

Cues Given, Cues Received:  
How Candidates Use Shortcuts When  
Voters Need Them Most

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January 2, 2007

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\*I thank Christopher Achen, Richard Born, Thomas Clark, Martin Gilens, Gabriel Lenz, Tali Mendelberg, C. Daniel Myers, and the participants of the American Politics Research Seminar at Princeton University for their comments on a draft of this paper. Gary Jacobson kindly shared his data on candidate experience in the 2000 congressional elections. All remaining errors are my own.

## **Abstract**

While extensive research exists on how voters use cues and heuristics, relatively little work exists on how candidates create cues to shape voter opinion. Unlike previous studies, which explain the use of particular cues in isolation, this paper develops a broader theory of how candidates use cues as a distinct method of communication. On this view, candidates use cues to maximize the salience, cost-efficiency, and clarity of their messages, particularly among less sophisticated voters. Using television advertising data from the 2000 House elections, the paper shows that candidates provide more cues when they face scarce campaign resources, crowded communication environments, and politically unsophisticated voters. This suggests that cues may feasibly solve the problem of voter ignorance, as candidates appear to use more cues when information costs are high.

After more than 25 years of research on cues and heuristics, we now understand how a number of cues affect the political behavior of ordinary citizens. Party cues increase turnout and voter knowledge of campaign issues (Rahn 1993; Schaffner and Streb 2002; Schaffner, Streb, and Wright 2001). Racial and gender cues allow voters to infer the ideologies of candidates without detailed information (McDermott 1997; Valentino, Hutchings, and White 2002). And a number of less common cues, such as professions, endorsements, and incumbency positions, have also been shown to affect public opinion (Conover 1981; Lupia 1994; McDermott 2005).

Yet for all that we have learned about how voters use cues, we know relatively little about how candidates provide them. Many studies of cue-taking implicitly assume that cues are equally likely to be available in many different contexts. This is particularly true of experimental studies, in which candidates cannot control how cues are presented to voters. In practice, however, the presence of cues depends on strategic campaign decisions. Outside the laboratory, cues are not exogenous features of the political environment, but rather opportunities for candidates to optimize their messages and shape public opinion. Democratic candidates choose how to emphasize their party affiliations, just like female candidates choose how to emphasize their sex. As a result, we cannot fully know how cues affect political behavior, or how cues solve campaign communication problems, unless we know how candidates use cues strategically.

The supply side of cues is also important for normative reasons. Many have portrayed cues as a solution to the problem of citizen ignorance (e.g., Lupia and McCubbins 1998; Page and Shapiro 1992). As a general matter, cues can only solve this problem if less knowledgeable voters have access to cues in difficult information conditions. That is, candidates should use cues when voters need them most. However, by focusing on the demand side of cues, existing studies have not shown whether voters and candidates use cues in similar conditions.

To my knowledge, only a handful of scholars have analyzed cues from the supply side. Vavreck (2001) examines the conditions in which candidates use specific cues like party and ideology. She shows that relatively few candidates use cues, but those who do use them strategically. For example, many candidates avoid labelling themselves as members of unpopular parties in order to attract the support of the median voter. Popkin (1994) offers a more theoretical analysis. He argues that voters often do not have much detailed political information, but instead use cues to connect candidates with government benefits. Finally, Mendelberg (2001) and Kahn (1996) have explored how

candidates and their opponents frame the meaning of racial and gender cues on the campaign trail.

As it stands, the primary weakness of the cue-giving literature is that it is too narrow. Vavreck ably explains why candidates use particular cues, but we still do not know where cues *generally* fit in a candidate's toolbox of communication. When do cues of any type best serve the interests of candidates? What affects a candidate's decision to use cues, and why do some candidates use more cues than others? Similarly, the literature on racial and gender cues has focused on the use of each cue in its own context, without answering the broader question of why candidates use *any* type of cue. Popkin begins to develop such a general theory, in which cues allow voters to learn about politics cheaply and allow candidates to reach disengaged voters. Nevertheless, the supply side is not the primary focus of Popkin's work.

This paper develops and tests a broader theory of how cues *as a method of communication* serve candidates' electoral goals. I argue that cues are not fixed conditions that are beyond candidates' control, but rather strategic opportunities to optimize campaign messages. Candidates try to frame the associations linked to demographic cues, such as race, partisanship, and incumbency, in order to influence voter opinion. In addition, candidates often create new cues that are narrowly tailored for their particular campaigns. Candidates create novel words and images to give voters information that is both cheap and inferentially powerful.

Candidates frame and create cues to solve three communication problems. First, cues cut through crowded media environments to reach distracted voters. Second, cues let unsophisticated voters make broad inferences from simple pieces of information. Third, cues maximize the amount of information provided per communication dollar. Cues solve these problems as a method of communication, rather than as particular words or phrases, because they generically have greater salience and inferential power than more detailed messages.

I test these hypotheses against data on campaign advertising in the 2000 House elections. I explain variation in the use of cues relative to other methods of communication, situating cues within a candidate's overall strategy of communication. Consistent with expectations, I show that candidates use more cues when media budgets are tight, when voters are unsophisticated, and when media environments are crowded. Thus candidates use more cues when voters cannot or will not learn about politics—exactly the situations in which voters need cues the most. This link between cue-giving and cue-taking may allow cues to solve the problem of citizen ignorance, since the

incentives to provide and consume cues are largely the same. At the same time, shared incentives may lead to a shallow form of deliberation, in which debate becomes little more than competing slogans and symbols.

## **Cues and Campaign Strategies**

In many studies of cue-taking, cues are exogenous features of the political environment. Researchers often randomly expose voters to simple forms of cues, such as the presence or absence of party affiliation, race, or sex (Rahn 1993; McDermott 1998; McDermott 1997). The availability of cues varies across conditions, but candidates themselves do not influence this variation. A candidate is either a Democrat or a Republican, an African-American or a Caucasian, an incumbent or a challenger. Endorsements are either present or they are not.

By removing the chaos of actual campaigns, cue-taking studies have precisely shown how voters can make complex inferences using simple information. The cost of this precision, however, is a certain amount of artificiality. In many real-world situations, candidates may control how voters perceive a cue, simply by emphasizing some of its associations rather than others. For example, a candidate may claim to be a “New Democrat” or an “Old Democrat,” a “Religious Republican” or a “Fiscal Republican,” a “California Democrat” or an “Arkansas Democrat.” Some candidates run on their party’s platform, while others run against it. There are Republicans who appear with George W. Bush and those who do not. In these ways, candidates may partially control how voters perceive different cues, simply by emphasizing different considerations. In practice, the space of possible cues is probably quite large. Yet in much of the cue-taking literature, cues are unrelated to candidate behavior, and they are available only in simple forms, such as whether a candidate is Democrat or Republican.

Moreover, candidates may not be limited to framing the demographic cues that are attached to them exogenously, such as partisanship, race, sex, and the like. In reality, candidates may create cues that are tailored exclusively for their own campaigns, using words and images that influence voter opinion only in a specific context.

What do these unique cues look like in practice? Consider the term “flip-flopper,” which George W. Bush used to describe John Kerry in the 2004 presidential campaign. Bush could have accused

Kerry of being indecisive using detailed speeches and interviews, which would have been less accessible for the average voter. Instead, Bush used the word “flip-flopper” to imply the same information. Voters did not need to know the details of Kerry’s record or pay much attention to the campaign to form an opinion about him. All they had to know were the associations about what “flip-floppers” do.

Another example comes from a television ad during the 2004 Iowa Democratic caucuses, sponsored by the conservative interest group, the Club for Growth. In the ad, an elderly couple tells Howard Dean to “take his tax-hiking, government-expanding, latte-drinking, sushi-eating, Volvo-driving, *New York Times*-reading . . . body-piercing, Hollywood-loving, left-wing freak show back to Vermont, where it belongs!” (Kurtz 2004). While the group could have used a more detailed message to argue that Dean was a liberal, elitist intellectual from the Northeast, it instead created many attitudes with a handful of associations. Clearly, few candidates have used or will ever use this combination of cues again. They were designed for a unique political moment. Nevertheless, the cues were arguably no less informative than more common traits like race and sex.

Candidates are not limited to words and traits when they create cues of their own. Perhaps in an effort to show that he was not overly stiff, John Kerry rode a Harley-Davidson onto the set of the *Tonight Show with Jay Leno* and twice went hunting in front of the media during the 2004 Presidential campaign. Likewise, George W. Bush regularly staged photo-ops on his ranch in Texas, where he drove pick-ups, “cleared brush,” and wielded chain saws. The images produced by these photo-ops were relatively accessible, since they appeared in many news reports. The images also let voters make clear inferences about the candidates. “Bush drives a pick-up,” the reasoning might go, “so therefore, he understands people like me who live in Lubbock.”

The literature has paid some attention to the effects of complex cues, such as Republicans who have liberal policy views (Rahn 1993) and endorsements with more or less credibility (Lupia 1994, Lupia and McCubbins 1998). For the most part, however, previous work has not analyzed how candidates *create* this type of cue. Instead, the literature has focused on the use of particular demographic cues in isolation.

Vavreck (2001) offers the broadest analysis of cue-giving to date. Using data on televised campaign advertising, Vavreck measured the use of cues such as party, ideology, and sex among 290 congressional candidates. She found that female candidates were 15% more likely to mention chil-

dren, and that candidates whose parties are closer to the median voter were about 18% more likely to use partisan and ideological cues. Although Vavreck offers insightful evidence about the use of particular traits, she does not examine how candidates use cues in general as a strategy of communication.

The literature on racial cues gives candidates more room for creativity. Mendelberg (2001) shows that Republican candidates often use images, text, and other appeals to implicitly activate racist stereotypes about African-Americans. These tactics let Republicans exploit anti-black attitudes without explicitly violating norms of racial tolerance. For example, Mendelberg argues that George H.W. Bush used images of an African-American convict, Willie Horton, to create racially-motivated attitudes about his opponent, Michael Dukakis. Bush used historical stereotypes about African-Americans and violence to suggest that Dukakis was soft on crime, adapting a longstanding cue to solve his particular communication problem.

Similarly, Kahn (1996) examines how female candidates for the U.S. Senate control the presentation of their gender. Kahn finds that female candidates are more likely to dress formally in their campaign advertisements, in order to compensate for the stereotype that they are less “professional” and “competent” (32). Female candidates are also more likely to talk about social policy rather than foreign or economic policy, since voters perceive female candidates to be more competent on these issues (38). But like Mendelberg and Vavreck, Kahn only examines how candidates present a fixed demographic trait. She does not consider how candidates use cues in general or how they create new cues to pursue unique goals.

Although the creation of cues has not received much attention from the cue-giving literature, the concept does reflect several parts of the cue-taking literature. Rahn (1993) defines cues as social stereotypes about a candidate’s traits or positions. Although Rahn specifically focuses on partisan stereotypes, her theory can accommodate stereotypes about Texans who clear brush and Vermonters who eat sushi, even though the latter stereotypes are not very common. Likewise, Bianco (1998) suggests that cues are closely related to the concept of signals in game theory. In many situations, voters have a rough sense of where a candidate stands on an issue, but they do not know exactly where he stands for sure. Bianco suggests that cues are signals about this unknown information, which may narrow the range of positions that the candidate might actually hold.

If we think of cues as stereotypes or signals, the number of potential cues in American politics

increases dramatically. On either account, many cues will be uniquely tailored for particular campaigns, and some will rarely, if ever, be used again. This potential diversity only increases the need for a broader theory of cue-giving. The purpose of cues is to let voters make inferences on many dimensions, without needing a lot of detailed information. In this sense, cues are a distinct method of communication. The problem, however, is that existing studies do not identify when candidates will prefer the *structural* benefits of *all* cues—accessibility and inferential power—over more detailed forms of communication. Vavreck, Mendelberg, and Kahn explain how candidates use particular types of cues, relying on theories narrowly tailored to their own problems. But since cues may be highly idiosyncratic, narrowly framed analyses are not ultimately sufficient. Once we explain why a candidate uses one cue, like clearing brush in central Texas, we must explain a multiplicity of other cues. What we need, then, is a theory that can explain why candidates use many different cues, not just one cue in isolation.

## **When Should Candidates Use Cues?**

In order to explain when candidates should use cues in general, we must first consider how they solve their problems as communicators. Most existing theories have defined campaign communication as a problem of issue selection and priming (Druckman, Jacobs, and Ostermeier 2004; Gelman and King 1993; Jacobs and Shapiro 1994, 2000; Sellers 1998). Candidates are assumed to be single-minded seekers of election. In order to win a majority of votes, candidates choose from a set of issues that can appear in campaign messages. Candidates use scarce resources to take positions on these issues, which voters then compare to their own preferences. In some theories, candidates devote more resources to issues on which they are closer to the median voter than their opponents (Petrocik 1996; Simon 2002). This primes the salience of issues on which the median voter agrees with the candidate (and *vice versa*), thereby maximizing issue agreement and the chance of election.

While existing theories explain how candidates choose *issues*, they do not explain how candidates choose *styles* of communication. In perhaps the most detailed theory to date, Simon (2002, 39) explicitly brackets issues of style: “I exclude tactics of campaign communication for similar reasons. The choices responsible for the appearance of dialogue are the choices over what [issue] dimensions to include in the communication. Other choices, such as how to frame particular mes-

sages, are secondary to this consideration.” This exclusion is convenient, particularly in formal models, but it deflates the role of style in campaign communication. In many situations, *what* candidates say is just as important as *how* they say it, and we would expect the choice of styles to be a critical strategic decision.

More importantly, we need a stylistic theory to explain how candidates use cues as a method of communication. The generic choice between cues and other types of messages is ultimately a choice about different ways of expressing the same information. Choosing whether to stress one’s race may be a choice about implicit issue positions, but choosing how many cues to use *overall* is a choice about styles of communication. Therefore, I build on existing theories of campaign communication to explain the choice of style, treating cues as a special case.

### **Goals, Constraints, and Message Strategies**

As in previous theories, I assume that the basic goal of all candidates is to win elections. In order to achieve this goal, candidates want to maximize the probability that the voters they target receive their campaign messages. Although these assumptions may be unrealistic in other contexts, such as when candidates strongly value “good public policy,” they should reasonably apply to candidates who already are seeking election.

In order to win elections and reach voters, candidates must decide *how* to give voters information about their views and qualifications. In effect, candidates must choose from a set of *message styles*, not from a set of issues, as existing theories have assumed. I define a message style as the set of actions necessary to transmit a pre-defined message. These actions might include the words, phrases, and images in a candidate’s messages, their timing, and the media in which they appear. Under this definition, cues are just one of many different message styles. For example, a candidate can explain in detail how she wants to increase social welfare spending and protect gay rights, or she can simply call herself a “San Francisco liberal.” Each style conveys the same issue positions (by assumption), but the first style is longer and more detailed.

Candidates choose message styles subject to three constraints. The first constraint is common to existing theories, while the second and third constraints apply specifically to the choice of message styles. First, candidates are constrained by scarce resources for communication, primarily in the form of money and time. Since all candidates have limited resources and many different spending

needs, they want to efficiently allocate resources across functions of their campaigns. This means that candidates want to maximize the reception of information and the probability of election per unit of spending.

Second, candidates are constrained by the structure of the communication environment. Candidates must compete with thousands of other messages for voters to receive their appeals. Cable television and the Internet have dramatically increased the number and variety of media sources available to voters, and it is increasingly hard to ensure that voters will receive campaign information (Prior 2007; Sunstein 1999). As a result, candidates must choose the message style that maximizes reception, given the constraints of media competition.

Third, candidates are constrained by the political sophistication of ordinary voters. It is well known that most voters do not actively follow politics or have well-defined opinions on most issues (Converse 1964; Delli Carpini and Keeter 1996). This suggests that even if all voters received a campaign message, they might not be able to use complex information. Therefore, to maximize the impact of campaign messages, candidates must adapt to the cognitive needs of their audiences. The optimal message style must allow voters to understand campaign appeals, once received.

## **Hypotheses**

Within this framework, the amount of cues is just one style among many that candidates might use in different conditions. What, then, are the conditions in which cues will *best* serve candidates' goals and overcome their constraints?

The use of cues should depend on their unique strengths relative to other styles of communication. As the literature on cue-taking suggests, the signature quality of cues is their potential to produce many associations with just a few words, phrases, or images. Candidates do not need to provide detailed information, because voters can make many different inferences using cues. This comparative advantage implies at least three hypotheses.

**Hypothesis 1:** Candidates will use more cues when they have fewer communication resources.

This prediction follows from the resource constraint. Although poor candidates cannot afford to broadcast messages with high rates of exposure, cues may allow them to overcome the high cost of

advertising. Cues let voters make many different inferences, but candidates only need to provide a few short words or images. This allows candidates to talk about other themes in their messages, or to reduce the total amount of time needed to convey a given message. For example, a candidate might call attention to the fact that she is a Democrat, rather than spending a lot of time taking positions that mirror the Democratic platform. In effect, cues allow poor candidates to shift resources to other spending needs or campaign themes.

Unlike poor candidates, rich candidates can broadcast many messages over time, often at high rates of exposure. This gives them the time to explain their positions in more detail, reaching voters through breadth and repetition rather than through the greater salience of cues. In the example above, the candidate might now make a unique ad for each issue in the Democratic platform, and then buy many different broadcasts at high rates of exposure. This level of detail becomes affordable as resources increase. Wealth requires less economization within each broadcast and across all broadcasts, because there are fewer opportunity costs in other areas of campaign spending. Moreover, greater detail is worth the cost, because it reduces the chance that noisy signals will convey the wrong information.

**Hypothesis 2:** Candidates will use more cues in crowded communication environments.

This prediction follows from the competition constraint. Candidates want to maximize the chance that the voters they target will receive any given message. For this to occur, media organizations must provide messages to voters, and voters must then pick out these messages from many different competitors. Since cues are pithy, salient words and phrases by definition, they satisfy the media's need for concise, arresting material that is suitable for sound-bites and quotations (Patterson 1993). In addition, the greater salience and simplicity of cues, relative to more detailed appeals, lets them stand out from many other media messages, once received. Cues will therefore become more attractive as media competition increases.

**Hypothesis 3:** Candidates will use more cues when voters are politically unsophisticated.

This prediction follows from the sophistication constraint. Since candidates want voters to understand their messages, once received, they must consider how more or less sophisticated voters

will use information that is more or less complex. Less sophisticated voters often do not have complex ideologies or detailed political information. As a result, they might not be able to use complex messages about a candidate's views and qualifications. For these voters, cues may provide more useful information. For example, party cues may be more meaningful than information about a relatively opaque roll call vote in Congress.<sup>1</sup>

## **Cue-Giving in the 2000 House Elections**

While my theory is not limited to a particular type of candidate, the empirical analysis below focuses on major-party candidates in the House general elections of 2000. House candidates allow for a strong test of the theory, because they provide a large amount of variation across candidates, districts, and electoral environments. I examine the use of cues in 2000 simply because the necessary data exist for this year only. Like existing studies of cue-giving (e.g., Vavreck 2001), I limit my attention to cues used in television advertising, as measured by the Wisconsin Political Advertising Project (WPAP) and the Campaign Media Analysis Group (CMAG). Since CMAG collected data on all House campaign advertising in the 75 largest media markets, my data consist of observations about 204 House candidates who used television advertising in these markets.<sup>2</sup>

### **Measuring the Use of Cues**

How should we measure the use of cues in each of the candidates' broadcasts? The most valid cues are the social and political demographics that the cue-taking literature has studied previously. For my purposes, these include only party and ideology, arguably the two most powerful and common

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<sup>1</sup>Recent work has shown that sophisticated citizens learn more from cues than unsophisticated citizens (Gilens 2001; Lau and Redlawsk 2001), which may cast doubt on this hypothesis. However, the key question is whether candidates *perceive* cues to be more effective among unsophisticated voters, even if political science research suggests otherwise. There is at least some anecdotal evidence to suggest that campaigns have these beliefs. Dan Bartlett, the former communications director for George W. Bush, suggests that "Americans are leading busy lives, and sometimes they don't have the opportunity to read a story or listen to an entire broadcast. But if they can have an instant understanding of what the President is talking about by seeing 60 seconds of television, you accomplish your goals as communicators" (Bumiller 2003).

<sup>2</sup>This design introduces the potential for selection bias with respect to the use of television advertising and the geographic location of the campaigns. There are good reasons, however, to think that the selection mechanism is exogenous. First, the hypothesized effects of campaign resources, the communication environment, and district sophistication should not depend on the use of a particular media, because nothing in the theory expects the use of cues to vary across different media. Second, the statistical models below control for many of the variables determining selection, including urbanicity, race competitiveness, and fundraising, which makes the selection arguably more excludable. Finally, the greater geographic homogeneity of the sample restricts variation in the explanatory variables and thereby biases the analysis against positive results.

cues in American politics.<sup>3</sup> Specifically, I coded each of the candidate’s broadcasts as containing party or ideology cues if it mentioned the candidate’s party affiliation or the fact that he was a “conservative,” “liberal,” or “moderate.”

Measuring the use of campaign-specific cues is more challenging. Since cues like “flip-flopper” are created for particular campaigns, it is hard to create systematic criteria for identifying what counts as a cue across many different candidates. To avoid these problems, I use a WPAP variable that codes each broadcast for traits that candidates use to directly describe themselves (see Table 1).

**\*\*\* TABLE 1 \*\*\***

Candidate-defined traits certainly do not exhaust the range of cues used in 2000, nor do they span the stereotypes and signals that, in theory, might provide useful information. However, traits do have a number of practical benefits for quantitative measurement. First, traits are a set of words that can be systematically coded and compared across candidates. Second, traits are the products of strategic communication decisions. Candidates have control over which traits they emphasize in campaign messages, and they can create new traits to suit their unique communication problems. For example, a candidate can claim to be a “Bush Republican” in a district that strongly supports George W. Bush. Third, traits have been used by previous studies of cue-taking, such as those on race, gender, and occupation (e.g., McDermott 1997, 2005).

To ensure that the traits used as cues here do, in fact, have inferential power, I conducted a validation experiment using undergraduates at a major research university (see Appendix A). Survey respondents who were randomly given three traits from Table 1 made fictional candidate evaluations that were not significantly different from those made by respondents who were exposed to more detailed candidate biographies. In addition, respondents who were exposed to the traits were no less certain about their evaluations than respondents who were exposed to detailed information.

In this context, the variable of interest is not how much candidates use any particular cue, but

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<sup>3</sup>Measuring the use of only party and ideology cues has at least one strong advantage over measuring the use of other demographic cues like race, gender, and incumbency. Namely, the decision to use party and ideology cues cannot be conflated with other communication choices that candidates make. For example, most incumbents mention the fact that they are incumbents, but they almost always do so indirectly by talking about their records. Do incumbents explicitly choose to give cues in these cases, or do they simply choose to talk about their records and give cues by default? I avoid the conflation between the choice to use cues and their coincidental presence by examining cues that candidates must explicitly choose to give. Candidates might imply their partisanship or ideology by discussing certain issues, but they cannot explicitly choose to provide these cues without using the words “Democrat,” “Republican,” “liberal,” “moderate,” or “conservative.”

rather how much they use *all* cues. Therefore, to construct the final response variable, I calculated the number of cues per broadcast used by each candidate. The numerator of this measure is the total number of party, ideology, and trait cues in all of the candidate's broadcasts, and the denominator is the candidate's total number of broadcasts. For example, if a candidate used 15 cues in 10 broadcasts, she would receive a score of 1.5. Standardizing the total number of cues by the use of advertising overall allows me to compare the concentration of cues across candidates who vary widely in their use of advertising.<sup>4</sup> Since my hypotheses refer to the weight that candidates give to cues relative to other message styles, the measure strongly relates to the theory.<sup>5</sup>

### **Explanatory Variables**

Hypothesis 1 predicts that candidates will use fewer cues as their communication resources increase. The most natural measure of resources is the total amount that a candidate spends on television advertising, as estimated by CMAG. However, since the cost of advertising varies dramatically across media markets, I also control for the average cost of a 30-second ad in the markets used by each candidate.<sup>6</sup> Holding the cost of each media market constant allows for meaningful comparisons across candidates with vastly different resources.

Hypothesis 2 predicts that greater competition in the media environment will positively affect the amount of cues used. As a measure of direct competition, I use CMAG data on the amount of political advertising broadcast from all sources in each district.<sup>7</sup> I include the total number of broadcasts that were aired within two months of election day, although the results are very similar when I substitute different time periods.

In many respects, however, voters are distracted by messages than are less concrete than ads

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<sup>4</sup>The vast majority of broadcasts are 30 seconds long, so standardizing by broadcast length is unnecessary.

<sup>5</sup>Alternative measures, such as the percentage of broadcasts containing cues, do not change the results substantially.

<sup>6</sup>To construct this measure, I first calculated the average cost of the 30-second ads broadcast in each market by congressional candidates. Since some candidates advertise in several different markets, I then created a weighted average across the markets used by each candidate. For example, if the average 30-second ad cost \$500 in Market A and \$1,000 in Market B, and the candidate broadcast 50% of his ads in each market, the weighted cost would be  $\$500 * .5 + \$1,000 * .5 = \$750$ .

<sup>7</sup>For districts that were entirely within one media market, I measured the total amount broadcasting by all political campaigns in that media market. For districts that overlapped several different markets, I made the following calculation. First, I determined the percentage of the district within each media market, as measured by *Congressional Districts in the 1990s* (Congressional Quarterly 1993). Second, I multiplied the total amount of broadcasting in each media market by the percentage of the district served by that market. Finally, I summed the weighted broadcasts for each district. For example, suppose 50% of a district lies in Market A, where 1000 ads were broadcast, and the other 50% lies in Market B, where 100 ads were broadcast. My method gives the district a score of 550, which is the weighted sum of the broadcasts in each market.

on television. To capture this indirect competition, I measure the percentage of the district's population who live in urban areas. Urban districts are more likely to have busy voters and crowded communication conditions for several reasons. Cities and metropolitan areas often have a variety of newspapers and television and radio stations, as well as other media like billboards, advertising on public transportation, and signage in public areas. Urban districts occupy the most desirable media markets, which increases the volume of advertising carried by the already large number of media sources. In addition, urban areas generally have more to occupy voters' time. Whether in the form of shopping, traffic, cultural events, or other activities, politics has much more competition in urban areas. Finally, constituents in urban districts are likely to have weaker connections to their local communities, given the more frequent migration into and out of urban areas. Since constituents who have spent less time in their districts are less likely to participate in politics (Rosenstone and Hansen 1993), they might also pay less attention to local campaign information.<sup>8</sup>

Finally, hypothesis 3 predicts that candidates should use more cues when their districts are politically unsophisticated. To measure sophistication, I estimate the political knowledge of each congressional district using the 2000 National Annenberg Election Study (NAES). With more than 40,000 respondents, the NAES allows for estimates of knowledge with a median of 99 respondents per district, with 99% of all districts having more than 37 respondents. I rely on five-point telephone interviewer ratings of knowledge, which provide greater variation than the more limited three-point scale of objective knowledge available from all waves of the NAES.<sup>9</sup> To create an aggregate measure, I grouped the interviewer ratings by district and then calculated the median level of knowledge.<sup>10</sup> To check the reliability of the NAES estimates, I also use the percentage of the district with bachelor's degrees, as estimated by a 1998 Census Bureau study.

In addition to the variables above, I control for the professionalism of the candidate, the compet-

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<sup>8</sup>One might object that some of the features of the urban political environment are quantifiable—such as the number of media sources and advertising opportunities—and should be measured directly. While it would be preferable to include direct measures of media competition, such data do not exist in a reliable form at the level of congressional districts. *Congressional Districts in the 1990s*, perhaps the most extensive source of district data, provides some information on cable television subscriptions and newspaper readership for each district. Unfortunately, these data are too imprecise to create reliable estimates.

<sup>9</sup>A second problem with the objective knowledge questions is that the NAES only asked about the presidential candidates' biographies and issue positions. Since the NAES was a panel study, respondents' knowledge about the candidates varies according to the date of interview, as they learned more about the candidates as the campaigns progressed. This variation over time makes the objective knowledge questions poor measures of long-term political knowledge.

<sup>10</sup>The median is the most relevant aggregate statistic, because candidates are concerned with the total number voters at different levels of knowledge, not with a weighted average. Using mean knowledge produces generally similar results.

itiveness of the race, and relevant district demographics. As a measure of professionalism, I include a variable indicating whether the candidate has held an elective office in the past (Jacobson 2004). Since “high-quality” candidates may be more familiar with campaign communication strategies, they may also be more likely to use cues in the most appropriate conditions. I use the margin of victory as a measure of electoral competitiveness, although the results are quite similar with variables indicating whether the seat was open or the margin of victory was less than 10%. Both candidate quality and race competitiveness may be correlated with campaign budgets and media competition. Finally, I control for the partisanship of the district (the percentage voting for Al Gore in 2000) and the percentage of the district that is African-American. These controls are primarily included due to their strong relationships with urbanicity. Since Vavreck (2001) finds that candidates are more likely to use party and ideological cues as their districts become more partisan, the demographic controls help to isolate the partial effect of urbanicity.

## **Analysis**

Figure 1 shows raw data on the relationships of interest. As the plots suggest, the use of cues is bounded from below, with about 8.5% of the candidates using no cues, but roughly continuous and unbounded from above.<sup>11</sup>

### **\*\*\* FIGURE 1 \*\*\***

This structure and relevant theory suggests that the zero-censored Tobit would be an appropriate statistical model. In this context, I assume that candidates using zero cues have found “corner solutions” to their problem of finding the optimal amount of cues. Factors like media competition, voter sophistication, and campaign resources determine the optimal mixture between cues and other styles of communication—in effect, a continuous but latent “demand” for cues. In many cases, such as when there is little media competition, this demand is too weak for candidates to use any cues. At some threshold, however, the demand becomes sufficiently strong for candidates to begin using cues. After this threshold, we observe variation in the use of cues across candidates, which ultimately reflects latent variation in the demand for cues. The alternative approach, treating all

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<sup>11</sup>The use of cues clusters at 0, 1, and 2 cues per broadcast, simply because many candidates broadcast only one unique ad that contains 0, 1, or 2 cues.

zeros as uncensored observations, would ignore the fact that some candidates using zero cues have a higher latent propensity than others to begin using cues.

The model is therefore given by

$$y_i^* = x_i\beta + \varepsilon_i, \quad \varepsilon_i \sim \text{Normal}(0, \sigma^2)$$

$$y_i = \max\{0, y_i^*\},$$

where  $y_i^*$  is the latent demand for cues,  $y_i$  is the observed amount of cues per broadcast,  $x_i$  is the vector of explanatory and control variables above, and  $\beta$  is a vector of parameters to be estimated. Since the latent variable is not the key quantity of interest, I estimate the effects of the explanatory variables on  $E(y|x)$ . This is given by

$$E(\widehat{y|x}) = \Phi\left(\frac{x\hat{\beta}}{\hat{\sigma}}\right) x\hat{\beta} + \hat{\sigma}\phi\left(\frac{x\hat{\beta}}{\hat{\sigma}}\right),$$

where  $\Phi$  and  $\phi$  are the standard normal CDF and PDF, respectively (Wooldridge 2001, 521-523).

A weakness of Tobit in this context is the small size of the sample, since maximum likelihood estimators are only asymptotically unbiased and efficient. To account for this possibility, and to check the robustness of the modeling assumptions more generally, I also estimated several OLS models using the same variables above.<sup>12</sup>

I specify all of the explanatory variables linearly except for ad spending and broadcast volume. I take the log of broadcast volume, due to the presence of outliers and the potential for decreasing marginal effects. Cues may increase the salience of campaign messages only up to a saturation point, at which their effectiveness decreases. (A decreasing marginal effect is also suggested by the plot.) I specify ad spending as two variables indicating whether the candidate spent between \$500,000 and \$1 million and more than \$1 million, respectively, allowing the intercept to absorb candidates who spent less than \$500,000. By reflecting major clusters in the plot, this specification reduces the influence of outliers and allows the relationship to vary across substantively important

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<sup>12</sup>Least-squares models have a number of drawbacks in this context. First, the normality assumption does not apply to data that cannot take negative values, and the model can produce negative predicted values. Second, logging the response variable to keep the predictions positive requires an ad-hoc adjustment, such as adding .01 to all observations, to ensure that the log is defined for the zero observations. Third, Tobit has a better substantive fit to the data here, because we can interpret the bounded observations as “corner solutions” to the candidate’s problem of finding the optimal concentration of cues.

intervals.

The dramatically different scales of the explanatory variables makes comparing their effects difficult. As a result, I estimate the change in the expected number of cues associated with changing each explanatory variable from its 10th to 90th percentile, holding all other variables at their medians.<sup>13</sup> These estimates appear in Table 2, while the raw parameter estimates appear in Table 3. Since the model includes explanatory variables at the levels of candidates and congressional districts, some of the observations are not independent across candidates. I therefore report heteroskedasticity-consistent (“robust”) standard errors, clustered by congressional district, in addition to the ordinary standard errors in Table 3.

## Results

The results in the left column of Table 2 are perhaps the most precise, because they are based on a more appropriate model and the more valid interviewer measure of sophistication.

### \*\*\* TABLES 2 and 3 \*\*\*

The estimates from both the uncontrolled and controlled models are generally similar, except that the effect of communication resources increases by .3 cues per broadcast (52%) when controls are introduced. This reflects the fact that some high-spending candidates simply pay higher prices for the same amount of media exposure, which artificially inflates their resources for communication.

The effects in both models are consistent with expectations. Based on the controlled model, candidates who are in the 10th percentile of advertising spending (\$23,658) use .87 more cues per broadcast than candidates in the 90th percentile (\$890,406), plus or minus .54. Poor candidates do seem to use more cues than rich candidates, perhaps because cues maximize the impact of scarce advertising dollars. Candidates also respond to the amount of media competition in their districts. Candidates in the 10th percentile of urbanicity (46.3% urban) use .77 fewer cues per broadcast than candidates in the 90th percentile (99.4% urban), plus or minus .48. Similarly, candidates in the 10th percentile of media competition (19.7 minutes) use .33 fewer cues per broadcast than candidates in the 90th percentile (115.0 hours), plus or minus .41. Finally, candidates appear to be sensitive

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<sup>13</sup>I estimated these effects by drawing 10,000 samples of the parameters from their estimated distribution, and then calculating 10,000 estimates of the difference between the expected number of cues at each value of the explanatory variables. The mean and standard deviation of these estimates are the effects and standard errors presented in Table 2.

to the political sophistication of their districts. Candidates in a district at the 90th percentile of sophistication (a knowledge grade of “B”) use .41 fewer cues than candidates in a district at the 10th percentile (a knowledge grade of “C”), plus or minus .34. All of these effects are moderately large, ranging from about .19 to 1.35 standard deviations in cues per broadcast. As Table 2 shows, the uncontrolled Tobit models produce similar results.

When I substitute education as a measure of sophistication in the uncontrolled Tobit model, most of the effects and their confidence intervals do not change dramatically. A change in the percentage of a district holding bachelor’s degrees from the 10th percentile (14.9%) to the 90th percentile (38.1%) is associated with a change of -.128 cues per broadcast, plus or minus .54. While the point estimate of education has the same sign as that of political knowledge, the broad confidence interval does not rule out substantially more positive effects (or no effect at all). This is to be expected, however, since education is a noisy measure of sophistication.

The estimates from the OLS model are generally similar in sign and magnitude to those from the Tobit models, except that the OLS estimates are significantly smaller. These similar results may allay some concerns about using a maximum likelihood estimator on a sample of only 204 candidates. In addition, the OLS results allow the reader to gauge the impact of the modelling assumptions used here.

One objection to these results is that the measure of trait cues conflates the content and style of a candidate’s messages. Many of the trait cues refer to the candidate’s personal life or universally popular, “valenced” characteristics. If candidates use such appeals under the same conditions as they use cues, the results become more ambiguous.

To rule out this possibility, I regressed a variable measuring the percentage of personal and valenced broadcasts used by each candidate on the explanatory and control variables above (using OLS). I coded an ad as being personal if the majority of the message referred to the candidate’s biography or family life, such as where the candidate grew up, his or her personality, and information about his or her spouse and children. I coded an ad as being valenced if the majority of the message referred to personal traits or issue positions that almost everyone agrees are desirable, such as staying in close contact with the district. The results show that candidates do not use personal and valenced appeals in the same conditions as they use cues. The probability that the effect of each explanatory variable is individually equal to zero is .15 or greater in both models. The probability that

all four coefficients of interest are jointly equal to zero is .36 ( $F = 1.09$ ) in the model of personal appeals and .68 ( $F = .58$ ) in the model of valenced appeals.

A more fundamental limitation of these results, however, is that they are based on a small sample of candidates and cues in a single year. To be sure, the results here may not apply to other types of candidates or cues, and they may be unique to the 2000 elections. In light of the data's weaknesses, future work might extend these results to different political offices, cues, or election years, in order to generalize the conclusions here.

## **Discussion**

Across all models, there is consistent evidence that candidates provide more cues when resources are scarce, when the communication environment is crowded, and when voters are unsophisticated. This behavior is consistent with the idea that candidates use cues as a distinct method of communication, which can maximize the impact and efficiency of campaign messages.

Perhaps the more important result, however, is that voters and candidates use cues in similar conditions. When voters know relatively little about politics, or when the cost of information is high, candidates are more likely to give voters cues. This arguably increases the ability of cues to solve the problem of citizen ignorance. Voters need cues when information costs are high, but candidates often use cues in exactly these conditions.

The fortuitous union of cue-giving and cue-taking is a product of overlapping incentives. Candidates, like voters, must wade through many competing media messages, and they must overcome the obstacles of political ignorance. Under these conditions, cues are useful for both voters and candidates, because they reduce the cost and complexity of information. Cues give voters a cheap but powerful source of information, while cues give candidates a way to stand out from the competition and reach unsophisticated voters.

The problem, of course, is that cues may not actually provide useful information for the voters who need it most. Recent experimental work suggests that cues have their greatest effects among the most informed citizens, not the least informed (Lau and Redlawsk 2001). At the aggregate level, cues appear not to be effective substitutes for detailed political information, because individual and aggregate opinions change as citizens become more informed (Althaus 2003; Gilens 2001). And

even if cues were to increase voter engagement, the information provided may conflict with the goals of democratic deliberation. In the place of vigorous debate, we might find a public square paved with shallow platitudes.

Nevertheless, the results here suggest that candidates create an environment that is at least *potentially* conducive to “low-information rationality.” Candidates provide good opportunities for cues to serve as short-cuts, even if the effectiveness of the technique remains uncertain.

## **Conclusion**

While previous research has explained how candidates use particular cues in isolation, this paper suggests that candidates use cues in general to maximize the impact and efficiency of their messages. Cues allow candidates to compete in crowded media environments, to reach unsophisticated voters, and to maximize the cost-efficiency of their appeals. Moreover, candidates are not limited to framing exogenous demographic cues like party and race. In many situations, candidates can also create unique cues to solve local problems of communication.

This broader theory of cue-giving is consistent with television advertising data from the 2000 House general elections. Candidates use more cues, relative to other types of messages, when they spend less money on advertising; when voters are less sophisticated; and when districts contain more urbanized areas and broadcasts from other campaigns. Notably, these are the same conditions in which voters need cues the most. Voters need cues to overcome crowded media environments and low levels of sophistication, and the results here suggest that candidates are likely to comply. The common appeal of cue-giving and cue-taking suggests that cues may be realistic solutions to the problem of voter ignorance, so long as the cues provided are informative.

The results here demonstrate the importance of looking at the full range of cues in political communication. If candidates can strongly shape the type of cues available to voters, the quality of the information environment can vary more widely depending on the choices that candidates make. To fully understand cues and heuristics, we must consider how cues serve the needs of both voters *and* candidates.

## Appendix A: Measurement Validation

To validate the measure of trait cues, I conducted an Internet survey of 243 undergraduates randomly selected from the undergraduate student body at a research university. The subject pool is surely unrepresentative of the population of adult American citizens, but it is more representative than alternative validation methods like using students in introductory political science classes or having an unbiased panel of colleagues judge the validity of each cue.

In the first part of the survey, respondents were asked to list the political views and personal traits they associated with any candidate who could be described as being “compassionate,” a “protector,” a “reformer,” or a Republican, respectively. The question was phrased in the following way: “If a candidate running for the U.S. House of Representatives is COMPASSIONATE, what type of political views [personal qualities] is he or she likely to have?” The questions about each cue appeared in the order above, and the cues used were randomly selected from the list in Table 1. Respondents could write whatever came to mind about each cue in a series of 10 blank fields.

If the words treated as trait cues truly activate relevant stereotypes, respondents should associate similar traits with each word, much as they do for candidates of a certain party or racial group. For example, if 90% of all respondents think that “honest” candidates tend to support lobbying reforms, we might reasonably conclude that the word implies a stereotypical position and therefore qualifies as a trait cue.

In fact, respondents did link similar traits to each cue. Respondents often thought that “compassionate” candidates were “warm,” “kind,” and “friendly” and that they favored liberal policies like foreign aid and anti-poverty programs. Intriguingly, some respondents also thought that “compassionate” candidates were conservative, perhaps due to the emergence of “compassionate conservatism” during the administration of George W. Bush. This example demonstrates exactly the type of creative cue-giving that the measure should embody, in that Bush successfully linked an single word to a new range of policy positions. The word “protector” evoked stereotypes of being “pro-military,” “tough,” and “strong.” Lastly, respondents thought that “reformers” were likely to favor reforms to immigration, education, and welfare and to be “brave,” “unique,” “outspoken,” and “independent.”

The number of traits associated with each cue provides a second test of the measure. Respon-

dents should be able to list many stereotypical traits about a word if it actually serves as a cue. For example, a candidate's initials should be associated with no relevant information about a candidate's position on abortion, but cues like being a "strict constructionist" or "liberal" should cause the number of traits to increase monotonically. The mean number of traits mentioned about Republican candidates was 5.18 (sd = 5.18), as compared to 6.63 (sd = 4.03) for "compassionate," 5.0 (sd = 3.95) for "protector," and 4.21 (sd = 4.09) for "reformer." (The median number of cues was quite close to the mean.) Clearly, respondents could identify a moderate number of traits for each word. Moreover, respondents linked a similar number of qualities to the trait cues as they did to the high-quality party cue.

In the second part of the survey, respondents were randomly assigned to read about one of two pairs of fictional candidates, who were supposedly "running against each other this spring to become their party's candidate for the U.S. House of Representatives." In the first condition, respondents read a description of one candidate that used full sentences to describe the traits implied by four cues randomly selected from Table 1, without using the cues themselves. The cues included "common sense leadership," "hard working," having "values," and being "tough or a fighter." The descriptions of the candidates were as follows:

**Condition 1:**

Candidate 1

Elliot Price served two terms in the state senate before deciding to run for the U.S. House. As a legislator, Price has had one of the best records of attendance, missing only two votes since he was first elected. He has been a leader on issues of education and economic development, often looking for sensible, practical solutions to the problems facing his state. Price has been known to work long hours and spend his weekends meeting with constituents. His colleagues describe him as someone who has strong standards of personal and professional behavior, rarely going against what he thinks is right. Price aggressively meets his opponents head-on and rarely backs down in legislative fights.

Candidate 2

Tom Gilmor has been the state attorney general for the past four years. He has focused his attention on government reform efforts and says he wants to improve the partisan atmosphere in Washington. He has led a number of investigations into corruption at state agencies, which have returned thousands of dollars to taxpayers. Gilmor worked as an attorney before entering politics, specializing in corporate law.

In the second condition, the first candidate was described only by the cues, not the complete sen-

tence descriptions of what the cues meant. The description of the second candidate did not change between conditions:

**Condition 2:**

Candidate 1

Elliot Price served two terms in the state senate before deciding to run for the House. As a legislator, Price has a one of the best records of attendance, missing only two votes since he was first elected. He has been a common-sense leader on issues of education and economic development, and his colleagues describe him as hard-working, principled, and a tough opponent in legislative fights.

Candidate 2

(Same as Condition 1.)

The first condition provides the detailed information that is implied by the cues in the second condition. As a result, respondents' opinions about the candidates should not change between conditions if the cues serve as effective shortcuts. In addition, respondents should not be more certain about their opinions when detailed information is available than when only cues are available.

I use four survey questions to test these expectations. These include: 1) "How appealing is Elliot Price as a candidate for the U.S. House?"; 2) "How certain are you about your assessment of Elliot Price?"; 3) "If you could vote in the election between Price and Gilmor, which candidate would you vote for?"; and 4) "How certain are you about your [vote] choice?" With the exception of the vote choice question, all of the questions use four-point scales to measure respondents' opinions, ranging from "not at all appealing/certain" to "very appealing/certain."

Respondents generally found Gilmor to be an appealing primary candidate, giving him average ratings of 3.24 and 3.40 (halfway between "somewhat" and "very appealing") in the non-cued and cued conditions, respectively. The 95% confidence interval of this difference is  $\pm .49$ , meaning that we can reject the hypothesis of no difference between the conditions at  $p = .20$ . Respondents were slightly more certain about their opinions of Price when they had detailed information—the mean was 2.47 with cues and 2.67 with detailed information—but a confidence interval of  $\pm .49$  lets us reject the null hypothesis at  $p = .15$ . Respondents' voting behavior also did not change as a function of their information. Fifty-eight percent would have voted for Price with only cues, as compared to 64% with detailed information, which is not a statistically significant difference ( $\pm 37%$ ,  $p = .55$ ). Respondents were slightly more certain about their voting decision if they had detailed

information—the mean level of certainty was 2.45 with cues and 2.70 with detailed information—but a confidence interval of  $\pm .56$  rejects the null hypothesis at  $p = .08$ .

In sum, the words used as trait cues appear to be effective substitutes for detailed information. Respondents evaluated the candidates similarly in each condition, and they were no less certain about their evaluations when they only had access to four traits describing the candidate.

One objection to the experiment is that the detailed information condition did not provide enough information to serve as an effective contrast to the cued condition. In real campaign advertising, however, candidates usually have no more than 30 to 60 seconds to communicate with voters. Consequently, the most realistic contrast with cued communication is brief but more detailed and complex information, roughly of the quantity that could fit in a 30-second advertisement. The non-cued condition provides more detail than the cued condition, but it does not provide so much detail as to be unrealistically thorough.

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**Table 1: The Use of Trait Cues by House Candidates, 2000**

<b>Cue</b>	<b>% Broadcasts Using Cue</b>
Common Sense Leadership	2.58
Independent	.93
Innovative	.22
Self-Made	.13
Caring or Compassionate	1.96
Bold	.08
Principled	1.39
Tough or a Fighter	15.32
Proven/Tested/Experienced	3.41
Values (shares them, has American ones)	5.49
Protector	5.61
Moderate	.43
Conservative	.55
Fiscally Conservative	.55
Hard Working	5.98
Committed	1.56
Reformer	1.07
Competent/Gets Things Done	1.52
Honest	1.80
Family Man	1.07
No Trait	37.26

*Note:* The table lists all of the words that are measured as “trait” cues in the dependent variable. The frequencies in the right column are defined as the total number of television advertisements containing each cue across all candidates, divided by the total number of broadcasts aired by all candidates ( $n = 121,975$ ).

**Table 2: Estimated Effects by Model**

<i>Variable</i>	<b>Uncontrolled Tobit: Interviewer Rating</b>			<b>Uncontrolled Tobit: Education</b>		
	Lower CI	1st Difference	Upper CI	Lower CI	1st Difference	Upper CI
Ad Spending	-1.028	-.572	-.131	-1.106	-.637	-.185
Percent Urban	.347	.728	1.130	.257	.700	1.177
Broadcast Volume	.023	.376	.719	-.032	.318	.677
Dist. Sophistication	-.757	-.394	-.051	-.664	-.128	.432
<i>Variable</i>	<b>Controlled Tobit: Interviewer Rating</b>			<b>Controlled OLS: Interviewer Rating</b>		
	Lower CI	1st Difference	Upper CI	Lower CI	1st Difference	Upper CI
Ad Spending	-1.408	-.872	-.337	-.952	-.586	-.219
Percent Urban	.324	.774	1.251	.193	.468	.738
Broadcast Volume	-.064	.332	.745	-.060	.202	.467
Dist. Sophistication	-.746	-.409	-.069	-.463	-.218	-.030

*Note:* The entries in the middle columns are the change in the amount of cues per broadcast predicted as each variable changes from its 10th to 90th percentiles, as estimated from the models in Table 3. All other variables are held at their medians. Ninety-five percent confidence intervals, calculated from Monte Carlo simulations, appear in the left and right columns. The “interviewer rating” models include survey interviewer ratings of political knowledge as a measure of sophistication, while the “education” models include the percentage of the district having bachelor’s degrees.

**Table 3: Parameter Estimates by Model**

<i>Variable</i>	<b>Tobit 1</b>	<b>Tobit 2</b>	<b>Tobit 3</b>	<b>OLS</b>
Spending \$.5m- \$1m	-.037 (.103) [.116]	-.061 (.118) [.107]	-.129 (.122) [.111]	-.134 (.395)
Spending > \$1m	-.410 (.163) [.192]	-.450 (.193) [.163]	-.585 (.193) [.187]	-.587 (.183)
Percent Urban	.009 (.002) [.002]	.009 (.003) [.003]	.009 (.003) [.003]	.009 (.002)
Ln(District Broadcast Vol.)	.044 (.019) [.021]	.036 (.021) [.020]	.034 (.020) [.021]	.035 (.019)
Median District Knowledge	-.248 (.101) [.101]	–	-.238 (.107) [.101]	-.216 (.110)
District Education (% BA)	–	-.004 (.006) [.008]	–	–
Candidate Quality (0-1)	–	–	.171 (.112) [.122]	.157 (.105)
Margin of Victory (%)	–	–	-.004 (.003) [.004]	-.003 (.003)
District Partisanship (% Gore)	–	–	.021 (.007) [.008]	.019 (.007)
Percent Black	–	–	-.001 (.005) [.005]	-.009 (.005)
Avg. Market Price of Ads (\$1,000s)	–	–	-.133 (.083) [.063]	-.125 (.079)
Intercept	.587 (.367) [.355]	.139 (.296) [.312]	-.181 (.418) [.409]	-.129 (.395)
Scale Factor	.653	.661	.622	–
$R^2$ /Pseudo- $R^2$	.041	.034	.085	.172
Log-Likelihood	-208.2	-210.6	-196.9	–
$N$	204	204	203	203

*Note:* The entries are parameter estimates. Ordinary and heteroskedasticity-consistent (“robust”) standard errors appear in brackets and parentheses, respectively. The dependent variable is the number of cues per broadcast used by candidates running for the U.S. House in 2000. Table 1 describes the particular words measured as cues. Table 2 provides estimates of the effects of the explanatory variables in an easily interpretable form.

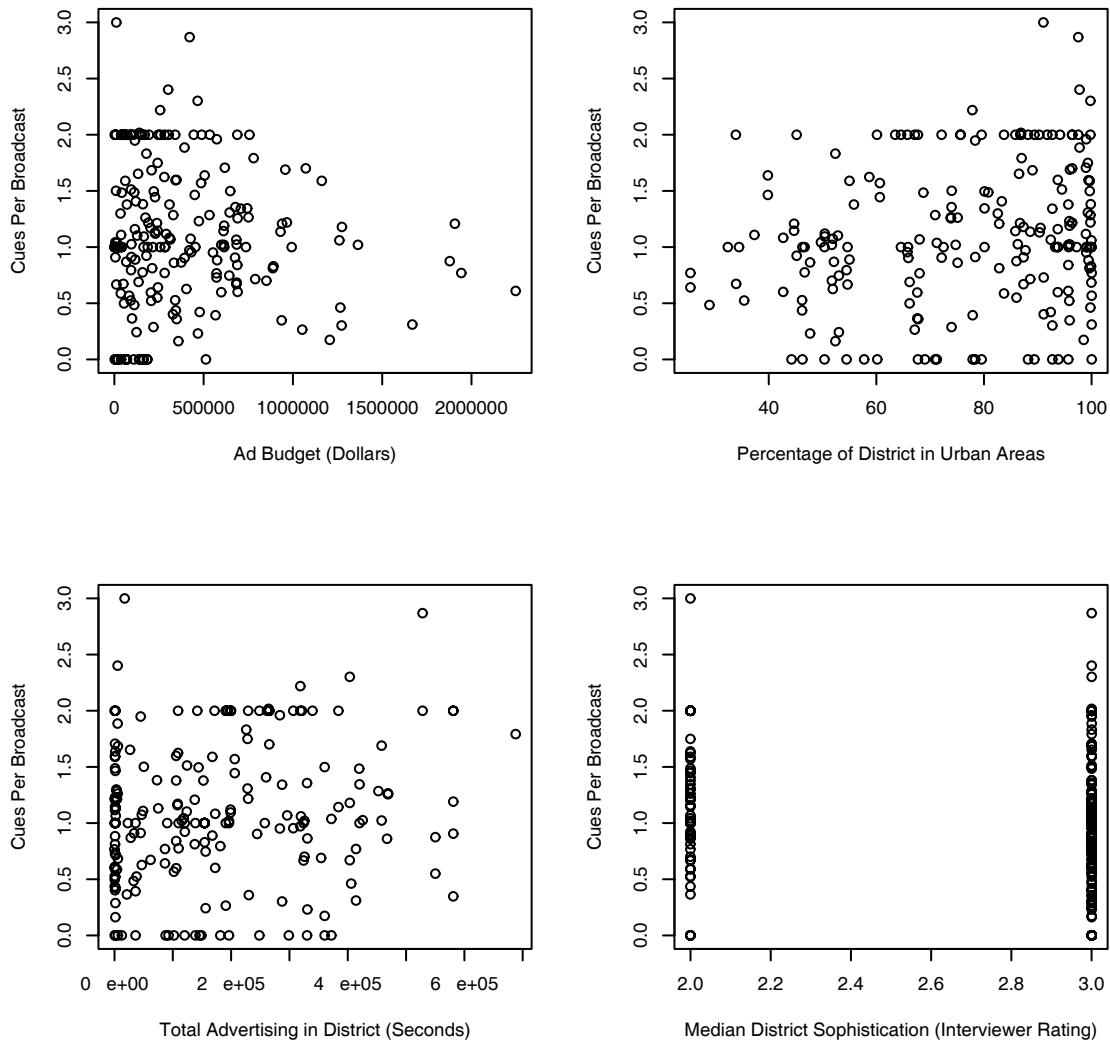


Figure 1: *The Use of Cues Among House Candidates, 2000*. Each frame plots the number of cues per broadcast against the indicated explanatory variables. Table 1 describes the dependent variable in more detail. All of the explanatory variables are positively correlated with one another, but they are expected to have differently signed effects on the dependent variable. Perhaps as a result, the bivariate relationships are somewhat weak and noisy.