motivating voter guide use among a general set of online news consumers in the primary venue where they can be directly reached by media organizations that produce voter guides.

Discussion and Conclusion

In the previous sections, we establish the substantial efforts that many organizations devote to correcting knowledge deficits among the public by producing voter guides prior to elections. We then show that these guides tend to reach the informed. By this we mean that individuals with higher levels of political interest, general political knowledge and attention to politics are most likely to consume the information contained in voter guides. This finding adds to previous research documenting the role of content preferences in conditioning media effects (Arceneaux & Johnson, 2013; Levendusky, 2013) and exposure to political information (Prior, 2007) by showing that these same preferences impede subsequent efforts by media organizations and civic groups specifically aimed at increasing the public's political knowledge. More broadly, this finding aligns with previous research in which attempts to reduce disparities in political engagement frequently fail to do so and instead exacerbate participation differences (e.g., Berinsky, 2005; Enos et al., 2014).

In one respect, these findings are optimistic as we show relatively high levels of voter guide consumption among individuals who are interested in politics, and prior work suggests even these voters have substantial room to enhance their knowledge of politics. That is, even the voters we characterize as "informed" and who tend to seek out these guides may have relatively low levels of political knowledge when compared with content-area experts (Converse, 2000, pp. 333-335). In the context of specific elections, voters with general civic knowledge likely lack specific details about races or ballot initiatives and voter guides offer a way to convey information to this group.

However, these findings also speak to concerns raised in earlier research about the political consequences of knowledge gaps. For example, Prior (2007) expresses concern that increasing media choice may polarize elections by increasing the engagement levels of politically interested individuals who tend to hold stronger, more extreme political attitudes while allowing those with more moderate preferences to opt out of politics. Here, the provision of voter guides does little to change the tendency for politically

uninterested individuals to avoid political information, even as it provides additional detail to the politically interested. The tendency for additional information provision, in combination with the public's current distribution of content preferences, to increase or at least maintain pre-existing knowledge gaps may be difficult to overcome in any setting where individuals can select the content they encounter (Leeper, 2015). In the present case, the ineffectiveness of voter guides at engaging low-interest individuals is particularly troubling, as such tools are expressly designed to overcome these tendencies based on their ease of use and high informational benefits and were distributed so as to limit the extent to which individuals could screen out political content (Prior, 2007, p. 284).

Although the field experiment reported here was unsuccessful at increasing overall voter guide use and closing gaps in usage between individuals with different levels of political attention, our descriptive findings suggest that future research should focus on alternative approaches to engaging individuals with this political content, with particular focus on attracting individuals who would not otherwise engage with it prior to voting. Although political interest is commonly treated as a stable, dispositional trait (e.g., Campbell et al., 1960; Prior, 2010), a starting point for future attempts at increasing the use of voting aids could be research that identifies a short-term, more malleable component of political interest and focuses on priming these tendencies (see, for example, Lupia & Philpot, 2005; Robison, 2014).

Finally, these results are relevant for practitioners focused on increasing civic engagement, especially those groups designing online tools like the voter guide we evaluated. Voting aids have grown increasingly sophisticated with a number of organizations offering personalized, interactive guides online during recent election cycles (e.g., e.thePeople, 2015; Living Voters Guide, 2015; Project Vote Smart, 2012). These features help to ensure that, should they decide to use a voter guide, individuals without substantial political expertise will find the material informative and useful. However, our results demonstrate that even a guide that follows best-practices in design can struggle to attract individuals who are otherwise uninterested in politics. This suggests that, in addition to voter guide design, a key next step for the news organizations and civic groups that develop these tools is to consider how to distribute these guides to reach and entice individuals with low levels of overall political interest.

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Notes

1. Facebook post data were obtained through the Graph Application Programming Interface using the RFacebook package (Barbera, 2015). We searched for newspaper Facebook pages for all daily newspapers included in Editor & Publisher's (2015) databook.
2. Additional information about this process is available in Online Appendix A.
3. Online Appendix E contains screen shots of the voter guide we examine in this study.
4. We began with a list of 100,000 randomly selected email addresses from the newspaper's reader list. After filtering out non-working email addresses, we were left with 73,646 individuals in our sample.
5. These covariates are from Nielsen PRIZM.
6. To increase the efficiency of our models (Gerber & Green, 2012), we used these covariates to assign individuals to treatment conditions within the following blocks: no demographic information available/subscriber, demographic information available/non-subscriber, no kids/subscriber, no kids/non-subscriber, kids/subscriber, and kids/non-subscriber. The probability of receiving a given treatment did not vary across blocks.
7. In addition, we sent emails to 20,008 individuals who did not receive an initial invitation to access the voter guide. Of these, 763 individuals took our follow-up survey, but their responses are discarded in the current analysis due to missingness on our validated consumption measure.
8. These covariates are measured post-treatment, which may induce bias into estimates if various treatments altered the way individuals responded to survey items used to measure independent variables. This is likely not a concern here, as F tests of the joint significance of treatment indicators in predicting levels of covariates were not statistically significant. Regressions of self-reported income, political interest, attention to political campaigns, and education on dummies for treatment assignment produced F -statistics with p values of .36, .61, .19, and .36, respectively.
9. All email treatments are displayed in Online Appendix B.
10. This comes from Shor (2014) using data produced in Shor and McCarty (2011).
11. The Facebook analysis begins in 2010 because we obtain information about Facebook posts for only a small number of papers in prior elections.
12. Due to missing observations on covariates, and the exclusion of the control group which received no email invitation, this analysis is conducted on 40,188 individuals.
13. This measure was generated using an additive combination of questions, including items asking respondents to name the governor in their state, the majority

- party in the U.S. House and which party is more conservative at the national level.
14. Education is coded on a 4-point scale ranging from not graduating high school, some college, obtaining a bachelor's degree, and attending graduate school.
 15. This experiment was registered with egap; we discuss the pre-registered analyses not included in-text in Online Appendix C.
 16. This null result holds using both the administrative demographic data and self-reported measures of having children in the Newspaper Reader Survey, see Online Appendix C.

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Author Biographies

Jonathan Mummolo is a PhD candidate in Stanford's Department of Political Science. His research examines the intersection of bureaucratic politics and political behavior.

Erik Peterson is a PhD candidate in Stanford's Department of Political Science. His research focuses on political communication, with an emphasis on news consumption and media effects.

Appendix A: Identifying Voter Guide Availability

Texts from Digital Archives

We downloaded all articles from U.S. newspapers that contained the terms “voter guide”, “election guide” or “voter’s guide” in Proquest newspaper archives from Oct 1 to Nov 15 for each election year from 2004 to 2014. We searched for these same terms in the title or first paragraph of newspaper articles featured in Access World News-Newsbank over the time period. However, due to article download limits and the lack of a batch download feature in this database, we screened the resulting search results by examining the detailed article summary and attempted to only download those articles containing voter guides. Also, when a voter guide was broken into many individual stories in this database we only downloaded the first several matches if they all contained similar information (e.g., candidate profiles for multiple congressional districts each posted as a separate article).

This process resulted in 3,454 full text news articles from the two databases. We then processed these articles by removing word order and common stop words. We stemmed the remaining words and represented each document based on counts of the number of times the top 250 words in the corpus occurred in that document. 500 of the resulting articles were then hand-coded by one of the authors to remove any remaining news stories that did not contain a voter guide. This typically resulted from 1) regular news stories (e.g., horserace coverage of the political campaign) that were labeled as an election guide while not fitting the definition of a voting aid we use in this paper or 2) stories that mentioned third-party voting guides (e.g., a State Voting Guide or League of Women Voter’s Guide) that were not produced by the newspaper.

We then trained an ensemble classifier using 10-fold cross-validation on this training set to remove irrelevant articles from our matches. The ensemble contained a support vector machine, ridge, lasso and elastic net ($\alpha=.5$) regressions and a random forest classifier. We developed an ensemble classifier weighting the predictions of each classifier using Super Learning (van der Laan et al. 2007, see Grimmer et al. 2015 for an application in political science), producing the resulting model weights in the ensemble classifier.

Table 2: Method Weights in Ensemble Classifier

	method	weight
1	svm	0.10
2	ridge	0.16
3	lasso	0.13
4	elastic.net	0.00
5	random.forest	0.61

When applied to the training data, the classifier produced the following performance statistics.

While we still have some difficulty in removing all irrelevant articles (as evidenced by the relatively low recall for the “Not Guide” category), this approach helps to prune some of the irrelevant matches that do not meet our definition of a voter guide.

Table 3: Ensemble Classifier Performance

	metric	measure
1	accuracy	0.81
2	precision.guide	0.80
3	precision.notguide	0.91
4	recall.guide	0.99
5	recall.notguide	0.36

Table 4: Classifier Confusion Matrix

	Guide.Predict	Not.Guide.Predict
Guide.Actual	356	5
Not.Guide.Actual	89	50

The strength of this approach is that we search through all content contained in newspapers available in these databases for this time period. However some papers are not available in these databases and voter guides contained only online (e.g., because they are interactive) or in special election sections are often not included in these databases. As a result, many of the voter guide occurrences we identify are indirect (e.g., a correction to an already issued guide or a weekly summary story that mentions a guide will be produced that week). For this reason we turn to the public Facebook pages of newspapers to determine instances where they promoted these guides and where they would have good reason to place links to online-only voter guides.

Voter Guides on Newspaper Facebook pages

We downloaded all posts made by all daily newspapers with public Facebook pages (n=1,154) between Oct. 1 and Nov. 15 for each of the election years. Few newspapers had active Facebook pages prior to the 2010 election so we began our analysis then. This resulted in 799,068 posts. We then searched for posts containing the phrases “election guide”, “voter guide” or “voter’s guide.” This produced 457 matches. We then processed the resulting matches by hand to remove the small number of posts that mentioned news stories and were not made in reference to a paper’s voter guide.

While newspapers may produce voter guides that they do not subsequently promote on their Facebook pages, the advantage of this approach is that we have all newspaper posts over this time period and capture links to a number of digital newspaper guides it is unclear we could identify

if only using the other digital archives. This also demonstrates that many newspapers attempt to promote voter guides online as we do in the email campaign portion of this paper.

Tables of Results

Table 5: Voter Guide Availability in Proquest/Newsbank Over Time

	2004	2006	2008	2010	2012	2014
Prop.W.Guide	0.07	0.10	0.07	0.06	0.07	0.06
# W/ Guide	81.00	153.00	142.00	124.00	135.00	119.00
# Papers Available	1130.00	1564.00	2077.00	2017.00	1962.00	1882.00

Table 6: Voter Guide Availability on Facebook Over Time

	2010	2012	2014
Prop.W.Guide	0.06	0.07	0.08
# W/ Guide	48.00	82.00	90.00
# Papers on Facebook	816.00	1104.00	1154.00

Table 7: Voter Guide Availability on Proquest/Newsbank By Paper Size (2014)

	Less than 10,000	10,000-20,000	20,000-50,000	More than 50,000
Prop.W.Guide	0.01	0.12	0.17	0.30
# Papers In Bin	326.00	187.00	163.00	132.00

Table 8: Voter Guide Availability on Facebook By Paper Size (2014)

	Less than 10,000	10,000-20,000	20,000-50,000	More than 50,000
Prop.W.Guide	0.03	0.08	0.13	0.21
# Papers In Bin	585.00	262.00	184.00	122.00

Appendix B: Experimental Treatments and Heterogeneous Treatment Effects

Figure 7: Placebo Email



Figure 8: Civic Duty Email



Figure 9: Instrumental Gains Email



The Bee tracks every dime.

Roughly 6 of every 10 dollars used to fund California's K-12 schools comes from the State Capitol.

[Click here](#) to see our interactive Voter Guide for the 2014 June primary. Be informed about all the candidates and issues on your ballot.

Figure 10: Partisan Conflict Email

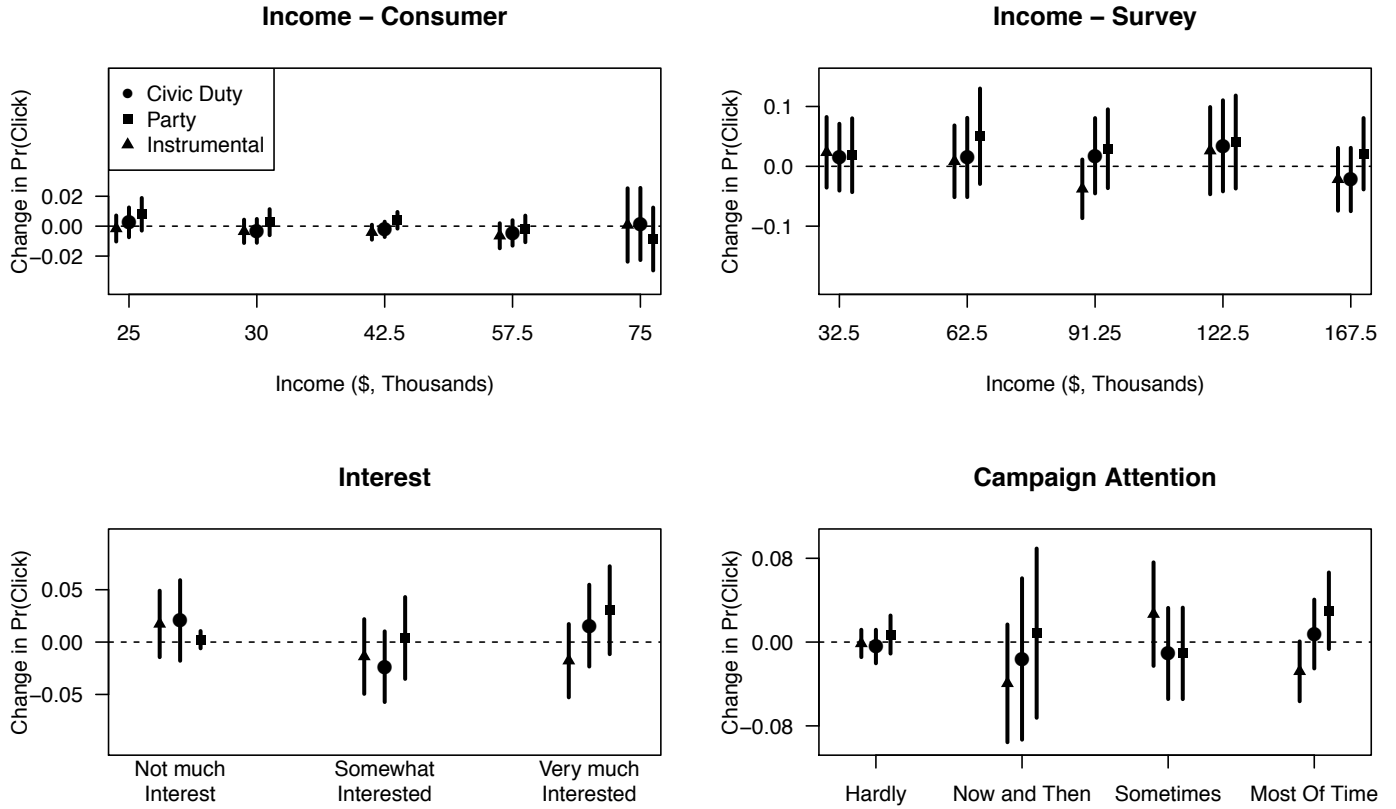


The Bee has both sides of the aisle covered.

Democratic and Republican lawmakers in Sacramento disagree more than in any other state legislature.

[Click here](#) to see our interactive Voter Guide for the 2014 June primary. Be informed about all the candidates and issues on your ballot.

Figure 11: Heterogeneous Effects of Email Treatments (Individual Treatments)



Note: Figure displays effects of email treatments, relative to a placebo email, among different subsets of individuals. Treatment effects were obtained from linear probability models regressing voter guide use on an indicator for whether an individual received a non-placebo email. Bars represent 95% confidence intervals from robust standard errors.

Appendix C: Comparing Survey Respondents and Non-Respondents

Table 9: Regressing Follow-Up Survey Response on Demographic Data

	Age	Income	Children	Time in Residence	Capitol Alert Subscriber
(Intercept)	53.87*	42310.11*	0.38*	9.83*	0.10*
	(0.07)	(57.16)	(0.00)	(0.03)	(0.00)
survey.response	6.80*	1432.73*	-0.04*	1.90*	0.02*
	(0.30)	(240.47)	(0.01)	(0.14)	(0.01)
<i>N</i>	39653	40188	39653	40188	53638

Standard errors in parentheses

* indicates significance at $p < 0.05$

Using the Nielson PRIZM data available for some individuals on the email list, we compare the demographic features of those individuals who responded to the survey to those that did not. The coefficient on “survey.response” displays the difference in means between those who subsequently responded to the survey relative to those who did not. On all five of the demographic features available, we find statistically significant differences between those who responded to the survey and those that do not. As Table 9 indicates, the individual’s on the email list who responded to the survey are older, have higher incomes, are less likely to have children and have lived at the current residence for a longer period of time than those that did not. Finally, survey respondents were slightly more likely to subscribe to “Capitol Alert” an online newsletter about state politics distributed via email.

Appendix D: Pre-Analysis Plan

Before conducting this experiment, we filed a pre-analysis plan.¹⁷ The pre-analysis plan outlines several tests not ultimately included in this manuscript. At the time we wrote this pre-analysis plan, our intention was to use the random assignment to one of the email conditions as an instrument for self-reported measure of voter guide consumption (for all individuals) and our validated click-through measure (for those who received an email), to estimate the causal effect of consumption on various outcomes (voter knowledge, intention to turn out, etc.) using an instrumental variables model.

However, as Table 10 below shows, the receipt of an email failed to meaningfully predict self-reported voter guide consumption. Also, as Table 1 in the main text shows, the email messages did not significantly increase voter guide usage on the click-through measure relative to the placebo condition. In each case this means the first stage of an instrumental variables model would suffer

¹⁷This pre-analysis plan can be found here: <http://egap.org/registration/669>

from a weak instrument problem, injecting substantial bias into the subsequent estimates. This does not allow us to use our originally planned IV approach when estimating these models (Sovey and Green 2012). We therefore abandoned many of the causal tests outlined in our pre-analysis plan and instead pursued the largely descriptive analyses contained in the main text.

Table 10: Encouragement Email on Self-Reported Voter Guide Use

	Pr(Report Voter Guide Use)
(Intercept)	0.292*
	(0.029)
Encouragement Email	-0.016
	(0.019)
<i>N</i>	3077

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

In addition, we predicted in our pre-analysis plan that individuals with children would respond more strongly to the Instrumental Gains email treatment since that email highlighted education funding. Various models which interacted assignment to the Instrumental Gains condition with an indicator for having children did not find a significantly larger effect for the targeted appeal compared to the others.

Table 11: Effectiveness of Instrumental Gains Appeal By Parental Status - Email Click-throughs

	Children-Consumer	Children-Self Report
(Intercept)	0.062*	0.061*
	(0.010)	(0.010)
Instrumental	-0.012	-0.016
	(0.014)	(0.014)
Other Appeal	0.005	0.015
	(0.013)	(0.013)
Children	-0.025	
	(0.017)	
Instrumental \times Children	0.004	
	(0.023)	
Other Appeal \times Children	0.021	
	(0.022)	
Children		-0.048*
		(0.017)
Instrumental \times Children		0.045
		(0.030)
Other Appeal \times Children		0.005
		(0.024)
<i>N</i>	2920	2416

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Table 12: Effectiveness of Instrumental Gains Appeal By Parental Status - Email Opens

	Children - Consumer	Children - Self Report
(Intercept)	0.228*	0.235*
	(0.019)	(0.018)
Instrumental	-0.008	-0.007
	(0.027)	(0.025)
Other Appeal	-0.023	-0.021
	(0.022)	(0.021)
Children	0.008	
	(0.039)	
Instrumental \times Children	0.015	
	(0.055)	
Other Appeal \times Children	0.012	
	(0.044)	
Children		-0.026
		(0.051)
Instrumental \times Children		0.021
		(0.073)
Other Appeal \times Children		-0.008
		(0.058)
<i>N</i>	3077	3032

Robust standard errors in parentheses

* indicates significance at $p < 0.05$

Appendix E: Opposing Headlines in Conjoint Choice Tasks

Table 13: Headlines in California M-Turk Survey

topics	headlines
Voter Guide	“Your guide to issues and candidates in the 2014 California Primary election”
Foreign Affairs	“Ukraine presses assault as rebels free observers”
Science	“The surprisingly simple way Egyptians moved massive pyramid stones without modern technology”
Technology	“Headphones that make smartphone calls easier”
Crime	“Police officer killed in Harbor City hit-and-run crash”
Celebrity News	“Bradley Cooper bulks up”
Sports	“Clippers still caught up in Donald Sterling scandal”
Health	“Some e-cigarettes deliver a puff of carcinogens”
Economy	“Should you believe the new jobs numbers?”
Travel	“Travel: A remote Colombia city that really does exist”

Headlines modeled off 2014 online news items from *The New York Times*, *The Washington Post*, *The L.A. Times*, huffingtonpost.com and Reuters.

Figure 12: Example Choice Task from M-Turk survey

News Selection A	News Selection B
"Your guide to issues and candidates in the 2014 California Primary election"	"Ukraine presses assault as rebels free observers"

Would you prefer to read News Selection A, or News Selection B?

News Selection A News Selection B


Appendix F: *Sacramento Bee* Voter Guide

The online voter guide we examine can be found at: <http://c3.thevoterguide.org/v/sacbee14/build.do>.


Figure 13: Voter Guide Example - Biographical Information

VOTER GUIDE
Start Over

Governor





Jerry Brown (Dem)
Governor of California



Neel Kashkari (Rep)
Businessman

Social Media

 **Like** 8 people like this. Be the first of your friends.

 **Like** 3 people like this. Be the first of your friends.

Biographical Information


<p>Age 77</p> <p>Birthplace (city) San Francisco</p> <p>Residence (city) Oakland</p> <p>Campaign address 2355 Broadway #407 Oakland, CA 94612</p> <p>Campaign email info@jerrybrown.org</p> <p>Web site http://jerrybrown.org</p> <p>Education Law degree, Yale University, 1964; bachelor's degree, classics, UC Berkeley, 1961.</p> <p>Experience Governor, 2011-present; attorney general, 2007-2011; Oakland mayor, 1999-2007; chairman, California Democratic Party, 1988-91; governor, 1975-83; secretary of state, 1971-75; Los Angeles community college trustee, 1969-70.</p>	<p>Age 42</p> <p>Birthplace (city) Akron, Ohio</p> <p>Residence (city) Laguna Beach</p> <p>Campaign address 455 Capitol Mall, Suite 600, Sacramento, California 95814</p> <p>Campaign telephone (916) 538-6502</p> <p>Campaign email inquiry@neelkashkari.com</p> <p>Web site http://www.neelkashkari.com</p> <p>Education Master's degree, business administration, The Wharton School, University of Pennsylvania, 2002; master's, mechanical engineering, University of Illinois, 1997; bachelor's, mechanical engineering, University of Illinois, 1995.</p> <p>Experience Managing director and head of global equities, PIMCO, 2009-2013; senior adviser, assistant secretary, United States Treasury Department, 2006-2009; associate, vice president, Goldman Sachs, 2002-2006; aerospace engineer, TRW, 1998-2000.</p> <p>Video Link</p> <div style="text-align: center;">  </div>
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Figure 14: Voter Guide Example - Issue Information

<p>High speed rail: California is seeking to build the first high-speed rail system in the nation. Do you agree or disagree with this plan?</p>	
<p>Jerry Brown: Candidate response is not yet available.</p>	<p>Neel Kashkari: <input checked="" type="checkbox"/> Strongly disagree <input type="checkbox"/> Disagree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Agree <input type="checkbox"/> Strongly agree</p>
<p>What should the state do next with the high-speed rail program? Explain.</p>	
<p>Jerry Brown: Declined to respond.</p>	<p>Neel Kashkari: Cancel the crazy train! It's the best example of Gov. Brown's misplaced priorities at a time when California ranks #47 in jobs, #46 in education, #1 in poverty and we're facing a massive drought. Building a \$67 billion legacy project makes no sense.</p>
<p>How important is this issue to you?</p>	
<p>Jerry Brown: Candidate response is not yet available.</p>	<p>Neel Kashkari: <input type="checkbox"/> Very unimportant <input type="checkbox"/> Somewhat unimportant <input type="checkbox"/> Neither important nor unimportant <input type="checkbox"/> Somewhat important <input checked="" type="checkbox"/> Very important</p>
<p>Water: Do you agree or disagree that the state needs to spend more to build reservoirs, dams and other water storage facilities?</p>	
<p>Jerry Brown: Candidate response is not yet available.</p>	<p>Neel Kashkari: <input type="checkbox"/> Strongly disagree <input type="checkbox"/> Disagree <input type="checkbox"/> Neither agree nor disagree <input type="checkbox"/> Agree <input checked="" type="checkbox"/> Strongly agree</p>
<p>Describe any changes in California's water management you support.</p>	
<p>Jerry Brown: Candidate response is not yet available.</p>	<p>Neel Kashkari: California's failure to prepare for the current drought threatens thousands of jobs. We must redirect high-speed rail bond money to help build more water storage and maximize existing reservoir capacity to prepare for the next inevitable drought.</p>