Political Communication

ISSN: 1058-4609 (Print) 1091-7675 (Online) Journal homepage: http://www.tandfonline.com/loi/upcp20

Gresham's Law of Political Communication: How Citizens Respond to Conflicting Information

Cheryl Boudreau

To cite this article: Cheryl Boudreau (2013) Gresham's Law of Political Communication: How Citizens Respond to Conflicting Information, Political Communication, 30:2, 193-212, DOI: 10.1080/10584609.2012.737422

To link to this article: http://dx.doi.org/10.1080/10584609.2012.737422

Political Communication, 30:193–212, 2013

ISSN: 1058-4609 print / 1091-7675 online
DOI: 10.1080/10584609.2012.737422

Routledge
Taylor & Francis Group

Gresham's Law of Political Communication: How Citizens Respond to Conflicting Information

CHERYL BOUDREAU

Although citizens are often exposed to conflicting communications from political elites, few studies examine the effects of conflicting information on the quality of citizens' decisions. Thus, I conduct experiments in which subjects are exposed to conflicting information before making decisions that affect their future welfare. The results suggest that a version of Gresham's Law operates in the context of political communication. When a credible source of information suggests the welfare-improving choice and a less credible source simultaneously suggests a choice that will make subjects worse off, subjects make worse decisions than when only the credible source is available. This occurs because many subjects base their decisions upon the less credible source or forgo participation. This occurs mostly among unsophisticated subjects, who are more easily led astray. These findings reveal important limits to the effectiveness of credible information sources and suggest how political campaigns might strategically use conflicting information to their benefit.

Keywords cue, endorsement, poll, sophistication, experiment

Decades of research show that American citizens typically lack detailed knowledge about politics. Thus, when making political decisions, citizens rely on information that provides substitutes for more detailed political knowledge (e.g., party labels, endorsements, polls). As such, political elites strive to provide these types of information in a way that encourages citizens to choose their candidate or policy over others. In democratic elections—where politicians, interest groups, pundits, and other elites compete to influence citizens—the result is a flood of information that sends conflicting messages about the choices citizens should make. For example, in initiative campaigns, the results of a poll may indicate that citizens should vote "no" on a particular initiative, but an endorser may suggest that citizens should vote "yes." Such conflicting communications raise the question of whether citizens can figure out which information will help them make decisions in line with their interests and which information to ignore.

This question is important to political campaign practitioners and political communication scholars, both of whom seek to understand when different types of information influence the quality of citizens' decisions. However, existing research has not produced a definitive answer. Although many studies examine the effects of communications from political elites, they often do not incorporate mixed, or conflicting, messages (Boudreau,

Cheryl Boudreau is Assistant Professor, Department of Political Science, University of California, Davis.

Address correspondence to Cheryl Boudreau, University of California, Davis, Department of Political Science, One Shields Avenue, Davis, CA 95616, USA. E-mail: clboudreau@ucdavis.edu

2009a, 2009b; Boudreau & McCubbins, 2010; Druckman, 2001a; Lupia & McCubbins, 1998; Mondak, 1993; Nelson, Clawson, & Oxley, 1997). Other studies incorporate conflicting messages, but the outcome of interest is typically not how that information influences the quality of citizens' decisions, but rather how it influences citizens' evaluations of candidates, opinions about policy issues, or the timing of their vote decisions (Chong & Druckman, 2007, 2010; Huckfeldt, Mondak, Craw, & Mendez, 2005; Jerit, 2009; Koch, 2002; Nicholson, 2008; Nir & Druckman, 2008; Zaller, 1992). Other studies examine the quality of citizens' decisions, but they do not directly test the effects of conflicting versus non-conflicting information on those decisions (Bartels, 1996; Boudreau, 2009a, 2009b; Lau & Redlawsk, 2001; Lupia, 1994; Lupia & McCubbins, 1998). Thus, the question of whether and when citizens make welfare-improving decisions when they are exposed to conflicting information about the choices they should make remains open.

I address this question by conducting laboratory experiments in which I manipulate whether treatment group subjects are exposed to one source of information or two conflicting sources of information before making decisions that affect their future welfare. In the experiments, the relative quality of the information is clear because subjects know whether each source of information is credible (i.e., knowledgeable and trustworthy; see Lupia & McCubbins, 1998; Druckman, 2001a). Nonetheless, the results indicate that a version of Gresham's Law may operate in the context of political communication.[1] That is, when a credible source suggests the welfare-improving choice and a less credible source simultaneously suggests a choice that will make subjects worse off, subjects make worse decisions than when only the credible source is available. This occurs because many subjects base their decisions upon the less credible source or do not make decisions at all and, thus, forgo participation. This occurs mostly among unsophisticated subjects, who are more easily led astray. These results are surprising because, theoretically, subjects should simply ignore the less credible source. That said, subjects still make better decisions with conflicting information than with no information or with only information suggesting a choice that will make them worse off.

Taken together, these results suggest lessons for political elites and scholars who study political communication. For political elites, the results indicate that campaigns may benefit from sending conflicting information to voters, particularly if they want to induce citizens to change their decisions or forgo participation. For scholars, the results suggest that we should be less optimistic about uninformed citizens' ability to use credible sources of information as substitutes for detailed political knowledge. Given that unsophisticated subjects are swayed by a less credible source in a controlled laboratory environment where the relative quality of the information is clear, citizens may similarly struggle in real-world political contexts where there is a greater quantity of information whose credibility may be unclear. Further, in contrast to much democratic theory and empirical scholarship emphasizing the benefits of competition (e.g., Boudreau & McCubbins, 2008; Chong & Druckman, 2007; Madison, 1788; Milgrom & Roberts, 1986; Mill, 1859; Schattschneider, 1960), these results indicate that competing information sources can have negative effects, particularly on unsophisticated citizens' decisions.

This article proceeds as follows. I begin with a review of existing research on the effects that elite communications have on citizens in political contexts. I then describe my experimental design. After presenting the details of the experiments, I propose testable hypotheses. Next, I present the data analysis and results. I conclude with a discussion of the implications my research has for political campaigns and scholarly debates about political communication and citizen competence.

How Do Elite Communications Affect Citizens?

It is widely known that communications from political elites influence citizens. For example, scholars demonstrate that when political parties endorse policies, citizens express opinions that are more consistent with their underlying values and more resistant to framing effects (Druckman, 2001b; Petersen, Slothuus, & Togeby, 2010). Similarly, when credible endorsers communicate their positions on issues, uninformed citizens make decisions that are comparable to those who are informed (Boudreau, 2009a, 2009b; Lupia, 1994; Lupia & McCubbins 1998). Other scholars demonstrate that when elites frame issues in particular ways, citizens' opinions and attributions of responsibility change (Druckman 2001a; Iyengar, 1987, 1990, 1994; Nelson et al., 1997). Taken together, these studies establish that elite communications have powerful effects on citizens' political opinions and decisions.

However, citizens in real-world political environments are not exposed to elite communications individually, as they are in the above studies. Rather, they are exposed to multiple conflicting messages from the media and other sources (Mutz & Martin, 2001). As such, scholars have begun to examine the effects of conflicting information on a variety of political outcomes. For example, several scholars study the effects that two-sided, or mixed, information flows during campaigns have on citizens' opinions and the timing of their vote decisions (de Vreese & Boomgaarden, 2006; Nir & Druckman, 2008; Zaller, 1992). Other scholars examine the effects of conflicting attributes of candidates (e.g., conservative Democrats [Huckfeldt et al., 2005] or female Republicans [Koch, 2002]) on citizens' evaluations of those candidates.[2] Still others analyze the effects of competing arguments or frames on citizens' opinions about policy issues. These studies show that while individual frames can change citizens' opinions, they tend to be canceled out when simultaneously paired with a competing frame (Chong & Druckman, 2007; Sniderman & Theriault, 2004; but see Chong & Druckman, 2010, for an analysis of competing frames over time).

Despite the important contributions of the studies described above, they leave open the question of whether citizens make decisions that improve their welfare when exposed to conflicting information. Indeed, studies of conflicting information typically do not assess the effects of such information on the quality of citizens' decisions. Other studies examine the quality of citizens' decisions, but they do not directly test the effects of conflicting versus non-conflicting information (Bartels, 1996; Boudreau, 2009a, 2009b; Lau & Redlawsk, 2001; Lupia, 1994; Lupia & McCubbins, 1998). For example, Lau and Redlawsk (2001) assess whether subjects in an experiment vote "correctly" when exposed to competing information about candidates. However, they do not systematically vary whether subjects are exposed to conflicting versus non-conflicting information and, thus, cannot distinguish the effects of such information on the quality of subjects' decisions. Further, studies of decision quality often raise difficult measurement questions, such as how to define quality decisions in the first place (e.g., voting correctly, voting in line with one's values, voting as if fully informed) and then how to measure them properly.

By conducting experiments in which subjects make decisions after being exposed to conflicting versus non-conflicting information, I draw upon and merge the distinct literatures on conflicting information and the quality of decision making. I also avoid the difficulties associated with defining and measuring quality decisions by using an experimental task for which there are objectively correct and incorrect choices. Specifically, instead of asking subjects to vote for fictional candidates or policies, I ask them to make decisions about math problems. Importantly, the stakes associated with these decisions are real because subjects earn money for correct decisions and lose money for incorrect

decisions. This provides a straightforward way of identifying correct, or welfare-improving, decisions and assessing whether and when conflicting information induces an improvement in decision making.

Another advantage of this experimental task is that it provides a valid, reliable, and agreed-upon measure of subjects' preexisting levels of sophistication at making this type of decision (SAT math scores). This is beneficial because an agreed-upon measure of political sophistication or knowledge does not exist (Boudreau & Lupia, 2011; Luskin, 1987). This is also an important factor to incorporate, as conflicting information likely has different effects on subjects' decisions depending on whether they are sophisticated or unsophisticated. Indeed, related studies indicate that the effects of conflicting information may depend upon citizens' individual characteristics, such as their level of sophistication, internal ambivalence, "need to evaluate," or tendency to engage in online processing (Chong & Druckman, 2010; Druckman, Hennessey, St. Charles, & Webber, 2010; Nir & Druckman, 2008; Zaller, 1992).

Math problems are also beneficial because they provide an objective measure of the relative ease or difficulty of subjects' decisions. While many scholars seek to understand how information and decision difficulty interact, defining and measuring difficulty in political contexts is not straightforward. For example, Carmines and Stimson (1980) focus on easy versus hard policy issues and define attributes of each type of issue. However, scholars disagree over how to apply these definitions to specific policy issues.[3] Other scholars use somewhat different definitions of "hard" and "easy" (see Joslyn & Haider-Markel, 2002) or suggest other criteria for measuring difficulty (Cobb & Kuklinski, 1997; Lau & Redlawsk, 2001). These studies highlight the great scholarly interest in understanding how difficulty affects citizens' decisions, but also the challenges of measuring this concept. With math problems, I am able to measure the difficulty of subjects' decisions objectively and then examine the effects of conflicting information when decisions are difficult versus easy.

External Validity: Linking Math Problems to Politics

Although there are many advantages of using math problems, a potential concern is that they are low in mundane realism; that is, on the surface, they do not resemble political events in everyday life (Aronson, Wilson, & Brewer, 1998). For example, subjects in the experiments make decisions about math, not candidates or policies. Thus, the communication process in the experiments provides subjects with information about the answers to math problems, not information about political issues. Math problems are also inherently nonsocial stimuli, and the communications about them are stripped of social cues (such as stereotypes, tone of voice, and physical appearance) that are important in political contexts.

Despite these differences, I argue that the psychological and experimental realism of these experiments makes up for what they lack in mundane realism. Stated differently, even though math problems do not *look* like political decisions on the surface, they capture key elements of the psychological processes used by voters in real-world political contexts; therefore, they are high in psychological realism (Boudreau 2009a, 2009b). They are also high in experimental realism because subjects' decisions about the math problems actually affect them financially; thus, subjects have an incentive to take the task seriously and be engaged in it (Wilson, Aronson, & Carlsmith, 2009). Further, although the communication process in the experiments suppresses social cues, the likely consequence of this is an understatement of the detrimental effects of conflicting information. Indeed, social cues such as stereotypes can reduce accuracy and bias judgments (see Gilbert & Hixon, 1991, for a discussion). Thus, despite differences between these experiments and real-world political

contexts, important similarities enable them to shed light on how citizens in the real world make political choices (Aronson et al., 1998).

For example, citizens making political decisions often choose between two options (i.e., voting for or against a candidate or initiative) that will have different effects on their future welfare (Fowler & Kam, 2006). Similarly, subjects in my experiments choose between two options ("a" versus "b") that also have different effects on their future welfare. Indeed, because subjects (a) earn money for correct choices and lose money for incorrect choices, (b) are not paid for their decisions until the end of the experiment, and (c) are not given feedback about their decisions until the completion of the experiment, the choices they make affect their welfare down the road.

Although most political decisions affect citizens' welfare, the stakes are often perceived to be small. Indeed, although some citizens perceive the stakes to be large when making decisions about hot-button political issues (such as abortion), research suggests that typical political issues are low-stakes games for most Americans (Hibbing & Theiss-Morse, 2002). Thus, I ensure that there is something at stake for subjects (money) but that, as in many political contexts, the stakes are not large (subjects earn or lose 50 cents for each decision).

Further, just as citizens in the real world can choose not to make political decisions, so too can subjects in my experiments choose not to make decisions about particular math problems. For example, citizens might choose to leave blank the portions of their ballots that pertain to particular initiatives or state and local candidates if they do not know what choice to make. Similarly, subjects in my experiments can choose to leave certain math problems blank if they do not know which choice to make.

Another similarity between making decisions about math problems and making decisions about politics pertains to the preexisting knowledge that citizens in the real world and subjects in my experiments possess. Specifically, citizens may have preexisting knowledge or beliefs about candidates and policies, which may influence their voting decisions. Similarly, subjects in my experiments may have preexisting knowledge or beliefs about particular problems and concepts, which may influence their decisions about whether "a" or "b" is the best choice for them.

That said, citizens in the real world might be uncertain about their decisions; that is, they may not know which candidate or policy will make them better off. Similarly, subjects in my experiments may be uncertain about whether choosing "a" or "b" will make them better off. As in the real world, the uncertainty that subjects experience when making their decisions depends upon their levels of sophistication and the difficulty of the decisions. And, just as citizens in the real world vary greatly in their levels of sophistication, so too do subjects in my experiments, as their SAT math scores range from 360 (the seventh percentile) to 800 (a perfect score). Further, just as real-world political issues can be hard or easy (Carmines & Stimson, 1980), so too do the math problems in my experiments vary in how difficult they are.

Yet another similarity between math and politics is the use of script-based processing in these two domains. Script-based processing involves the use of scripts, which are "predetermined, stereotyped sequence[s] of actions that [define] a well-known situation" (Schank & Abelson, 1977, p. 41). In the domain of math, there are scripts for performing addition, multiplication, algebra, geometry, and so forth. In the experiments, subjects apply these scripts, or prescribed sequences of actions, to the new problems they encounter. Citizens also apply scripts in political and social settings (Abelson, 1976; Schank & Abelson, 1977). For example, citizens use scripts that prescribe how politicians should behave, appear, and sound in certain contexts when evaluating new candidates (Popkin, 1991). Citizens also

apply scripts when watching local television news coverage of crime (Gilliam & Iyengar, 2000). In both math and politics, scripts facilitate comprehension and inference by allowing individuals to understand new information in terms of information they already possess (Schank & Abelson, 1977).

Finally, in the real world (as in my experiments), decisions can be difficult not only because the problem is complex, but also because citizens may encounter multiple sources of information that send conflicting messages about the "correct" or welfare-improving solution. Given the many similarities between real-world political decisions and decisions about math problems, there is a close mapping between the psychological processes of subjects in my experiments and the psychological processes of voters in real-world contexts.

Research Design

In order to analyze the effects of conflicting information on citizens' decisions, I conduct laboratory experiments at a large public university. Adults who were enrolled in undergraduate classes participated. In the experiments, I randomly assign subjects to either a control or treatment group. I then ask subjects to solve binary choice math problems (that is, subjects may choose whether answer "a" or answer "b" is correct). The math problems are drawn from an SAT math test and consist of different types of problems and levels of difficulty. I tell subjects in the treatment and control groups that they have 60 seconds to answer each problem and that they will earn 50 cents for each problem they answer correctly, lose 50 cents for each problem they answer incorrectly, and neither earn nor lose 50 cents if they leave a problem blank.

The difference between the treatment and control groups is that subjects in the control group answer the problems on their own. This establishes a baseline for how well subjects make these decisions when they do not have access to additional information. Subjects in the treatment groups receive an additional source of information or two conflicting sources of information before making their decisions. Specifically, subjects receive poll results, the statements of an endorser, or poll results *and* the statements of an endorser that send conflicting messages about which choice subjects should make. I expose subjects to endorsements and/or polls because research indicates that these are prominent, widely used sources of information during campaigns (Boudreau & McCubbins, 2010; Lau & Redlawsk, 2001; Lupia, 1994; Lupia & McCubbins, 1998). Thus, it is important to examine how these sources of information affect decision making, both when presented individually and when they conflict with one another.

The details of how I implement each of these treatment conditions are described below and are summarized in Table 1. Note that subjects are not given feedback about their decisions until the end of the experiment and that all aspects of these treatment conditions are common knowledge to subjects. Indeed, before making any decisions, subjects take a quiz on the instructions that are read in the treatment condition in which they are participating. The quiz contains questions about the procedures and payoffs that will be used, and subjects earn money for each quiz question that they answer correctly. Subjects, by and large, answer all of the quiz questions correctly, which ensures that they understand the core features of the experiment in which they are participating.

Treatments 1 and 2: Polls

In order to provide subjects with polls, I first generated poll results for each math problem that I would ask subjects to answer in the experiment. Specifically, before running the

Table 1
Overview of experimental design

Decision type	Experimental condition	Information provided	Description
	Control	None	Subjects answer the more difficult set of problems on their own
	Treatment 2	Incorrect polls	Subjects receive incorrect poll results before answering the more difficult problems
Difficult	Treatment 3	Trustworthy endorser	Subjects receive the trustworthy endorser's statements (which are always truthful and correct) before answering the more difficult problems
	Treatment 5	Trustworthy endorser + incorrect polls	Subjects receive both incorrect poll results and the correct statements of the trustworthy endorser before answering the more difficult problems
	Control	None	Subjects answer the easier set of problems on their own
	Treatment 1	Correct polls	Subjects receive correct poll results before answering the easier problems
Easy	Treatment 4	Untrustworthy endorser	Subjects receive the untrustworthy endorser's statements (which, by and large, are incorrect) before answering the easier problems
	Treatment 6	Correct polls + untrustworthy endorser	Subjects receive both correct poll results and the largely incorrect statements of the untrustworthy endorser before answering the easier problems

experiments, I polled 66 undergraduates about what they thought the correct answers to different math problems were. I told these undergraduates that they could either answer each problem or leave it blank and that if they chose to answer a given problem, then they could choose either answer "a" or answer "b." I also told these undergraduates that they would have 60 seconds to answer each problem and that they would earn 50 cents if they chose the correct answer, lose 50 cents if they chose the incorrect answer, and earn nothing if they chose not to answer the problem. In this way, the polls provide subjects with information about the number of undergraduates who chose to answer each problem,

as well as information about the number of undergraduates who thought that answer "a" was the correct choice and the number of undergraduates who thought that answer "b" was the correct choice.

Because I polled 66 undergraduates about what they thought the answers to different math problems were, the distributions of opinion vary across the problems. Thus, subjects receive different poll results for each math problem that they answer. In one treatment condition, a majority of the undergraduates that I polled recommended the correct answer to each problem. In a second treatment condition, a majority of the undergraduates recommended the *incorrect* answer to each problem. In this way, the poll results suggest either the correct or incorrect choice to subjects.[4]

Treatment 3: Knowledgeable and Trustworthy Endorser

In this treatment condition, subjects hear the recommendations of a knowledgeable and trustworthy endorser before they make decisions about whether answer "a" or answer "b" is the correct choice. In these experiments, there are 12 subjects in the experimental laboratory. Before subjects answer any of the math problems, the experimenter randomly selects a subject to act as "the endorser." The endorser's role in the experiment is different from that of the other subjects. That is, unlike the other subjects (whose role is to make decisions about math problems), the endorser is shown the correct answer to each math problem (that is, the endorser is given knowledge about the correct choice for subjects) and then makes a statement to the other subjects about whether answer "a" or answer "b" is the correct choice.[5] After the endorser makes his or her statement, the other subjects are given 60 seconds to answer that math problem.

The key to this treatment condition is that both the endorser and the subjects know that the endorser can lie about the correct answer or tell the truth. Although the endorser can lie or tell the truth, both the endorser and the subjects know that they share *common interests* with one another; that is, both the endorser and subjects are better off when subjects make correct decisions.[6] In order to establish common interests between the endorser and subjects, I manipulate the way that the endorser and subjects earn money. Specifically, subjects are paid 50 cents for each math problem that they answer correctly. Similarly, the endorser is paid 50 cents for each subject who answers a particular math problem correctly. For example, if 11 subjects answer the math problem correctly, each subject earns 50 cents, and the endorser earns $5.50 (i.e., 50 cents for each of the 11 subjects who answer the problem correctly). These payoffs make the endorser trustworthy because they give the endorser a dominant strategy to tell the truth and the subjects a dominant strategy to base their decisions upon the endorser's statement (Crawford & Sobel, 1982; Lupia & McCubbins, 1998).

Treatment 4: Knowledgeable but Untrustworthy Endorser

In another treatment condition, subjects hear the recommendations of a knowledgeable but *untrustworthy* endorser before they make decisions about whether answer "a" or answer "b" is the correct choice. This treatment condition is identical to the one described above, except the endorser in this treatment condition earns 50 cents for each subject who answers a math problem *incorrectly*. Subjects, on the other hand, still earn 50 cents for answering the math problems correctly. In this way, there is a conflict of interests between the endorser and subjects; that is, subjects are better off when they answer the problems correctly, while the endorser is better off when subjects answer the problems incorrectly. As Lupia and

McCubbins (1998) demonstrate, when a knowledgeable endorser's interests conflict with those of citizens, the endorser no longer has a dominant strategy to make truthful statements and, thus, is untrustworthy.

Treatments 5 and 6: Conflicting Polls and Endorsements

In these treatment conditions, subjects receive poll results *and* an endorser's statement before making their decisions. Importantly, the poll results and the endorser's statements send conflicting messages about whether answer "a" or answer "b" is the correct choice. In the fifth treatment condition, subjects receive poll results that suggest the incorrect choice and the statements of a knowledgeable and trustworthy endorser who suggests the correct choice.[7] In the sixth treatment condition, subjects receive poll results that suggest the correct choice and the statements of a knowledgeable but untrustworthy endorser who, by and large, suggests the incorrect choice.[8]

Making Valid Comparisons Across Treatment and Control Conditions

These experiments require the use of two different sets of math problems in order to avoid using deception.[9] Specifically, one conflicting information treatment condition requires subjects to receive incorrect poll results, while the other requires subjects to receive correct poll results. Because I generated actual poll results for each math problem (as opposed to fabricating the poll results), the problems where a majority of undergraduates recommends the correct answer are different from the problems where a majority of undergraduates recommends the incorrect answer. The key difference between these problems is level of difficulty; that is, the math problems where a majority recommends the correct answer are easier than the problems where a majority recommends the incorrect answer. Thus, subjects in the two conflicting information treatment conditions answer different sets of math problems that vary in their level of difficulty. Subjects' performance in each conflicting information treatment condition is, therefore, compared to subjects' performance in the control group and in the corresponding individual information treatment conditions on those *exact same problems*. This also allows me to test whether conflicting information has similar effects at different difficulty levels.

Hypotheses

I now make predictions about the relative quality of subjects' decisions when they are exposed to conflicting information versus when they are exposed to only one source of information. These predictions stem from strategic communication models that posit that citizens' decisions to pay attention to or ignore different sources of information are based on the expected benefits and costs of doing so (Crawford & Sobel, 1982; Lupia & McCubbins, 1998). These models predict that citizens should pay attention to information they expect to benefit them, while ignoring sources of information that may lead to costly mistakes. In these models, a key indicator of whether information is expected to benefit citizens is its perceived credibility (i.e., it is seen as knowledgeable and trustworthy; see Lupia & McCubbins, 1998). Applying this logic to my experiments yields testable predictions for the two conflicting information treatment conditions. First, when subjects are exposed to incorrect poll results and the statements of a knowledgeable and trustworthy endorser, I make the following prediction:

Conflicting Information Hypothesis 1: There should be no difference in the quality of subjects' decisions when they are exposed to (a) both incorrect poll results and the statements of a knowledgeable and trustworthy endorser and (b) only the statements of a knowledgeable and trustworthy endorser.

This prediction is best understood by considering these two different sources of information in light of the strategic communication models mentioned above. Specifically, because the endorser is credible, subjects should base their decisions upon the endorser's statements and ignore the poll results. Indeed, the endorser knows the correct choice for subjects with certainty and shares common interests with them. Thus, the endorser should make truthful statements about the correct choices for subjects, and subjects should trust and base their decisions upon these statements (Crawford & Sobel, 1982; Lupia & McCubbins, 1998). Although the poll results are also trustworthy (in that the 66 undergraduates that I polled had a financial incentive to recommend correct choices), they are not necessarily knowledgeable because the undergraduates did not necessarily know the correct answers to the math problems. Further, given the difficulty of the math problems used in these particular treatment conditions, it is unlikely that a majority of undergraduates would know the correct answers.[10] Thus, the poll results are a less credible source of information in this treatment condition. As a result, subjects should not base their decisions upon the poll results when they are also exposed to the statements of a knowledgeable and trustworthy endorser.

I make a similar prediction when subjects are exposed to correct poll results and the statements of a knowledgeable but untrustworthy endorser:

Conflicting Information Hypothesis 2: There should be no difference in the quality of subjects' decisions when they are exposed to (a) both correct poll results and the statements of a knowledgeable but untrustworthy endorser and (b) only correct poll results.

This prediction can also be understood by considering these different sources of information in light of strategic communication models. Because this endorser has conflicting interests with subjects, he or she no longer has a dominant strategy to make truthful statements. This endorser, therefore, is not credible, and subjects should ignore his or her statements (Lupia & McCubbins, 1998). This is true regardless of whether the untrustworthy endorser's statements are presented in isolation or together with poll results. Further, the poll results in this condition are a more credible source of information because they are trustworthy (i.e., the undergraduates that I polled had a financial incentive to recommend correct choices) and likely to be knowledgeable, given the relative ease of the problems used in these treatment conditions. For these reasons, subjects should not base their decisions upon the untrustworthy endorser's statements when they are also exposed to the correct (and more credible) poll results.

Data Analysis

Because subjects earn money for each correct decision and lose money for each incorrect decision, the average amount of money they earn per problem is a straightforward measure of the quality of their decisions in each treatment condition. I thus calculate the average amount of money that subjects earn per problem in each treatment condition and in the control group. I then conduct difference of means tests to examine whether subjects in each conflicting information treatment condition earn significantly more money than subjects in

the corresponding individual information treatment conditions and in the control group.[11] I also break my results down by subjects' levels of sophistication to assess the effects that conflicting information has on sophisticated and unsophisticated subjects' decisions.

Results

Contrary to expectations, subjects make significantly worse decisions when exposed to conflicting information relative to when only one more credible source of information is available. However, they make better decisions with conflicting information than with no information at all (as in the control group) or with one source of information that suggests the incorrect choice. These results hold regardless of the difficulty of the decisions. Specifically, the top half of Table 2 compares the average amounts of money subjects earn on the more difficult set of problems in the corresponding treatment and control conditions. While subjects who are exposed to the trustworthy endorser's statements earn, on average, 22 cents on these problems,[12] subjects who are exposed to *both* the trustworthy endorser's statements *and* the incorrect poll results earn, on average, only 4 cents on these same problems ($p < .01$). This result is surprising because the endorsement in this treatment

Table 2
Average money earned per subject per problem in corresponding treatment and control conditions

Decision type	Experimental condition	Average $ earned	Different from control?	Different from one credible source?
	Control	$−0.13 ($N = 66$)	—	Yes: worse decisions ($p < .01$)
	Incorrect polls (Treatment 2)	$−0.34 ($N = 81$)	Yes: worse decisions ($p < .01$)	Yes: worse decisions ($p < .01$)
Difficult	Trustworthy endorser (Treatment 3)	$0.22 ($N = 44$)	Yes: better decisions ($p < .01$)	—
	Trustworthy endorser + incorrect polls (Treatment 5)	$0.04 ($N = 44$)	Yes: better decisions ($p < .01$)	Yes: worse decisions ($p < .01$)
	Control	$0.21 ($N = 66$)	—	Yes: worse decisions ($p < .01$)
	Correct polls (Treatment 1)	$0.46 ($N = 58$)	Yes: better decisions ($p < .01$)	—
Easy	Untrustworthy endorser (Treatment 4)	$0.18 ($N = 44$)	No ($p = .31$)	Yes: worse decisions ($p < .01$)
	Correct polls + untrustworthy endorser (Treatment 6)	$0.40 ($N = 76$)	Yes: better decisions ($p < .01$)	Yes: worse decisions ($p < .05$)

Note. These results reflect the average amount of money earned per problem per subject. The *N*s reflect the number of subjects in the treatment and control conditions.

condition is clearly a more credible source of information than the poll results.[13] That said, subjects who are exposed to this conflicting information still earn significantly more money than subjects in the control group and in the incorrect poll condition ($p < .01$).

The bottom half of Table 2 compares the average amounts of money subjects earn on the easier set of problems in the corresponding treatment and control conditions.[14] While subjects who receive correct poll results earn, on average, 46 cents on these problems, subjects who receive *both* correct poll results *and* the untrustworthy endorser's statements earn, on average, only 40 cents on these same problems ($p < .05$).[15] This result is also surprising because subjects should have simply ignored the untrustworthy endorser's statements. As before, subjects exposed to this conflicting information still earn significantly more money than subjects in the control group and in the untrustworthy endorser condition ($p < .01$).[16]

Given these unexpected results, I examine whether they are driven by an increased propensity to respond incorrectly, to leave problems blank, or both when subjects are exposed to conflicting information. The results show that subjects make worse decisions with conflicting information, in part, because they are led astray by the information that suggests the wrong choice and, in part, because they are more likely to leave problems blank. Specifically, subjects who are exposed to both the trustworthy endorser and the incorrect polls leave the problems blank 21% of the time and answer the problems incorrectly 36% of the time. Both of these percentages are higher than the rates at which subjects leave the problems blank (which happens only 8% of the time) or get them wrong (which occurs only 24% of the time) when they are exposed to the trustworthy endorser alone. This greater tendency to make incorrect decisions leads to an estimated 35% loss in the amount of money that subjects earn, while their propensity to leave the problems blank leads to an estimated 12% loss in the amount of money that they earn. These losses are relative to the amounts of money subjects earn when they are exposed to only the trustworthy endorser.[17]

Similarly, subjects who are exposed to both the correct polls and the untrustworthy endorser leave the problems blank 15% of the time and answer the problems incorrectly 3% of the time. Both percentages are also higher than the rates at which subjects leave the problems blank (which happens only 8% of the time) or get them wrong (which occurs only 1% of the time) when they are exposed to the correct poll results alone. In this conflicting information treatment condition, subjects' greater tendency to make incorrect decisions leads to an estimated 4% loss in the amount of money that they earn, while subjects' propensity to leave the problems blank leads to an estimated 7% loss in the amount of money that they earn. These losses are relative to the amounts of money subjects earn when exposed to correct poll results alone.

Sophisticated Versus Unsophisticated Citizens

I also assess the effects that conflicting information has on sophisticated and unsophisticated subjects' decisions. When classifying subjects as sophisticated or unsophisticated, I use subjects' SAT math scores, as well as the nationwide SAT math percentile rankings that the Educational Testing Service releases. Specifically, subjects whose SAT math scores fall above the median score for my sample are considered sophisticated, while subjects whose SAT math scores fall below the median are considered unsophisticated.[18] In terms of the scores associated with these classifications, sophisticated subjects' scores range from 670 to 800 (the 89th percentile and higher), while unsophisticated subjects' scores range from 360 to 650 (the seventh percentile through the 85th percentile).

My results show that although unsophisticated subjects improve their decisions the most when one credible source of information is available, the quality of their decisions suffers the most in the presence of conflicting information. As shown in the top half of Table 3, both sophisticated and unsophisticated subjects in the control group struggle to make welfare-improving decisions on the difficult problems, losing on average 10 cents and 12 cents, respectively. When unsophisticated subjects receive the statements of a trustworthy endorser, they improve their decisions dramatically, earning 27 cents on average. However, when unsophisticated subjects receive both the statements of a trustworthy endorser and incorrect poll results, they earn only 4 cents, which is significantly less than they earn with only the trustworthy endorser's statements ($p < .05$). Sophisticated subjects also improve their decisions when they receive the trustworthy endorser's statements (earning 19 cents on average), but they do not make significantly worse decisions when they are also exposed to incorrect poll results. Indeed, there is not a significant difference in the amounts of money that sophisticated subjects earn in these individual information and conflicting information conditions.[19]

Table 3
Average money earned among sophisticated and unsophisticated subjects in the corresponding individual information and conflicting information treatment conditions

Decision type	Experimental condition	Unsophisticated: $ earned	Sophisticated: $ earned
	Control	$−0.12 ($N = 19$)	$−0.10 ($N = 27$)
	Trustworthy endorser (Treatment 3)	$0.27 ($N = 18$)	$0.19 ($N = 20$)
Difficult	Trustworthy endorser + incorrect polls (Treatment 5)	$0.04 ($N = 26$)	$0.09 ($N = 15$)
	Difference between trustworthy endorser versus trustworthy endorser + incorrect polls?	Yes ($p < .05$)	No ($p = .33$)
	Control	$0.17 ($N = 19$)	$0.26 ($N = 27$)
	Correct polls (Treatment 1)	$0.46 ($N = 32$)	$0.46 ($N = 25$)
Easy	Correct polls + untrustworthy endorser (Treatment 6)	$0.38 ($N = 42$)	$0.44 ($N = 29$)
	Difference between correct polls versus correct polls + untrustworthy endorser?	Yes ($p < .01$)	No ($p = .51$)

Note. These results reflect the average amount of money earned per problem per subject. The *N*s reflect the number of sophisticated and unsophisticated subjects in the treatment and control conditions.

I observe similar results when subjects receive correct poll results and the statements of an untrustworthy endorser. As shown in the bottom half of Table 3, sophisticated subjects in the control group earn, on average, 26 cents on these problems, while unsophisticated subjects in the control group earn 17 cents, on average ($p < .05$). When unsophisticated subjects receive correct poll results, they significantly improve their decisions, earning 46 cents on average. However, when unsophisticated subjects receive both correct poll results and the statements of an untrustworthy endorser, they earn only 38 cents, which is significantly less than they earn with only the correct poll results ($p < .01$). Sophisticated subjects, again, also improve their decisions when exposed to this one more credible source of information (earning 46 cents on average), but they do not make significantly worse decisions when they are also exposed to the untrustworthy endorser's statements. Indeed, sophisticated subjects again earn similar amounts of money in these individual and conflicting information conditions.

Conclusion

The results of these experiments suggest that a version of Gresham's Law may operate in the context of political communication. That is, when two sources of information send conflicting messages about the best choice for subjects, the "bad" information appears to drive out the "good" information, causing subjects to make worse decisions than when only the "good" information is available. This finding is surprising because, theoretically, subjects should ignore the less credible source of information. That said, conflicting information appears to be superior to no information and to one source of information suggesting a choice that will make subjects worse off.

Given the surprising results showing that conflicting information leads subjects to make worse decisions than when only one more credible source of information is available, it is important to explain why they occur. Part of the explanation comes from the analysis of sophisticated versus unsophisticated subjects' decisions. Indeed, my results demonstrate that sophisticated subjects are largely unaffected by the presence of a second, conflicting source of information. Unsophisticated subjects, however, make significantly worse decisions when exposed to conflicting information than when only the more credible information is available. Thus, the detrimental effects of conflicting information stem mostly from unsophisticated subjects being led astray by the presence of a second, conflicting source of information. That said, it is still an open question as to why unsophisticated subjects make significantly worse decisions, given that one source of information is clearly more credible than the other.

Two potential explanations that I can rule out are confusion about the experiment and information overload. The quizzes that subjects took on the instructions used in the experiment show no differences in sophisticated and unsophisticated subjects' understanding of the procedures and payoffs. Indeed, subjects, by and large, answer all of the quiz questions correctly. Further, to ensure that it was the conflict between the two sources of information (and not simply the presence of a second piece of information) that caused unsophisticated subjects to make worse decisions, I ran a small set of experiments where both sources of information suggested the welfare-improving choice. As expected, unsophisticated subjects improve their decisions when both sources send consistent (and correct) messages about the best choice. This suggests that unsophisticated subjects were not overwhelmed by the mere presence of a second source of information.

What, then, explains unsophisticated subjects' decisions? Related research in political science suggests an explanation. Specifically, Lau and Redlawsk (2001) and Sniderman,

Brody, and Tetlock (1991) argue that the key distinction between sophisticated and unsophisticated individuals is not the vast stores of knowledge that sophisticated individuals possess, but rather sophisticated individuals' ability to use the information they encounter appropriately. As Lau and Redlawsk (2001, p. 964) state, "What . . . sophistication brings a voter is knowledge of how the . . . world is typically structured, and the ability to make clear inferences from heuristic cues." The results of Lau and Redlawsk's experiments support this claim. Indeed, unsophisticated subjects in their experiments also struggle to make correct, or high-quality, decisions in a competitive information environment. Sophisticated subjects, on the other hand, are able to use the information they receive to improve the quality of their decisions. These results are quite similar to the results of my experiments. That such similar findings emerge from very different experimental settings provides strong empirical support for the notion that unsophisticated citizens struggle to make appropriate inferences when faced with multiple competing sources of information. Sophisticated citizens, on the other hand, fare much better.

As for the implications of these results, they suggest that political campaigns may benefit from sending conflicting (including false) information about their opponents to voters. Because additional, conflicting information can induce citizens to either make decisions against their interests or forgo participation entirely, political elites may be able to improve their electoral fortunes by strategically providing conflicting information about their opponents. Given that politicians competing in elections not only seek to increase their vote share, but also to influence turnout by mobilizing supporters and demobilizing opponents, this may be a particularly effective strategy.

Further, conflicting information in real-world political campaigns may be even more effective than my experimental results indicate. For example, the quality of information in political campaigns is less clear than in these experiments, where subjects are exposed to one credible source of information and one clearly less credible source. Given that unsophisticated subjects are swayed by a less credible source of information when the relative quality of the information is clear, it may be less likely that they will be able to resist the influence of such information in real-world political contexts. Indeed, citizens in real-world contexts are often exposed to information whose credibility is difficult to discern. Citizens' electoral decisions may also be more difficult than the decisions in these experiments, where all subjects have at least some preexisting knowledge about their decisions (i.e., about math). Given that subjects' decisions suffer most when they receive conflicting information about difficult decisions, citizens in complex electoral contexts may similarly struggle to sift through conflicting information and make welfare-improving decisions.

Conflicting information may also be more prevalent in real-world political campaigns than in these experiments. Given the increasingly polarized partisan environments in which most political campaigns are conducted, coupled with 24-hour news cycles and a growing number of political news outlets, there is more conflicting information in the political environment than ever before. How can unsophisticated citizens inoculate themselves against such endless streams of conflicting information? On the one hand, unsophisticated citizens may be able to filter out conflicting information through selective exposure to partisan news outlets that match their predispositions. For example, by watching Fox News, politically conservative citizens may prevent exposure to conflicting viewpoints that may lead them astray. Research indicates that citizens do in fact selectively expose themselves to news coverage on the basis of their partisan predispositions (Arceneaux, Johnson, & Murphy, 2012; Iyengar & Hahn, 2009).

On the other hand, research indicates that selective exposure to partisan news sources may be less likely among citizens who are relatively uninterested in or unknowledgeable

about politics (Iyengar & Hahn, 2009; Stroud, 2011). Research also shows that simple partisan cues may be less influential than previously thought, as citizens continue to pay attention to and process detailed policy information even when partisan cues are present (Arceneaux, 2008; Boudreau and MacKenzie, 2011; Bullock, 2011). Thus, the question of whether and when reliance on partisan information sources minimizes the detrimental effects that conflicting information has on unsophisticated citizens is an empirical question that awaits further research.

More broadly, my results suggest that scholars should be less sanguine about citizens' ability to use credible elite communications as substitutes for knowledge about politics. Although scholars demonstrate that citizens can improve their decisions when they receive information from a credible source, my findings show that citizens can be led astray by the presence of a second, conflicting source of information, even when that source is less credible. Because citizens in the real world are exposed to many different sources that send conflicting messages about the best choice for them, my results indicate that credible elite communications may be less helpful than much existing research suggests. My results also indicate that, contrary to democratic theory and empirical scholarship extolling the benefits of competition (Boudreau & McCubbins, 2008; Chong & Druckman, 2007; Madison, 1788; Milgrom & Roberts, 1986; Mill, 1859; Schattschneider, 1960), competition between information sources can have negative effects on unsophisticated citizens' decisions. Although citizens who are exposed to conflicting information may still make better decisions than they make without any additional information, the fact that they make worse decisions than with only one credible source of information suggests that we should reconsider the efficacy of particular elite communications and continue to explore the conditions under which they do (and do not) help citizens improve their decisions.

Notes

1. In economics, Gresham's Law refers to the principle that "bad money drives out good money." In political science, Popkin (1991, p. 79) refers to Gresham's Law of political information—the tendency for small amounts of personal information about candidates to drive more relevant political information out of consideration. Here, Gresham's Law refers to the less credible source of information driving the more credible source out of consideration for some subjects.

2. Nicholson (2008) studies the effects of conflicting signals from political parties.

3. For example, Cizmar and Layman (2009) suggest that abortion may not be an "easy" issue, contrary to how others typically classify it. Maggiotto and Wittkopf (1981) question traditional classifications of foreign policy as a "hard" issue.

4. In order to use real polls and avoid deception, I use two different sets of math problems. As I discuss in detail below, the relevant comparisons in this study involve subjects making decisions about the *exact same* problems under different conditions (i.e., one source of information vs. two conflicting sources of information).

5. The endorser makes his or her statement by putting a checkmark beside the answer that he or she wishes to recommend. The experimenter then reads that statement aloud to subjects. This prevents the endorser's tone of voice from confounding the experiment. Similarly, the endorser sits behind a partition so that the endorser's gender, race, and/or age do not affect the extent to which subjects listen to the endorser's statements.

6. This condition is analogous to many real-world political situations, such as when citizens who are concerned about the environment look to the Sierra Club for guidance on how to vote.

7. I do not tell subjects whether the endorser or the poll suggests the correct choice; thus, this aspect of the experiments is not common knowledge to subjects.

8. In equilibrium, the knowledgeable but untrustworthy endorser should mix between making correct and incorrect statements (Lupia & McCubbins, 1998). In the experiments, subjects acting

as the untrustworthy endorser make predominantly incorrect statements, along with a few correct statements. My conclusions do not change if I limit my analysis to only instances in which the untrustworthy endorser makes incorrect statements.

9. Avoiding deception is particularly important in these experiments because subjects have pre-existing knowledge about how to solve math problems. Thus, if I had fabricated poll results for each problem (which would have ensured that each problem had both correct and incorrect poll results and that the same problems could be used in both conflicting information treatment conditions), subjects likely would have realized that some of the poll results were unrealistic. For example, subjects likely would have been skeptical if the poll results for a relatively easy math problem showed that a majority of undergraduates recommended the incorrect answer. Subjects' realization (or even suspicion) that the poll results were fabricated might have also led to skepticism about other aspects of the experiment and, in turn, affected their behavior. To avoid such confounding factors, I use actual poll results and two different sets of math problems. During informal post-experiment interviews, no subjects expressed skepticism that the poll results were fabricated or not based on responses from undergraduates at their university.

10. To ensure that subjects perceive the poll results as trustworthy, but not necessarily knowledgeable, I ask the following quiz question: "The 66 other UCSD undergraduates earned $0.50 every time that they answered the problem correctly, they lost $0.50 every time they answered a problem incorrectly, and they earned nothing if they chose not to answer the problem. True or false?" Subjects virtually always answer this quiz question correctly. This ensures that subjects understand (a) that the undergraduates who were polled are trustworthy because they had a financial incentive to recommend correct answers and (b) that the undergraduates are from their own university, which allows subjects to make inferences about the undergraduates' level of knowledge based upon the perceived difficulty or ease of the problems.

11. As a robustness check, I also analyze the data using regressions that control for the difficulty of the math problems and subjects' levels of sophistication. My conclusions do not change if I use regressions as opposed to difference of means tests.

12. Although the trustworthy endorser always makes truthful statements, it is interesting that subjects do not always base their decisions upon his or her statements. Thus, they do not earn the maximum amount of money (i.e., 50 cents per problem). Post-experiment interviews with subjects reveal that some subjects trust their own ability to solve these problems more than they trust the endorser, which leads them to answer the problems incorrectly.

13. That subjects base their decisions upon the less credible source of information even when the other source is clearly superior suggests that I will observe even worse decisions when there is greater uncertainty about which source is more credible. I will test this proposition in future studies.

14. Easier problems likely bias me against finding that subjects make worse decisions when exposed to conflicting information. Because the problems are easier, it is more likely that subjects will know the correct answers on their own and, thus, less likely that they will be swayed by the presence of a second, conflicting source of information.

15. Again, my results and conclusions do not change if I filter out the few instances in which subjects acting as the untrustworthy endorser make correct statements and analyze only the instances in which the untrustworthy endorser makes incorrect statements. I chose not to filter out the few correct statements because, if anything, this provides a more conservative estimate of the detrimental effects that conflicting information has on subjects' decisions.

16. There is not a significant difference in the amounts of money subjects earn in the control group and in the untrustworthy endorser condition. This is not surprising, given that subjects who are exposed to an untrustworthy endorser should ignore what he or she says and make their decisions on their own (Lupia & McCubbins, 1998).

17. Estimating the loss in income due to non-participation (i.e., leaving the problem blank) is relatively straightforward. I took the difference in the percentages left blank for the "trustworthy endorser" and the "trustworthy endorser + poll" conditions (13%) and multiplied this difference by the expected value of participating in the trustworthy endorser condition (34 cents). This amounts to roughly 4 cents per question (0.13×0.34) or 12% of the expected value of participating. I estimated

the loss in income due to the greater propensity of selecting the incorrect answer in the "trustworthy endorser + poll" condition as follows. I took the difference in this propensity (i.e., percentage incorrect) for the "trustworthy endorser" and the "trustworthy endorser + poll" conditions (12%) and multiplied this number by the difference in the value of a correct versus incorrect answer ($1.00). This amounts to 12 cents per question or 35% of the expected value of participating. I estimated the losses for the other treatment conditions in the same manner.

18. As Druckman (2004) notes, splitting the sample at the median minimizes measurement error. That is, slight changes in SAT math scores may not capture real differences in sophistication, but a median split should produce groups that are qualitatively different on this dimension. For other uses of a median split when measuring sophistication or knowledge, see Rahn, Aldrich, and Borgida (1994) and Druckman and Nelson (2003).

19. It is surprising that sophisticated subjects earn less money than unsophisticated subjects when exposed to only the trustworthy endorser's statements. Post-experiment interviews with these subjects revealed that some sophisticated subjects were overconfident in their own abilities, which led them to ignore the trustworthy endorser's truthful statements and base their decisions upon their own (incorrect) notions about how to solve these problems. Note, however, that the addition of a second, conflicting source of information did not have a significant effect on sophisticated subjects' decisions, while it significantly reduced the amount of money that unsophisticated subjects earned.

References

Abelson, R. P. (1976). Script processing in attitude formation and decision making. In J. S. Carroll & J. W. Payne (Eds.), *Cognition and social behavior* (pp. 33–45). Hillsdale, NJ: Erlbaum.

Arceneaux, K. (2008). Can partisan cues diminish democratic accountability? *Political Behavior*, *30*, 139–160.

Arceneaux, K., Johnson, M., & Murphy, C. (2012). Polarized political communication, oppositional media hostility, and selective exposure. *Journal of Politics*, *74*, 174–186.

Aronson, E., Wilson, T. D., & Brewer, M. B. (1998). Experimentation in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (4th ed., pp. 99–142). New York, NY: Oxford University Press.

Bartels, L. M. (1996). Uninformed voters: Information effects in presidential elections. *American Journal of Political Science*, *40*, 194–230.

Boudreau, C. (2009a). Making citizens smart: When do institutions improve unsophisticated citizens' decisions? *Political Behavior*, *31*, 287–306.

Boudreau, C. (2009b). Closing the gap: When do cues eliminate differences between sophisticated and unsophisticated citizens? *Journal of Politics*, *71*, 964–976.

Boudreau, C., & Lupia, A. (2011). Political knowledge. In J. N. Druckman, D. P. Green, J. H. Kuklinski, & A. Lupia (Eds.), *Cambridge handbook of experimental political science* (pp. 171–183). Cambridge, England: Cambridge University Press.

Boudreau, C., & MacKenzie, S. A. (2011). Informing the electorate? How party cues and policy information affect public opinion about initiatives. Paper presented at the annual meeting of the American Political Science Association, Seattle, WA.

Boudreau, C., & McCubbins, M. D. (2008). Nothing but the truth? Experiments on adversarial competition, expert testimony, and decision making. *Journal of Empirical Legal Studies*, *5*, 751–789.

Boudreau, C., & McCubbins, M. D. (2010). The blind leading the blind: Who gets polling information and does it improve decisions? *Journal of Politics*, *72*, 513–527.

Bullock, J. (2011). Elite influence on public opinion in an informed electorate. *American Political Science Review*, *105*, 496–515.

Carmines, E. G., & Stimson, J. A. (1980). The two faces of issue voting. *American Political Science Review*, *74*, 78–91.

Chong, D., & Druckman, J. N. (2007). Framing public opinion in competitive democracies. *American Political Science Review*, *101*, 637–655.

Chong, D., & Druckman, J. N. (2010). Dynamic public opinion: Communication effects over time. *American Political Science Review*, *104*, 663–680.

Cizmar, A. M., & Layman, G. C. (2009). *How can we measure if something is 'easy'? Evidence from two experiments on abortion attitudes*. Working paper, University of Notre Dame.

Cobb, M. D., & Kuklinski, J. H. (1997). Changing minds: Political arguments and political persuasion. *American Journal of Political Science*, *41*, 88–121.

Crawford, V., & Sobel, J. (1982). Strategic information transmission. *Econometrica*, *50*, 1431–1451.

de Vreese, C. H., & Boomgaarden, H. (2006). Media message flows and interpersonal communication: The conditional nature of effects on public opinion. *Communication Research*, *33*, 19–37.

Druckman, J. N. (2001a). On the limits of framing effects: Who can frame? *Journal of Politics*, *63*, 1041–1066.

Druckman, J. N. (2001b). Using credible advice to overcome framing effects. *Journal of Law, Economics, and Organization*, *17*, 62–82.

Druckman, J. N. (2004). Political preference formation: Competition, deliberation, and the (ir)relevance of framing effects. *American Political Science Review*, *98*, 671–686.

Druckman, J. N., Hennessy, C. L., St. Charles, K., & Webber, J. (2010). Competing rhetoric over time: Frames versus cues. *Journal of Politics*, *72*, 136–148.

Druckman, J. N., & Nelson, K. R. (2003). Framing and deliberation: How citizens' conversations limit elite influence. *American Journal of Political Science*, *47*, 729–745.

Fowler, J. H., & Kam, C. (2006). Patience as a political virtue: Delayed gratification and turnout. *Political Behavior*, *28*, 113–128.

Gilbert, D. T., & Hixon, J. G. (1991). The trouble of thinking: Activation and application of stereotypic beliefs. *Journal of Personality and Social Psychology*, *60*, 509–517.

Gilliam, F. D., & Iyengar, S. (2000). Prime suspects: The influence of television news on the viewing public. *American Journal of Political Science*, *44*, 560–573.

Hibbing, J. R., & Theiss–Morse, E. (2002). *Stealth democracy: Americans' beliefs about how government should work*. Cambridge, England: Cambridge University Press.

Huckfeldt, R., Mondak, J. J., Craw, M., & Mendez, J. M. (2005). Making sense of candidates: Partisanship, ideology, and issues as guides to judgment. *Cognitive Brain Research*, *23*, 11–23.

Iyengar, S. (1987). Television news and citizens' explanations of national affairs. *American Political Science Review*, *81*, 815–832.

Iyengar, S. (1990). Framing responsibility for political issues: The case of poverty. *Political Behavior*, *12*, 19–40.

Iyengar, S. (1994). *Is anyone responsible? How television frames political issues*. Chicago, IL: University of Chicago Press.

Iyengar, S., & Hahn, K. S. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication*, *59*, 19–39.

Jerit, J. (2009). How predictive appeals affect policy opinions. *American Journal of Political Science*, *53*, 411–426.

Joslyn, M. R., & -Markel, D. P. (2002). Framing effects on personal opinion and perception of public opinion: The cases of physician-assisted suicide and social security. *Social Science Quarterly*, *83*, 690–706.

Koch, J. W. (2002). Gender stereotypes and citizens' impressions of house candidates' ideological orientations. *American Journal of Political Science*, *46*, 453–462.

Lau, R. R., & Redlawsk, D. P. (2001). Advantages and disadvantages of cognitive heuristics in political decision making. *American Journal of Political Science*, *45*, 951–971.

Lupia, A (1994). Shortcuts versus encyclopedias: Information and voting behavior in California insurance reform elections. *American Political Science Review*, *88*, 63–76.

Lupia, A., & McCubbins, M. D. (1998). *The democratic dilemma: Can citizens learn what they need to know?* Cambridge, England: Cambridge University Press.

Luskin, R. C. (1987). Measuring political sophistication. *American Journal of Political Science*, *31*, 856–899.

Madison, J. (1788). Federalist #10. In C. Rossiter (Ed.), *The federalist papers*. New York, NY: Penguin.

Maggiotto, M. A., & Wittkopf, E. R. (1981). American public attitudes toward foreign policy. *International Studies Quarterly*, *25*, 601–631.

Milgrom, P., & Roberts, J. (1986). Relying on the information of interested parties. *RAND Journal of Economics*, *17*, 18–31.

Mill, J. S. (1859). On liberty. In S. Collini (Ed.), *On liberty and other writings*. Cambridge, England: Cambridge University Press.

Mondak, J. J. (1993). Source cues and policy approval: The cognitive dynamics of public support for the Reagan agenda. *American Journal of Political Science*, *37*, 186–212.

Mutz, D. C., & Martin, P. S. (2001). Facilitating communication across lines of political difference: The role of the mass media. *American Political Science Review*, *95*, 97–114.

Nelson, T. E., Clawson, R. A., & Oxley, Z. M. (1997). Media framing of a civil liberties conflict and its effect on tolerance. *American Political Science Review*, *91*, 567–583.

Nicholson, S. P. (2008, August). *Conflicting cues in direct democracy elections*. Paper presented at the annual meeting of the American Political Science Association, Boston, MA.

Nir, L., & Druckman, J. N. (2008). Campaign mixed-message flows and timing of vote decision. *International Journal of Public Opinion Research*, *20*, 326–346.

Petersen, M. B., Slothuus, R., & Togeby, L. (2010). Political parties and value consistency in public opinion formation. *Public Opinion Quarterly*, *74*, 530–550.

Popkin, S. L. (1991). *The reasoning voter: Communication and persuasion in presidential campaigns*. Chicago, IL: University of Chicago Press.

Rahn, W. M., Aldrich, J., & Borgida, E. (1994). Individual and contextual variations in political candidate appraisal. *American Political Science Review*, *88*, 193–199.

Schank, R. C., & Abelson, R. (1977). *Scripts, plans, goals and understanding: An inquiry into human knowledge structures*. Hillsdale, NJ: Erlbaum.

Schattschneider, E. E. (1960). *The semisovereign people*. New York, NY: Holt, Rinehart, & Winston.

Sniderman, P. M., Brody, R. A., & Tetlock, P. E. (1991). *Reasoning and choice: Explorations in political psychology*. New York, NY: Cambridge University Press.

Sniderman, P. M., & Theriault, S. M. (2004). The structure of political argument and the logic of issue framing. In W. E. Saris & P. M. Sniderman (Eds.), *Studies in public opinion* (pp. 133–165). Princeton, NJ: Princeton University Press.

Stroud, N. J. (2011). *Niche news: The politics of news choice*. Oxford, England: Oxford University Press.

Wilson, T. D., Aronson, E., & Carlsmith, K. (2009). The art of laboratory experimentation. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (Vol. 1, pp. 51–81). New York, NY: Wiley.

Zaller, J. R. (1992). *The nature and origins of mass opinion*. Cambridge, England: Cambridge University Press.