Evaluating Measures of Campaign Tone

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TRAVIS N. RIDOUT and MICHAEL FRANZ

Much recent research has examined campaign tone—how positive or negative a campaign is—and its influence on a variety of political behaviors, including voter turnout. Yet there is little research testing the validity of these measures. Does the tone of candidate advertising, for example, reflect the tone of media coverage of a campaign? In this article, we evaluate several methods of assessing tone, focusing specifically on U.S. Senate races from 1998–2002. We find that several of the measures are closely related, and one's substantive findings are seldom altered by substituting one measure for another. Thus, theory and matters of practicality should guide one's choice of tone measures.

Keywords   campaign tone, local news, negative advertising, turnout

A growing body of research in the past decade has examined the effect of campaign tone—how positive or negative the campaign is—on a variety of different outcomes, including voter turnout, citizen knowledge, and evaluations of candidates. These debates have inspired considerable scholarship, especially on the relationship between tone and voter turnout, but there is no strong consensus about whether negative campaigns are good, bad, or irrelevant (with evidence on all sides) (Lau et al., 1999; Lau & Pomper, 2004).[1]

One possible reason for this lack of consensus is measurement. In brief, the literature offers little guidance to scholars seeking to choose a valid measure of campaign tone, and so conscientious researchers are left to wonder whether they should code newspapers, candidate speeches, television news broadcasts, or candidate advertisements; whether they should tap citizen perceptions of tone through survey instruments; whether they should seek expert assessments of tone; or whether it makes any difference at all which choice they make.

In this article, we compare several measures of tone in U.S. Senate campaigns from 1998–2002. We begin with a discussion of these measures, noting the advantages and drawbacks of each. They are newspaper coverage, local television news coverage, political advertisements produced, political ads aired, and citizen perceptions of campaign tone. Following this, we review our data sources and, using simple correlations, scatterplots, and factor analysis, demonstrate the strength of the relationships among them. We then use the measures in a series of statistical models that predict voter turnout (both at the aggregate and individual levels). This allows us to report on the impact of choosing one measure over another. Overall, we find that the different measures of campaign tone that

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we examine here are moderately to highly correlated, and substituting one for another should not lead one to draw different substantive conclusions about the effect of negativity.

The Measurement Debate

Scholars who study tone and campaign effects fall into two categories: (a) those who are interested in the general impact of campaign tone and who use one aspect of the campaign (such as newspaper coverage or television advertising) as a proxy for overall tone, and (b) those interested in the impact of the tone of one particular aspect of the campaign, usually television advertising. Unfortunately, there are conceptual difficulties with each approach.

The problem with the first approach is that scholars do not yet know whether the tone of each aspect of the campaign is similar. Is it possible that competing candidates might run a series of attack ads but have their campaign portrayed as positive by the television news? Or might citizens' perceptions of a campaign's tone not track the tone of newspaper coverage? If one tone measure tells one story and another tone measure tells another, then choosing just one of those measures to represent the overall campaign is obviously troublesome.

The problem with the second approach, in which scholars attempt to isolate the effects of one part of the campaign, such as advertising tone, is that very few scholars control for the tone of other campaign aspects. Therefore, if all components of the campaign are similarly positive or negative, then one is not really studying the effect of, say, advertising, but the effect of campaign tone in general. But if different aspects of the campaign are different in tone, then the results of any analysis may be biased. To illustrate, say that two different campaigns have advertising characterized as negative, but one has newspaper coverage painting it as positive, while the other has newspaper coverage describing it as negative. The overall tone of these two campaigns is different, but if one chooses the advertising measure, it will treat both campaigns as the same.

All that said, there are reasons to believe that assessments of tone based on different aspects of the campaign might be consistent. For one, the various components of a campaign are generally highly coordinated, and it makes sense that candidates would disseminate a consistent message regardless of the medium or forum. Second, it is likely that news coverage of the campaign will reflect the tenor of the candidates' activities. That is, if competing candidates are running large numbers of negative ads, then it is likely that the news media will portray the campaign as negative. This conclusion is supported by the meta-analysis of Lau and colleagues (1999), who observed no significant differences in effect size between studies that directly coded political advertisements and those "in which the 'negativism' of the ads is inferred from secondary (e.g., newspaper) accounts" (p. 859).

There is a further complication, though, in that negativity is still a contested concept. Many authors define a campaign message as negative if it *mentions* an opponent (e.g., Lau & Pomper, 2004). This offers a relatively easy and elegant way of placing a message into one of two categories (positive or negative), but it also treats as the same messages that may be quite different on a qualitative level. As Jamieson and her colleagues write, "academics, pundits and reporters tend to conflate ads that feature one-sided attacks, contrast ads that contain attacks, ad hominem attack ads, and ads featuring attacks that deceive" (Jamieson, Kenski, et al., 2000, p. 97).[2] Yes, a message stating that an opponent "voted against Medicare funding increases" and a message stating that an opponent is "dishonest and immoral" are both negative, but to the average citizen, there may be a big difference between the two.

This is why, at least in the realm of political advertising, authors such as Jamieson, Waldman, and Sherr (2000) have advanced a threefold characterization. They suggest that a third category—contrast or comparative ads—also needs to be recognized. These ads contain both arguments in favor of the sponsoring candidate and arguments against the opposition, and they may have distinct effects on citizens. In this article, we offer some evidence relating to this argument by comparing advertising tone measures based on both two- and three-category coding schemes. Although not perfect, this allows us the opportunity to see if ads most likely to be mud-slinging (pure negative spots) are highly correlated with and have the same effects as ads that contain some mention of the favored candidate (contrast ads).

Measuring Tone

This section compares and contrasts different measures of tone, noting the strengths and weaknesses of each.

Media Coverage

A primary indicator of the tone of a campaign is the tone of the race's coverage in newspapers. In their analysis of 1990 U.S. Senate elections, for example, Kahn and Kenney (1999a) examined coverage of the race by the largest newspaper in each state. Their unit of analysis was the paragraph. They tallied the number of paragraphs run between September 1 and election day that contained criticism of a candidate. Tone was then calculated by dividing the total number of paragraphs containing criticism by the total number of paragraphs about the race.

Similarly, Lau and Pomper (2004), in examining U.S. Senate elections from 1992–2002, searched electronic databases from in-state newspapers that mentioned both of the candidates, limiting their searches to the last 8 weeks of the campaign. They coded up to five articles per week about the race, and expanded their search to regional newspapers when five articles could not be located. Their unit of analysis was slightly different from Kahn and Kenney in that they coded statements by one of the candidates or one of his or her representatives. Statements not mentioning an opponent were coded positive; statements that mentioned an opponent were coded negative.

Ansolabehere, Iyengar, Simon, and Valentino (1994) examined the relationship between tone and turnout in U.S. Senate races, but expanded beyond in-state publications by including five political news magazines (e.g., *Roll Call*). The time frame for their data collection consisted of the weeks between the primary and the general election. Coders read all of the articles about each campaign before classifying each as negative (if a majority of the tone references in the newspaper coverage were negative), mixed (if at least three articles mentioned that one candidate was not responding to an opponent's attack), or positive (if no mention was made of the negative tone of the campaign).

Djupe and Peterson (2002) and Peterson and Djupe (2005), in their analysis of the 1998 senatorial campaigns, performed a Lexis/Nexis search of all in-state newspapers, downloading each article that mentioned the campaign. The article was the unit of analysis, and coders classified each as positive or negative. Negative articles were those that contained "mention of a candidate by another candidate of the same party or by that candidate's campaign three months prior to the primary election" (2002, p. 858).

An alternative, but not commonly utilized, approach to measuring campaign tone is the analysis of local television news coverage of the campaign. Pelika and Fowler (2004),

for instance, used data on the content of local television news broadcasts in their qualitative descriptions of the 2002 gubernatorial, U.S. Senate, and U.S. House races in Pennsylvania, Michigan, and Texas. Franklin et al. (2004) have used this measure to characterize the tone of local news broadcasts themselves, not just the tone of the campaign.

There are several advantages to using newspaper–based or local television news–based assessments of campaign tone. First, many people receive their campaign news from newspapers or local news, and so the reality of the campaign is what they read in the newspaper or see in local news broadcasts. Second, through tracking newspaper coverage or television news, one can account for differences over time in the tone of a campaign. Of course, this assumes that there are enough articles written or stories aired about a particular campaign to obtain a large enough sample of stories, paragraphs, or statements to code. And this may not be the case given that Lau and Pomper had to eliminate some Senate races from their analyses because of a lack of articles to code.[3]

On the downside, newspaper and local news reports are filtered reports of the true character of campaigns. For instance, there is ample evidence of a negativity bias, which is "the tendency of reporters to emphasize conflict and attack in covering campaigns" (Leighley, 2004, p. 207). Thus, news reports may overestimate the amount of negativity present in a campaign. This phenomenon still might not damage empirical studies if all reporters engaged in this bias to the same extent. The danger comes when different reporters at different newspapers or television stations choose to emphasize different aspects of a campaign. That is, the political reporter in Denver may have been trained to focus on issues in covering a campaign, but her counterpart in Salt Lake City may have been taught to emphasize conflict. Thus, even if the actual tone of the Colorado and Utah races were the same, one might not get that sense from the media coverage. Coverage, then, may vary considerably across outlets. It should be noted, however, that Kahn and Kenney (1999b) and Djupe and Peterson (2002) reported that different newspapers in the same state characterized the tone of the campaign similarly.

Another disadvantage of using a measure such as this is that the approach depends on the ability of the coders to correctly characterize a news report as positive or negative. Given clear coding guidelines and training, coders should be able to obtain a high degree of agreement, but researchers must take seriously these front-end tasks prior to the commencement of coding.

Political Advertisements

Another approach to measuring campaign tone is coding the television advertisements produced by campaigns. One example of the use of advertising as a tone measure is Finkel and Geer's (1998) study relating campaign negativity to voter turnout, which relied upon an analysis of ads maintained at the Political Commercial Archive at the University of Oklahoma. Their focus was on both presidential primary and general election ads produced from 1960 through 1992, and they coded each appeal within the advertisements as either positive or negative. Positive appeals were "ones that candidates offer to promote themselves on some issue or trait," while negative appeals were "attacks leveled at the opposition" (p. 579). The tone of a campaign, then, is measured as the difference in the percentage of positive appeals between the two major-party nominees. Kahn and Kenney (1999a, 1999b) also used the Oklahoma archive to characterize the tone of campaign messages in the 1990 U.S. Senate contests.

One advantage of examining archived political advertisements is that ads are ubiquitous in modern political campaigns, and they constitute about half of a U.S. Senate

campaign's spending (Brox, 2004). They also are unfiltered indicators of the messages the campaigns want to convey to voters. On the negative side, previous work has shown that the tone of ads produced is not always equal to the tone of ads aired (Prior, 2001; Goldstein & Freedman, 2000). For example, a campaign may produce an equal number of positive and negative advertisements, but may air many more of one type than the other. Thus, examining only the ads contained within an archive—even assuming the archive contains all of the ads produced during a campaign—may produce a biased portrait of the actual tone of the advertising that viewers are seeing.

To combat this problem of potential bias in examining ads produced, some scholars have taken advantage of relatively new technologies to examine the tone of ads aired. Several authors, including Goldstein and Freedman (2000, 2002a, 2002b), Freedman and Goldstein (1999), Freedman, Franz, and Goldstein (2004), and Martin (2004), have used ad tracking data generated by the Campaign Media Analysis Group (CMAG), a commercial firm that currently has "ad detectors" in the 100 largest media markets in the United States. The company's computers recorded the date, time, and station on which each political ad aired. Then researchers at the Wisconsin Advertising Project coded each advertisement on a variety of characteristics, including the ad's tone. Coders labeled an ad positive if it "included only statements about the sponsoring candidate," pure negative if it contained only "critical, challenging or unflattering information about the opponent," and contrast if it contained both types of statements (Goldstein & Freedman, 2002a). In classifying the tone of a campaign, then, it is the number of airings of an ad of a certain type that matters, not the number of ads produced.[4]

This approach to measuring campaign tone has several advantages. First, as mentioned before, ads are ubiquitous and are a good representation of the themes, both positive and negative, that a campaign wants to convey to voters. Second, the use of ad tracking data allows one to account for differences in tone across media markets. Moreover, these tracking data make it possible to take into account differences in campaign tone over time. Often a campaign that starts out positive will end up negative, and so ad tone is not a constant.

A concern here, as with the newspaper data, however, is the reliability of the coding. The success of using advertising to tap campaign tone depends on the clarity of the coding rules and the training of the coders. Fortunately, the intercoder reliability of the ad-based measure of tone appears to be high. Ridout and colleagues (2003) reported the results of a test in which five coders were asked to evaluate the tone of over 100 different ads. Agreement was well above 90% on the coding of ads as positive, though it did dip somewhat for negative and contrast ads, as coders sometimes confused the two.

Citizen Perceptions

A final approach to measuring the tone of campaigns involves asking citizens their perceptions of the tone of the race through a survey instrument. Sigelman and Kugler (2003) examined data of this type collected in the 1998 American National Election Studies pilot. Respondents living in California, Illinois, and Georgia—three states experiencing gubernatorial campaigns—were specifically asked about that campaign: "In your state, would you say that the tone of the campaign has been positive or negative? Would you say very positive [negative] or somewhat positive [negative]?"

Sigelman and Kugler found considerable disagreement about the characterization of the race's tone among respondents living in the same state. This led them to conclude that sweeping characterizations of a race's tone, such as the type made by social scientists

when they analyze newspaper coverage or television advertising, offer an incorrect portrait of a campaign's tone. What truly matters is the tone of the race as perceived by individual voters whose assessments may vary dramatically one to the next.

One flaw in their work, however, is that assessments of campaign tone were obtained over a 2-month period during which the real tone of the campaign (whether the candidates were actually promoting their own virtues or slinging mud at their opponents) likely changed. Therefore, it is unsurprising that agreement about the tone of the campaign was not high.[5]

One advantage of using citizen perceptions as a measure of campaign tone is that scholars do not need to worry about whether a person received most of his or her campaign information from television news, newspapers, political ads, or the Internet. In the end, the source of the perception does not matter.

There are, however, some disadvantages associated with perceptual measures of campaign tone. There is a danger that people's responses may reflect the most recent considerations in their minds—those gained from the last couple of ads watched—which may not be consistent with the overall tone of the campaign. In addition, because the focus is on the citizen's mind, one is left unable to speak about how the actions of politicians—what the campaigns are doing—affect the political behavior of citizens, including voter turnout and vote choice.

Hypotheses

Given the preceding discussion, we have developed four expectations about the relationships among our measures of negativity. First, all of the tone measures should be positively correlated. That is, we would not expect to find one measure portraying some campaigns as positive and another measure portraying those same campaigns as negative. This makes sense as news reports about a campaign do not emerge from a vacuum. They are often based on candidate speeches and advertising, both of which convey a particular tone. If a candidate attacks an opponent in a speech, that is likely to be discussed in a news report, and if the candidate talks about policy proposals, not mentioning an opponent, that is likely to be reflected in news reports as well. Neither do citizen perceptions of a campaign's tone emerge from a vacuum. Such perceptions are based on the tone of the campaign as portrayed by candidate advertising and news reports. Thus, perceptions should be positively correlated with the other tone measures. We do expect, however, that the degree of correlation between the different measures of tone will vary.

As such, we expect, second, that the tone of a campaign as tapped by coding newspapers and local news broadcasts will be highly correlated, as reporters from different news organizations tend to cover campaigns in a similar fashion. This is called "pack journalism" (Crouse, 1973; Sabato, 1991; Shaw & Sparrow, 1999). Because different reporters cover events in the same way—either because of their training, a fear of being different, or a cue-taking process—the tone of a campaign should be portrayed similarly in newspapers and on local news broadcasts.

Third, we also expect there to be a high degree of congruence between ad-based and news-based (both broadcast and newspaper) measures of campaign tone. Because ads are the measure closest to the campaign—campaigns have direct control over their content— they should fairly accurately reflect the aims of a candidate, whether that is attacking an opponent or promoting oneself. And journalists turn to the messages disseminated by the campaign as cues to describing its tone. Thus, correlations between news-based and ad-based measures of tone should be high.

Finally, we expect positive, but only moderate, levels of agreement between citizens' perceptions of a campaign tone and the tone of the campaign as portrayed by news reports and political advertising. This is because citizens' perceptions are quite distant from the activities of candidates. The messages that candidates receive about a campaign, and from which they make judgments about its tone, may have been filtered by the individual, whose political predispositions or (in)ability to process information may mean that the citizen's judgment of a campaign's tone may have distorted the tone of the messages being sent by the candidates.

Data

In comparing different measures of campaign tone, we focus on campaigns for U.S. Senate in 1998, 2000, and 2002. Our data come from four different sources.

First, we relied on the data gathered by Lau and Pomper (2004) to generate our newspaper-based measure of campaign tone.[6] Specifically, we used the variable called "NEGBCMPN," which is the percentage of total statements made by the candidates or their surrogates that were negative (i.e., that mentioned an opponent). Their analysis was confined to the last 8 weeks of the campaign, and they coded only in-state newspapers unless a minimum number of articles about the race could not be located.

Second, we used ad tracking data from the Wisconsin Advertising Project, which coded and then archived data on the timing, sponsor, market, and station of airing for every ad aired in the 75 largest media markets in 1998 and 2000 and the 100 largest media markets in 2002.[7] These markets cover over 80% of American television viewers, but we are missing data on 14 Senate races over the 3 election years because these races occurred in states that did not overlap with one of the largest media markets in the country. These races were those in Alaska, Hawaii, Montana, North Dakota, South Dakota, Vermont, and Wyoming.

These advertising data allow us to create four measures of tone. The first two are measures based on ads produced. In other words, the advertisement (or "creative") is the unit of analysis. The number of times the particular ad aired is not taken into account. The first measure is the percentage of total ads produced by or on behalf of major-party candidates in a campaign that were deemed as either negative or contrast by the coders. The second measure includes only negative advertisements. Our third and fourth ad-based measures are based on the percentage of the total number of ads *aired* in a campaign (again, either by candidates or their party and interest group supporters) that were classified as negative or contrast, on the one hand, or just negative, on the other hand.

Third, our perceptual measure of campaign tone came from a survey conducted immediately prior to the 1998 midterm congressional elections, from October 29 through November 1.[8] The survey, conducted by Gallup and sponsored by CNN and *USA Today*, reached a national random sample of 2,084 respondents, and asked the following question to people living in states holding U.S. Senate elections:

> Next, thinking just about the campaigns being run by the candidates for U.S. Senate in your state, how would you describe the overall tone of those campaigns—highly positive, somewhat positive, equally positive and negative, somewhat negative or highly negative?

We coded responses to range from 1 to 5—highly positive to highly negative—and averaged the scores of respondents living in each state to obtain a composite measure of

the tone of that state's U.S. Senate race. Thus, this is not the same as the measure used by Sigelman and Kugler (2003), in that they used the individual-level survey response as a predictor. Here, we use the aggregated responses to estimate a campaign-level tone measure. One problem with this procedure, however, is that there is much uncertainty surrounding these point estimates in states with small populations—and thus few survey respondents. We thus decided to eliminate from our analyses those states with fewer than 10 respondents.[9] This left us with negativity scores for 23 of the Senate campaigns. Unlike the newspaper and ad-based measures, perceptual measures exist only for the 1998 Senate races.

Data on local news broadcast coverage of campaigns came from the Wisconsin NewsLab, a joint project of the University of Wisconsin and the Annenberg School of Communication at the University of Southern California. From September 2, 2002, through November 4, 2002, the project's researchers recorded and coded political stories contained within local news programs that were broadcast on over 140 different television stations across the U.S. in the top 50 media markets. Coders of each story mentioning a Senate race were asked to describe whether the story reflected on the candidate positively, negatively, or neutrally (see Berendt et al., 2003, for a full description of the project's methodology).

We created one final measure of campaign tone, which was a combination of all of the other measures. We created this composite measure by performing a principal-components factor analysis on all of the tone measures (in each year and across all years) and extracting a score (more detailed results of the factor analysis are provided in the next section).

Table 1 provides summary statistics for each of our seven measures of campaign tone. The unit of analysis is a Senate race, and all measures except for "citizen perceptions" and the composite measure are proportions. Even these simple statistics reveal some differences across measures. For example, the mean proportion of newspaper negativity is .33 but is only .07 using the negative ads made measure. But are these difference enough to matter?

In the section that follows, we compare the seven measures statistically by calculating correlations among the measures and compare them visually through scatterplot matrices. We then develop a model predicting voter turnout as a function of campaign tone and compare the results obtained when each of the five measures is substituted.

Table 1
Description of campaign tone measures

	M	*SD*	Minimum	Maximum	*N*
Newspapers	.326	.146	.035	.653	92
Ads made—negative	.068	.086	0	.400	85
Ads aired—negative	.190	.174	0	.578	85
Ads made—negative/contrast	.366	.271	0	1	85
Ads aired—negative/contrast	.351	.269	0	1	85
Local news	.072	.082	0	.275	23
Citizen perceptions[a]	3.38	.45	2.6	4.25	23
Composite	0	1	−1.52	2.51	82

[a]Numbers shown only for those 23 states in which there were more than 10 respondents.

Comparing Measures

To illustrate the strength of the relationship among the tone measures, we begin by presenting scatterplot matrices. Because we have the perceived tone measure only for the year 1998 and the local news measure for only the year 2002, we report the data separately for each election year. Figure 1 shows that for 1998, all of the measures appear to be positively correlated.

Indeed, the pairwise relationships are all statistically significant at the .05 level.[10] (Year-specific correlations are reported only here in the text; correlation results for each year are reported in tabular form on the journal's Web site.) The strongest relationship exists between the composite measure and negative ads aired (.95), but the correlations between negative/contrast ads aired and negative/contrast ads produced are also very high. Both correlations are almost .95. To be sure, this strong correlation may mask some differences in individual cases. For instance, in the Louisiana race that year, the ads aired measure describes a relatively tame race, with only 19% of ads being negative or contrast. But the ads produced measure hints at a much nastier contest, with 44% of ads produced being negative or contrast. All of the other ad-based measures are intercorrelated at .66 or above.

Similarly strong are the relationships between the newspaper measure and the ad measures in 1998. All except one are above .70. (Negative ads produced is correlated with the newspaper measure at .67.) The weakest relationship is between the measure of perceived tone and the other five measures, all of which hover around .50, and yet these relationships are unlikely to have occurred by chance.

The strong positive relationship between the negative/contrast ads aired and negative/contrast ads produced measures is evident again in the 2000 data (Figure 2), yet the
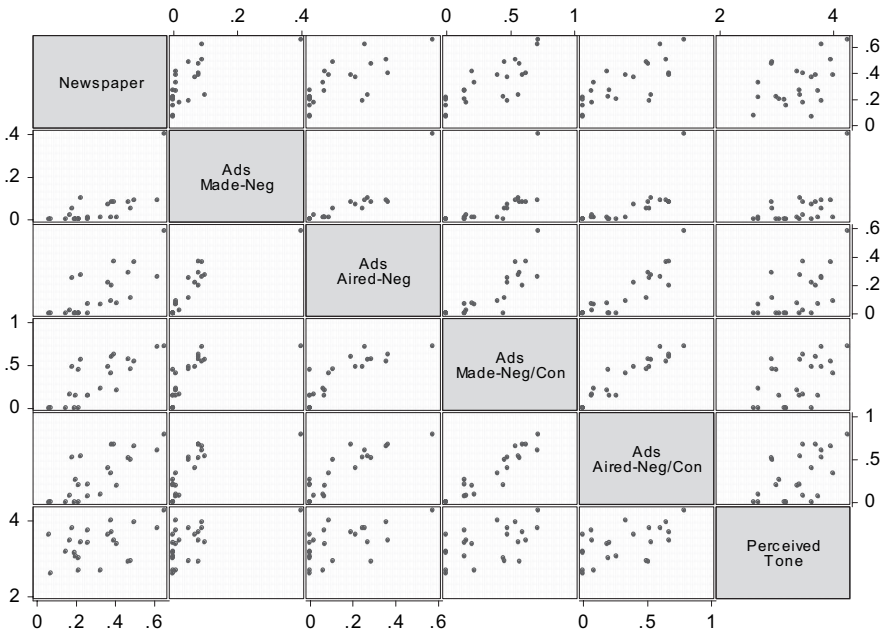

Figure 1. Scatterplots of 1998 tone measures.
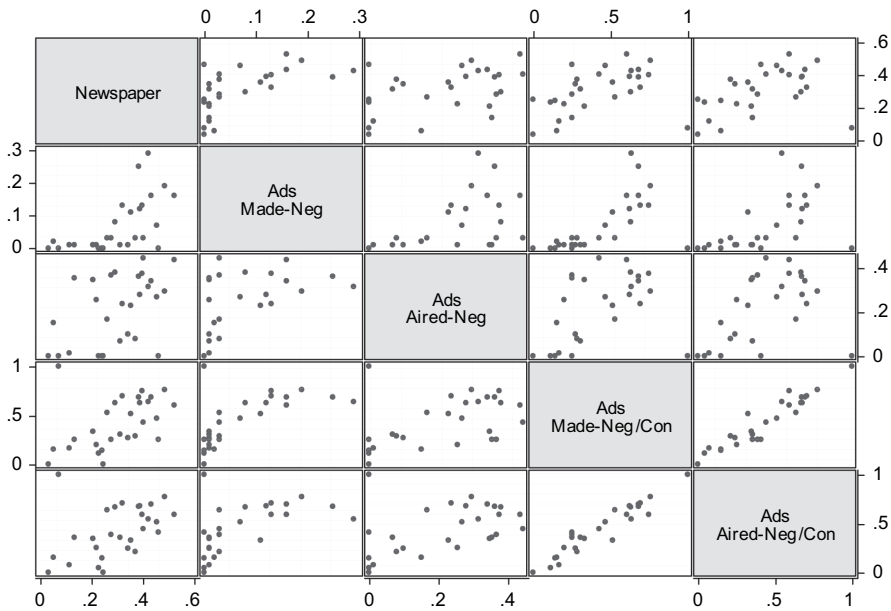
Figure 2. Scatterplots of 2000 tone measures.

relationship of the ad-based measures with the newspaper-based measure is considerably lower than it is in 1998 (between .43 and .61). Still, the relationships are all moderately strong and are statistically significant at the .05 level. The composite measure, as one might expect, continues to be fairly highly correlated with all of the other measures of tone (between .71 and .87).

Our analysis for 2002 (Figure 3) includes one additional tone measure, the one obtained from a content analysis of local news broadcasts. This measure is only moderately associated with the others available for that year, ranging from a .40 correlation with the negative ads produced measure to a .67 correlation with the composite measure. An important point to make here is that the local news measure is prone to taking on values of 0, suggesting no negativity at all in a campaign. Indeed, the value of the measure is 0 for 10 of the 23 Senate races for which we have data. This is, in part, due to the small amount of televised campaign coverage in some states and may help to explain why the local news measure is more weakly correlated with other measures. The other relationships are consistent with the findings for earlier years.

Table 2 provides correlations for the six measures available for all 3 years examined: the newspaper-based measure, the composite measure, and the four ad-based measures. By combining all 3 years, we are able to increase the number of Senate races to 82. Results are consistent with earlier analyses. There are strong relationships among all four of the ad-based measures, and there is a weaker, yet nonetheless strong, relationship between the ad-based measures and the newspaper measure of campaign tone. The composite measure continues to be strongly correlated with all of the other measures.

To add support to these findings, we also performed a principal-components factor analysis for each year using the available individual measures. Each factor analysis
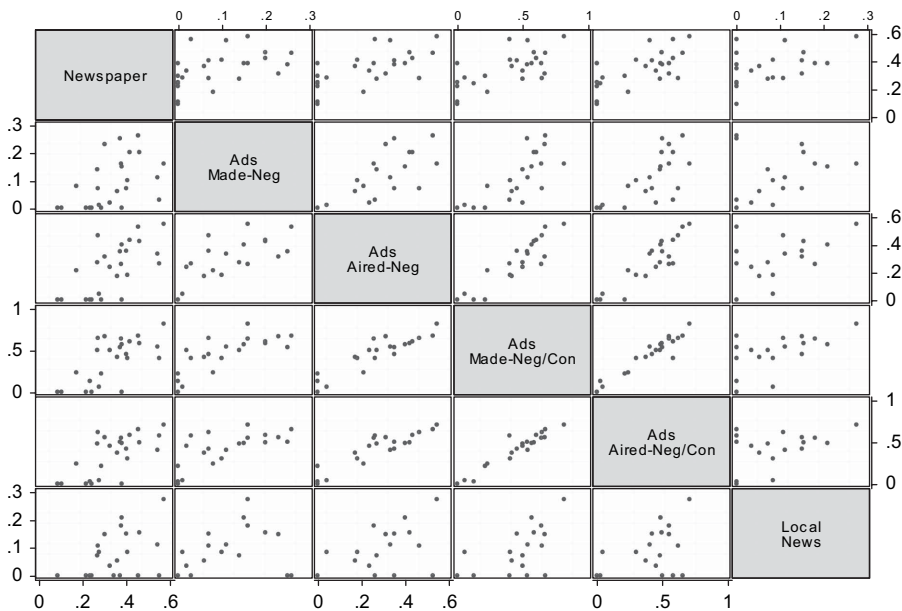
Figure 3. Scatterplots of 2002 tone measures.

Table 2
Correlations of tone measures for all years

	News-papers	Ads made—negative	Ads aired—negative	Ads made—negative/contrast	Ads aired—negative/contrast	Composite
Newspaper	1					
Ads made—negative	.593	1				
Ads aired—negative	.607	.770	1			
Ads made—neg/con	.589	.708	.777	1		
Ads aired—neg/con	.579	.665	.778	.961	1	
Composite	.755	.853	.904	.931	.920	1

Note. $N = 82$. All relationships are significant at $p < .05$.

confirmed the existence of a single underlying dimension. The eigenvalues for the first factor were 4.54 in 1998, 3.31 in 2000, and 4.45 in 2002. All were well above 2 (a standard "rule of thumb" for identifying a factor), and the eigenvalue for the second factor was essentially 0. Additionally, all of the individual factor loadings were above .65. The

results of these factor analyses support the claim that the various tone measures are tapping one underlying dimension.

In sum, the significant and high correlations indicate that different measures of tone tap the same general concept. This is a boon for empirical studies of the effects of tone in campaigns. Nonetheless, there are some differences in the data that warrant closer examination. Consider an example from Figure 3 (the 2002 campaign). According to the newspaper data, the Kentucky Senate race was 55% negative; according to the local news data, there was no recorded tone (a value of 0). There is a similar difference in the 2002 New Hampshire Senate race (0 on the local news measure, 45% negative from newspaper accounts). And the local news measure suggests a low degree of negativity in the Oregon Senate race—just over 10%—while the negative ads aired measure is 46% negative. Are these differences enough to cause concern?

Taken as a whole, these results are supportive of our first hypothesis, that all of the tone measures are positively correlated with each other. Our second hypothesis, which states that the tone of broadcast and newspaper news should be similar, is not as strongly supported. Although the correlation between the two measures is positive, it is low compared to the intercorrelations of the other measures. This is not entirely unsurprising, though, given the dearth of campaign coverage on local news broadcasts (Kahn & Kenney, 1999b). Our third hypothesis (that ad-based and news-based measures of tone would be highly correlated) receives only mixed support. Although the correlations were quite high between the newspaper-based and ad-based measures, especially in 1998, the correlations were lower between the local broadcast–based and ad-based measures.

Our last hypothesis suggested that perceptual measures of tone would be less closely related to the other measures because people's perceptions are most distant from the activities of the campaign. This expectation was supported by the evidence: Perceptual measures of tone were correlated with the other measures only in the .4 to .6 range, much lower than many of the other intercorrelations. Nonetheless, given the measurement error likely associated with the survey-based perceptual measures, these correlations still strike us as reasonably high.

Comparing Effects

We have demonstrated that there are positive correlations among all of the measures of campaign tone that we have examined—some moderate, some quite high. But do these findings guarantee that one can substitute one measure for the other in empirical work? To answer this question, we estimated several statistical models at different levels of analysis predicting voter turnout as a function of campaign tone. We examined voter turnout because its relationship with campaign tone constitutes one of the most contested debates among scholars in this field. But in the end, our interest is not in settling the debate about tone and turnout. Rather, our interest in these models is seeing whether the coefficients change in any significant way when we substitute one measure of tone for another.

We first replicate the aggregate-level turnout model reported by Lau and Pomper (2004, p. 76) and then reestimate it, substituting different measures of negativity.[11] The unit of analysis is the state election, and the dependent variable is the percentage of the voting age population that cast ballots in the state's Senate election. We limit our analysis to two years: 1998 and 2002.[12] By focusing on these 2 years, we can compare five tone measures: the newspaper-based measure, ads made (both negative and negative/contrast), and ads produced (both negative and negative/contrast).[13]

The predictors of turnout in the ordinary least squares (OLS) model are a year-specific indicator for 1998; state turnout culture; the state's voting age population; an indicator of a simultaneous gubernatorial election; an indicator of whether the Senate seat is open; a South indicator; the percentage of the population that is over age 65, that is college educated, that lives in rural areas, and that is White; the predicted closeness of the race; the intensity of the campaign; and, of course, a measure of campaign negativity (full explanations of the variables are found in Lau & Pomper, 2004).

Table 3 reports the value of the tone coefficient in the five different OLS models (full model results are found on the journal's Web page). It is immediately apparent that all of the measures of negativity tell the same story: None of the measures are significant predictors of voter turnout. Although the coefficient on the newspaper measure is negative while the four ad-based measures and the composite measure are positive, this coefficient is barely distinguishable from 0, which is the finding of Lau and Pomper for this particular model.[14] In sum, at least at the aggregate level, one reaches the same substantive conclusions regardless of the negativity measure used.

Of course, much of the research on the relationship between tone and turnout is conducted using individual-level survey data. For this reason, we estimate a second set of models using data from the 1998 and 2002 American National Election Studies.[15] Each model predicts whether the respondent voted in his or her state's U.S. Senate election based on several predictors, including the age of the respondent, his or her gender, level of education, household income, race (non-Hispanic White or not), marital status, strength of partisanship, interest in the campaign, and feelings of external efficacy. Also included in the models were indicators of whether the respondent lived in the South, whether the respondent had been contacted by a party, and whether the respondent had voted in the previous presidential election. We also introduced measures of the competitiveness of the House race and U.S. Senate race in the respondent's district in order to control for both campaign activity and perceptions of race closeness that might bring people to the polls. The important factor that varies across models is the measure of tone used.[16]

Table 4 presents the results of the logit models predicting individual-level turnout. Only the coefficients on the tone measures are reported, but full model results are available at the journal's Web page.

Because the different tone measures are expressed in different metrics, a direct comparison of the coefficients is misleading, and so we report z scores as well. In both years, the model estimates tell the same substantive story: Campaign tone, regardless of how it is measured, has no significant impact on voter turnout, though there are some very slight differences across the models. For example, in three of the instances the sign of the coefficient

Table 3
Aggregate turnout model estimates, 1998 and 2002

	Coef.	z score
Newspaper	−.571	−.013
Ads made—negative	7.24	.900
Ads aired—negative	4.22	1.06
Ads produced—neg/con	2.55	.900
Ads aired—neg/con	2.30	.810
Composite	.579	.420

Note. $N = 54$.

Table 4
Individual-level turnout model estimates, altering tone measure

	1998		2002	
	Coef.	z score	Coef.	z score
Newpaper	−0.323	−0.47	0.410	0.30
Ads made—negative	0.273	0.26	−3.62	−1.17
Ads aired—negative	0.233	0.29	0.426	0.40
Ads produced—neg/con	0.370	0.68	0.395	0.48
Ads aired—neg/con	0.600	1.26	0.534	0.66
Local news			−2.93	−1.42
Perceptions	0.100	0.31		
Composite	0.058	0.46	.001	.01
N	760		430	

is negative: on the newspaper-based measure in 1998 and on the negative ads produced and broadcast news measures in 2002. In the remaining 11 instances, the sign of the coefficient is positive.

In summary, our interchanging of various measures of tone into several different models predicting turnout suggests that researchers will not go dramatically wrong if they choose one tone measure over another. Substituting one measure of tone for another will not lead one to draw a substantively different conclusion. Yet our findings do not suggest that measurement is unimportant. Indeed, we would argue the opposite: that measurement must be driven by theory and must be tailored to the problem at hand. We conclude with a discussion of this point.

Conclusion

This article has presented the first in-depth examination of the validity of various measures of campaign tone. On the whole, our results should be reassuring to scholars studying campaign effects, as all of the measures examined are at least moderately positively correlated with each other. When newspapers portray a campaign as negative, local news broadcasts tend to portray it as negative, television advertising tends to be negative, and people tend to perceive the campaign that way too.

Also, our multivariate analyses, in which we substituted one measure of tone for another, generally led us to draw the same substantive conclusions about the impact of campaign tone on turnout. Our work comparing two-category and three-category classifications of advertising tone revealed only very minor differences. Finally, the effort of creating a composite measure did not seem worth the while. This measure did not perform any differently than the less complicated, single-source measures of tone. Our overall message, then, is a very encouraging one for scholars: Choosing one measure of campaign tone over another should not lead you astray.

This said, measurement is not the only explanation for differences in findings about the impact of tone on turnout or other variables of interest. Issues of theory, research design, and methodology all help to explain these differences. So what is the conscientious researcher to do? We can offer no panacea, but we do have a few suggestions.

First, and although it may be obvious, researchers should tailor the measure of tone they use to their specific research question. If the researcher's concern is the behavior of

candidates—under what circumstances, for instance, a candidate decides to "go negative"—then measuring tone through coding candidate advertising, or even candidate press releases or candidate speeches, makes the most sense. These messages are the closest to the candidates. If, on the other hand, the researcher's concern is the effects of advertising on individuals, then measuring the tone of the messages to which citizens were exposed is most important. Here the researcher might account for the characterization of the campaign's tone in the newspaper that the citizen reads or the tone of ads she or he sees on television. Survey measures of perceived tone also might make sense in this situation, but such measures would not be good for describing candidate behavior. Clearly, no single measurement strategy will be appropriate in all situations, and researchers must think carefully about which strategy is best given the question under study.

When scholars are clear about what they are studying, they may also find the need to consider the effects of more than one measure of tone. For example, if one is interested in studying the impact of advertising tone, then it is important that one also control for the tone of other aspects of the campaign, such as media coverage, given that media tone and ad tone, while positively correlated, can diverge in some cases.

In instances in which two or more available measures may feasibly tap campaign tone, such as a newspaper-based or survey-based perceptual measure, researchers might estimate their models more than once, substituting one measure for another. They can examine whether the effect found with a newspaper-based measure holds with a perceptual measure to determine whether the relationship is robust. Our findings here suggest that it will be.

If there is one approach that we might urge more caution in using, it is the local television news approach. This measure had the lowest correlations with the other measure, and its performance in the individual-level models predicting turnout was somewhat different than that of the other measures, though not enough to change one's conclusions.

Of course, as a practical matter, not all possible measures are available for all races in all years, and so the availability of data will sometimes necessarily drive the data choices that researchers make. This is especially true for lower-profile races, such as presidential primaries or local races. In the end, though, our results suggest that researchers have much latitude in choosing a measure of tone.

Notes

1. Some recent research expands beyond turnout to include voter knowledge and interest, and there is at least a stronger consensus that negative campaigns can have positive or null effects in these areas (with little evidence of negative effects—although see Clymer, 2004).

2. For this reason, Kahn and Kenney (1999a) characterized some negative campaigns as mudslinging, which they define as "negative attacks in a harsh and strident tone . . . about topics with little relationship to the affairs of a state or the nation" (p. 881). Similarly, Freedman and Lawton (2004) looked at people's characterizations of campaigns beyond positive and negative, focusing on their fairness, importance, and honesty.

3. The lack of coverage in newspapers does not mean there was no tone to the campaign; it simply means there are no data available to estimate tone. This is true for all measures of campaign tone.

4. This approach often includes party-sponsored and interest group–sponsored ads. This is worth some reflection. Some measures of campaign tone (local news coverage, for example) may implicitly account for non-candidate messages, but this doesn't have to be the case (i.e., if the coding scheme asks coders to avoid stories about parties or interest groups). Another consideration, then, is whether a measure of tone only includes messages relating to actions originating from the candidates, or whether it includes actions or messages from their party or interest group allies.

5. Goldstein and Freedman (2000) also reported on a survey in which respondents in Virginia were asked whether the campaign commercials run in that state's 1997 gubernatorial race were "generally positive, generally negative, or is it hard to say" (p. 1201). The authors interpreted their survey responses as consistent with coders' characterizations of the campaign based on television advertising.

6. These data are available for download at http://fas-polisci.rutgers.edu/~lau/.

7. These data are available for a small fee at http://wiscadproject.wisc.edu.

8. Data were obtained from the Roper Center for Public Opinion Research.

9. Admittedly, a sample size of 10 is a somewhat arbitrary cutoff, but it seemed to be a good compromise between (a) having too much uncertainty in our tone estimates and (b) having too few states to analyze.

10. There are a substantial number of observations taking on the value of 0. This is true in 43% of the cases using the local broadcast news measure, 21% of the cases using the ads produced measures, and 31% of the cases using the ads aired measures.

11. Lau and Pomper reported the results of three models—one that includes only the straight-forward measure of negative campaigning, a second that also includes a measure of weighted negative campaigning, and a third that additionally includes the interaction of weighted campaigning with the percentage of political independents in the state. Creating the weighted measure requires breaking down negativity by candidate, something we are unable to do with our perceptual tone measure. We therefore replicate only their first model.

12. We eliminate the year 2000 from the analysis so as not to contaminate the effects of Senate tone on turnout by activities taking place in the presidential campaign that year. Lau and Pomper estimated their models using data from 1992 to 2002, and thus our coefficient estimates are not the same as theirs.

13. Because our interest is comparing the effect of the campaign tone variable, we limit our analysis to those 54 races for which we have a measure of tone on all five variables.

14. It might strike some as strange that tone is unrelated to voter turnout, but an extensive meta-analysis that addresses the topic supports this conclusion (Lau et al., 1999).

15. Again, we exclude analyses from the year 2000 so that the tone of the Senate races will be driving turnout, not the tone of the presidential race in that year.

16. An alternative approach is to create individual-level measures of exposure, interacting, for instance, the tone of advertising in local news with the individual's frequency of local news viewing. The problem with such an approach here is that we would not know if any observed differences in the coefficients were the result of differences in the tone measures, which is our chief concern, or differences in people's use of the particular medium. Nonetheless, we did reestimate all of the individual-level models with individual-level measures of exposure, finding that the results were not substantively different from the results we report.

References

Ansolabehere, S., Iyengar, S., Simon, A. F., & Valentino, N. A. (1994). Does attack advertising demobilize the electorate? *American Political Science Review, 88*, 829–838.

Berendt, K., Fowler, E. F., Hale, M., Pelika, S., Rivlin, J., Stephens, D., Williams, A., & Goldstein, K. (2003). *Political information flows in the 2002 elections*. Paper presented at the annual meeting of the Midwest Political Science Association, Chicago, IL.

Brox, B. J. (2004). *Preparing for war: How candidates create campaigns*. Paper presented at the annual meeting of the Midwest Political Science Association, Chicago, IL.

Clymer, A. (2004, May 12). Lie, and the voters will believe. *New York Times*, p. A23.

Crouse, T. (1973). *The boys on the bus*. New York: Random House.

Djupe, P. A., & Peterson, D. A. M. (2002). The impact of negative campaigning: Evidence from the 1998 senatorial primaries *Political Research Quarterly, 55*, 845–860.

Finkel, S. E., & Geer, J. G. (1998). A spot check: Casting doubt on the demobilizing effect of attack advertising. *American Journal of Political Science, 42*, 573–595.

Franklin, C. H., Fowler, E. F., Goldstein, K., & Stevens, D. (2004). *Political information flows and their effects in the 2002 elections.* Paper presented at the annual meeting of the American Political Science Association, Chicago.

Freedman, P., Franz, M., & Goldstein, K. (2004). Campaign advertising and democratic citizenship. *American Journal of Political Science, 48*, 723–741.

Freedman, P., & Goldstein, K. (1999). Measuring media exposure and the effects of negative campaign ads. *American Journal of Political Science, 43*, 1189–1208.

Freedman, P., & Lawton, L. D. (2004). The view from the air: Television advertising in Virginia's 2000 Senate campaign. In K. M. Goldstein & P. Strach (Eds.), *The medium and the message: Television advertising and American elections*. Upper Saddle River, NJ: Pearson Prentice Hall.

Goldstein, K., & Freedman, P. (2000). New evidence for new arguments: Money and advertising in the 1996 Senate elections. *Journal of Politics, 62*, 1087–1109.

Goldstein, K., & Freedman, P. (2002a). Campaign advertising and voter turnout: New evidence for a stimulation effect. *Journal of Politics, 64*, 721–740.

Goldstein, K., & Freedman, P. (2002b). Lessons learned: Campaign advertising in the 2000 elections. *Political Communication, 19*, 5–28.

Jamieson, K. H., Kenski, K., Mendoza, M., Waldman, P., & Sherr, S. (2000). Are attack ads necessarily negative? In K. H. Jamieson (Ed.), *Everything you think you know about politics . . . and why you're wrong*. New York: Basic Books.

Jamieson, K. H., Waldman, P., & Sherr, S. (2000). Eliminate the negative? Categories of analysis for political advertisements. In J. Thurber, C. Nelson, & D. Dulio (Eds.), *Crowded airwaves*. Washington, DC: Brookings Institution.

Kahn, K. F., & Kenney, P. J. (1999a). Do negative campaigns mobilize or suppress turnout? *American Political Science Review, 93*, 877–890.

Kahn, K. F., & Kenney, P. J. (1999b). *The spectacle of U.S. Senate campaigns*. Princeton, NJ: Princeton University Press.

Lau, R. R., & Pomper, G. M. (2004). *Negative campaigning: An analysis of U.S. Senate elections*. Lanham, MD: Rowman & Littlefield.

Lau, R. R., Sigelman, L., Heldman, C., & Babbitt, P. (1999). The effects of negative political advertisements: A meta-analytic assessment. *American Political Science Review, 93*, 851–875.

Leighley, J. E. (2004). *Mass media and politics: A social science perspective*. Boston: Houghton Mifflin.

Martin, P. S. (2004). Inside the black box of negative campaign effects: Three reasons why negative campaigns mobilize. *Political Psychology, 25*, 545–562.

Pelika, S. L., & Fowler, E. F. (2004). *A multidimensional approach to campaign media analysis: Information flows in the 2002 elections*. Paper presented at the annual meeting of the Midwest Political Science Association, Chicago, IL.

Peterson, D. A. M., & Djupe, P. A. (2005). When primary campaigns go negative: The determinants of campaign negativity. *Political Research Quarterly, 58*, 45–54.

Prior, M. (2001). Weighted content analysis of political advertisements. *Political Communication 18*, 335–345.

Ridout, T. N., Franz, M., Goldstein, K., & Freedman, P. (2003). *Measuring exposure to campaign advertising*. Working paper, University of Wisconsin.

Sabato, L. J. (1991). *Feeding frenzy: How attack journalism has transformed American politics*. New York: Free Press.

Shaw, D. R., & Sparrow, B. H. (1999). From the inner ring out: News convergence, cue-taking, and campaign coverage. *Political Research Quarterly, 52*, 323–351.

Sigelman, L., & Kugler, M. (2003). Why is research on the effects of negative campaigning so inconclusive? Understanding citizens' perceptions of negativity. *Journal of Politics, 65*, 142–160.

Appendix: Year-specific Correlations and Full Regression Model Results

Table A1
Correlations of 1998 tone measures

	News paper	Ads made— negative	Ads aired— negative	Ads made— negative/ contrast	Ads aired— negative/ contrast	Perceived tone	Composite
Newspaper	1						
Ads made— negative	.669	1					
Ads aired— negative	.737	.869	1				
Ads made— neg/con	.776	.665	.849	1			
Ads aired— neg/con	.765	.712	.891	.946	1		
Perceived tone	.437	.535	.581	.504	.550	1	
Composite	.847	.857	.954	.921	.944	0.667	1

Note. $N = 23$. All relationships are significant at $p < .05$.

Table A2
Correlations of 2000 tone measures

	News- paper	Ads made— negative	Ads aired— negative	Ads made— negative/ contrast	Ads aired— negative/ contrast	Composite
Newspaper	1					
Ads made— negative	.611	1				
Ads aired— negative	.472	.579	1			
Ads made— neg/con	.443	.659	.493	1		
Ads aired— neg/con	.431	.565	.507	.954	1	
Composite	.708	.841	.738	.894	.870	1

Note. $N = 28$. All relationships are significant at $p < .05$.

Table A3

Correlations of 2002 tone measures

	Newspaper	Ads made—negative	Ads aired—negative	Ads made—negative/contrast	Ads aired—negative/contrast	Local news	Composite
Newspaper	1						
Ads made—negative	.466	1					
Ads aired—negative	.692	.751	1				
Ads made—neg/con	.672	.774	.929	1			
Ads aired—neg/con	.692	.717	.927	.963	1		
Local news	.448	.395	.578	.632	.514	1	
Composite	.767	.804	.958	.975	.949	.671	1

Note. $N = 20$. All relationships are significant at $p < .05$.

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Table A4 Full results from aggregate-level turnout models

	News papers		Ads made—negative		Ads aired—negative		Ads made—neg/con		Ads aired—neg/con		Composite	
	Coef.	t score	Coef.	t score	Coef.	t score	Coef.	t score	Coef.	t score	Coef.	t score
Year 1998	1.299	0.640	−0.740	−0.580	−0.669	−0.530	−0.904	−0.690	−0.881	−0.670	−0.813	−0.630
State Turnout Culture	0.676	4.850	0.715	5.150	0.710	5.220	0.686	5.130	0.689	5.130	0.703	5.140
Voting Age Population	−0.093	−0.570	−0.115	−0.710	−0.123	−0.760	−0.121	−0.750	−0.132	−0.790	−0.118	−0.730
Gov. Election Year	2.088	1.620	2.122	1.670	2.335	1.810	2.542	1.850	2.464	1.810	2.313	1.770
Open-Seat Race	−2.801	−1.420	−2.736	−1.410	−2.583	−1.330	−2.643	−1.350	−2.435	−1.220	−2.612	−1.330
South	−1.814	−0.970	−1.730	−0.930	−1.481	−0.790	−1.809	−0.980	−1.745	−0.940	−1.706	−0.920
Percent Over 65	−0.329	−0.870	−0.356	−0.950	−0.334	−0.900	−0.322	−0.860	−0.320	−0.860	−0.338	−0.910
Percent College	−0.151	−0.950	−0.202	−1.260	−0.186	−1.210	−0.192	−1.220	−0.182	−1.170	−0.193	−1.220
Percent Rural	0.050	0.800	0.041	0.650	0.038	0.600	0.040	0.640	0.040	0.630	0.042	0.660
Percent White	−0.053	−0.520	−0.048	−0.480	−0.036	−0.350	−0.033	−0.320	−0.043	−0.430	−0.041	−0.400
Predicted Closeness	0.579	2.980	0.544	2.810	0.503	2.500	0.517	2.580	0.512	2.480	0.524	2.610
Campaign Intensity	2.745	2.000	1.965	1.320	1.982	1.390	2.000	1.360	2.072	1.410	2.029	1.360
Negative Campaigning	−0.571	−0.130	7.243	0.900	4.217	1.060	2.549	0.900	2.302	0.810	0.579	0.820
Constant	39.989	19.630	39.297	23.540	38.702	20.530	38.656	19.010	38.780	19.130	39.693	25.170

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Table A5

Full results from 1998 individual-level turnout models

	Newspapers		Ads made—negative		Ads aired—negative		Ads made—neg/con		Ads aired—neg/con		Perception		Composite	
	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score
Negative campaigning	−.323	−.047	.273	0.26	.233	0.29	.370	0.68	.600	1.26	0.100	0.31	0.058	0.127
Age	.112	3.07	.110	3.04	.111	3.04	.110	3.04	.111	3.06	0.111	3.04	0.110	0.036
Age-squared	−.001	−2.20	−.001	−2.16	−.001	−2.16	−.001	−2.15	−.001	−2.17	−0.001	−2.16	−0.001	0.000
Male	−.001	−0.00	.002	0.01	.000	0.00	−.000	−0.00	−.004	−0.02	0.000	0	0.001	0.206
Education	.119	1.74	.118	1.73	.117	1.71	.117	1.72	.115	1.69	0.120	1.75	0.118	0.068
Non-Hispanic White	.072	0.27	.075	.265	.079	0.30	.082	0.31	.086	0.32	0.069	0.26	0.078	0.265
South	−.403	−1.33	−.402	−1.33	−.407	−1.35	−.407	−1.35	−.400	−1.33	−0.424	−1.37	−0.408	0.302
Household income	.017	0.97	.017	0.97	.017	0.95	.016	0.91	.016	0.92	0.017	0.96	0.017	0.018
Union	.095	0.37	.082	.258	.085	0.33	.081	0.31	.071	0.28	0.079	0.31	0.079	0.258
Party ID strength	.199	1.84	.202	1.88	.202	1.87	.207	1.91	.212	1.95	0.201	1.87	0.204	0.108
Turnout 1996	2.58	8.56	2.56	8.53	2.56	.300	2.55	8.48	2.54	8.41	2.561	8.52	2.556	0.301
Contact	.566	2.50	.558	2.47	.561	2.48	.560	2.48	.564	2.49	0.554	2.44	0.557	0.226
Married	.108	0.48	.124	0.56	.126	0.56	.127	0.57	.129	0.58	0.124	0.56	0.129	0.223
Interest	1.11	6.75	1.12	6.81	1.12	6.81	1.12	6.82	1.12	6.83	1.114	6.75	1.121	0.164
External efficacy	.076	1.50	.078	1.52	.078	1.52	.078	1.52	.078	1.53	0.077	1.51	0.078	0.051
Senate competitiveness	.088	0.97	.056	0.59	.047	0.42	.018	0.16	−.021	−0.19	0.046	0.41	0.034	0.112
House competitiveness	−.044	−.031	−.015	−0.10	−.007	−0.05	.001	0.01	.027	0.19	−0.013	−0.09	−0.001	0.145

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Table A6
Full results from 2002 individual-level turnout models

	Newspapers		Ads made—negative		Ads aired—negative		Ads made—neg/con		Ads aired—neg/con		Local news		Composite	
	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score	Coef.	z score
Negative campaigning	0.410	0.300	−3.617	−1.170	0.426	0.400	0.395	0.480	0.534	0.660	−2.928	−1.420	0.001	0.205
Age	0.023	0.460	0.028	0.550	0.024	0.460	0.025	0.480	0.024	0.480	0.026	0.500	0.024	0.051
Age-squared	0.000	−0.480	0.000	−0.590	0.000	−0.490	0.000	−0.510	0.000	−0.500	0.000	−0.540	0.000	0.000
Male	0.235	0.840	0.225	0.800	0.235	0.840	0.237	0.840	0.236	0.840	0.242	0.860	0.236	0.281
Education	0.042	0.430	0.030	0.300	0.043	0.440	0.043	0.430	0.045	0.450	0.043	0.440	0.042	0.098
Non-Hispanic White	0.204	0.630	0.240	0.740	0.201	0.620	0.196	0.600	0.194	0.600	0.223	0.690	0.209	0.324
South	−0.572	−1.970	−0.623	−2.120	−0.548	−1.860	−0.559	−1.920	−0.563	−1.930	−0.676	−2.240	−0.571	0.293
Household income	0.151	2.080	0.159	2.170	0.148	2.020	0.148	2.020	0.147	2.010	0.164	2.240	0.150	0.073
Union	−0.475	−1.140	−0.533	−1.280	−0.464	−1.110	−0.462	−1.110	−0.461	−1.110	−0.544	−1.310	−0.484	0.416
Party ID strength	0.120	0.780	0.123	0.800	0.118	0.770	0.116	0.760	0.117	0.760	0.112	0.730	0.118	0.154
Turnout 1996	2.753	5.760	2.793	5.840	2.764	5.800	2.764	5.800	2.765	5.800	2.823	5.840	2.765	0.477
Contact	0.695	2.440	0.691	2.440	0.695	2.440	0.698	2.450	0.700	2.460	0.665	2.340	0.686	0.285
Married	0.194	0.670	0.154	0.530	0.203	0.700	0.200	0.690	0.205	0.710	0.174	0.600	0.190	0.289
Interest	1.108	4.550	1.159	4.680	1.104	4.520	1.103	4.530	1.100	4.520	1.126	4.610	1.111	0.244
External efficacy	0.053	1.140	0.050	1.070	0.054	1.160	0.055	1.180	0.055	1.180	0.047	0.990	0.053	0.047
Senate competitiveness	0.044	0.310	0.272	1.260	0.031	0.210	0.007	0.040	−0.001	0.000	0.170	1.170	0.066	0.173
House competitiveness	0.050	0.130	0.207	0.530	0.044	0.120	0.059	0.160	0.047	0.130	0.026	0.070	0.070	0.372

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