

Negative Campaigning, Fundraising, and Voter Turnout: A Field Experiment

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1. Introduction

Negative campaigning in American politics is as old as the republic (Felkner 1966), despite the fact that large majorities of the U.S. voting public believe that negative campaigning is generally unethical (86%), produces less ethical leaders (76%), and hurts democracy (81%) (Green n.d.). It may also significantly reduce democratic participation (Ansolobehere et al. 1994, Ansolobehere and Iyengar 1995). A large literature has developed on the topic, comprised of a mix of approaches.¹ Laboratory studies of voters' attitudes toward negative messages provide valuable insights into voters' experience of candidate advertising, including how negatively or positively they perceive the ad, their affect toward the attacked and attacker, and behavioral intentions. However, these studies cannot measure actual voter behavior.

Observational studies and field experiments provide estimates of the effect of negative campaigning on voter behavior, but do not generally confirm their experimental manipulations or interpretation of naturally-occurring advertisements among voters themselves. We combine strengths of both approaches, using both one-on-one surveys with voters similar to those to whom the candidates send their campaign literature and a field experiment with that literature.

There are three things people can give a political campaign—their money, time, and votes. We focus on two: money and votes. Both of these are important outcomes for candidates, as without money, candidates cannot effectively campaign, and without votes from their base, they cannot win. Using a field experiment in an actual election for local office, we test the effect of a negative or a positive letter sent to the candidate's partisans on two measurable activities: donating to the candidate and turning out to vote. The letters do not explicitly ask for a donation, but include a contribution card and return envelope, nor do they explicitly remind the recipient to go vote, asking instead for “support.”

¹ The literature is well summarized in Lau et al. (1999, 2007)

We collect voter turnout as reported by election officials, as well as donations by partisans to the campaign. While we do not observe for whom the voters voted, that our target population is made of partisans aligned with the candidate suggests that votes for the candidates are increasing in these voters' turnout.² Measuring the effect of negative campaigning on political fundraising is a natural extension of the literature. Donation behavior is a previously unconsidered avenue in the negative campaign literature (though see Miller and Krosnik 2004) and has recently entered the broader experimental politics literature as an object of study (Augenblick and Cunha 2011).

We compare these treatments to each other and to a control group that receives no letter. Lau et al.'s (1999, 2007) meta-analysis of available empirical contributions focuses on the difference between positive and negative messages, but only a handful of the more than 100 studies they collect compare one or both types of message to sending none at all (Clinton and Lapinski 2004; Hitchon and Chang 1995; Hitchon, Chang, and Haris 1997; King and McConnell 2003; Niven 2006; Pinkleton 1997; Pinkleton 1998; Pinkleton, Um, and Austin 2002; Shen and Wu 2002; Stevens 2005). While comparing negative messages to positive ones allows us to consider *relative* mobilization (of money and votes), it is also important to examine the *absolute* levels of mobilization relative to having done nothing.

We combine this field experiment with a pre-experimental survey among similar partisans. The survey has several purposes. First, it ensures that our manipulations are indeed as positive and negative as we claim. Previous field experiments utilizing negative messages or differences in message tone (Arceneaux and Nickerson 2010, Miller and Krosnick 2004, Niven 2006) do not generally confirm that their manipulations are interpreted as they intend among

² Self-identification as a partisan is positively correlated with partisan primary participation (CITATION), which is our measure of partisanship. Exit polls routinely find that partisans overwhelmingly support their party's candidates (see EXIT POLL DATA).

voters similar to those they target, so it is difficult to interpret results. Our messages are validated: positive messages are viewed as positive and our negative messages as negative by partisan voters.

The survey also allows us to examine some possible elements of positive and negative messages that may drive behavior. Consistent with past laboratory evidence, survey respondents rated the sender of the positive message as more likeable than the sender of the negative message, which might lead to less supportive behavior in the field (though this is not what we observe). Contrary to previous findings (Brians and Wattenberg 1996, Joslyn 1986), survey respondents rated the positive message as more informative than the negative message, suggesting that any mobilizing effect of our negative messages is not due to greater informational content.

We find that negative messages are no better than positive messages at earning the candidates donations, but negative messages yield significantly higher rates of voter turnout among the candidates' partisans relative to positive messages. The contribution rate in the positive treatment was 0.9% and was 0.7% in the negative treatment; these are not statistically different (p-value=0.65). Voter turnout rates are significantly different, however: negative message recipients are 3.8 percentage points more likely to vote than positive message recipients (p-value=0.017). Compared to the control group, we find that both messages stimulate contributions (candidates receive no unsolicited contributions from the control partisans). Furthermore, it is not that the negative message absolutely mobilized voters, but that the positive messages lead to *significantly lower* voter turnout relative to the control, with no difference between the control group and the negative message group.

Results from this experiment contribute to several literatures. Charitable giving is well studied in both the lab and the field (Vesterlund 2006, for a review). The policies of a government of a particular jurisdiction are non-excludable and non-rival, and so in that respect fundraising among a candidate's partisans is analogous to contributing to a public good.³ Each partisan would presumably prefer her party's policies be enacted, but her personal payoff is higher by free-riding on the actions of others. Consistent with previous evidence on the power of asking (Andreoni and Rao 2011), we find that those who are not asked to contribute free-ride on the monetary contributions of others, as candidates received no donations from those partisans whom they did not ask. Curiously, however, we find that the positive message asking for support lowers voter turnout relative to the control group. As voting (by a partisan supporter) is a meaningful contribution to the campaign in its own right⁴, we counter-intuitively find that asking *reduced* voter turnout (i.e., contributions of support at the voting booth).

The results also contribute to both the experimental and negative campaigning literatures in political science. Field experimentation in political science is a large and growing field (see Davenport, Gerber, and Green 2010, for a review). Much of this literature focuses on voter turnout and vote choice; few analyses measure fundraising (Miller and Krosnick 2004, Augenblick and Cunha 2011). Our paper is among them, and finds that negative campaigning is neither more nor less effective than positive campaigning at raising contributions. Additionally, our paper adds to the literature on the effect of negative campaigning on voter turnout (Lau et al. 1999, 2007). Consistent with the balance of the evidence from the field and observational data, we find that negative messages lead to higher voter turnout than positive messages. Ours is one

³ Augenblick and Cunha (2011) also perform a public goods experiment in the field using political fundraising, and make a similar argument regarding the public good nature of policy.

⁴ Partisan voters clearly recognize voting as a contribution to the campaign, as the campaigns received unsigned contribution cards without contributions with notes indicating the sender would vote for them.

of the few experiments (Arceneaux and Nickerson 2010; Niven 2006) to measure negative campaigning in a field environment, and the first to our knowledge to verify the message manipulations pre-experiment. Additionally, it is the only experiment to use actual negative and positive messages from candidates to voters in the field, and to measure the effect of explicitly negative campaigning on fundraising.

Finally, the literature on comparing negative and positive messages is itself part of a broader literature on comparative advertising (Barry 1993, Grewal et al. 1997). That literature finds that comparative advertising is generally more effective than non-comparative advertising (Grewal et al. 1997). Negative or attack messages against another brand (or candidate) are a subset of comparative messages (Pinkleton 1997, Shiv et al. 1997). Consistent with the marketing literature, we find the negative (implicitly comparative) message to yield greater voter turnout (behavioral response) than the positive message. Unlike much of this literature, however, we also compare these two messages to a group that receives no message, and find that overall, both messages yield donations equally well, but that the positive (non-comparative) message reduces voter turnout, not that the negative (comparative) message raises it.

The paper proceeds as follows. Section 2 provides background information and motivates our design. Section 3 describes our experimental design. Section 4 presents results from our pre-experimental survey, and Section 5 the results from the field experiment. We offer a discussion and conclusion in Section 6.

2. Background

Negative campaigning involves any attack against a candidate's opponent, rather than an argument for the candidate. It is a form of comparative advertising, as highlighting the

undesirable traits of one's opponent is an implicit claim to be better (Pinkleton 1997).⁵ In the marketing literature, comparative messages have been found to receive greater consumer attention, yield greater brand and message awareness, message processing, and favorable attitudes toward the sponsored brand than noncomparative ads (Grewal et al. 1997). It is possible that, in political contexts, negative comparisons serve a similar role. While some authors argue that negative campaigning reduces participation by voters of all persuasions (Ansolobehere et al. 1994, Ansolobehere and Iyengar 1995), the balance of the current evidence suggests there is a mild *mobilizing* effect of negative campaigning on voter turnout. Lau et al. (1999, 2007) find that, across multiple studies, negative campaigning has a positive impact on actual turnout of the electorate generally.⁶

Few of these studies, however, identify the effect of negative political messages on behavior cleanly. Over half of the studies Lau et al. collect use observational data, which requires strong assumptions necessary to infer causal relationships (e.g., Fridkin and Kenney 2011, Hall and Bonneau 2009, Krasno and Green 2008). Of the experimental studies included and conducted since Lau et al.'s analysis, few measure intended or actual voter turnout, and many use fictitious candidates, advertisements, or both (e.g., Carraro et al. 2010, Fridkin and Kenney 2008, Wu and Dahman 2010).⁷ Only two of the studies Lau et al. use are field experiments conducted within an actual election (Arceneaux and Nickerson 2010, Niven 2006), and few authors since have tried to measure the effect of negative campaigning in actual elections (Gottfried et al. 2009). Arceneaux and Nickerson (2010) worked with an independent

⁵ Pinkleton (1997) applies the definitions from the marketing literature to political campaigns to clarify how negative campaigning fits in marketers' taxonomy. In our experiment, we use what Pinkleton would call an *implied comparative, negative* message (see Pinkleton 1997, pp. 20).

⁶ They also report that negative campaigning has a negative impact on intended turnout. Voting intentions, however, are a less reliable dependent variable than actual voting (Traugott 2008).

⁷ Additionally, of the 49 laboratory experiments, only 31 use actual advertisements or candidates.

organization in the 2004 election and varied whether voters received negative or positively framed messages regarding various policy outcomes. They find no turnout effects, insignificant candidate preference effects, and that voters' affect toward the Republican candidate is lower in the negative message treatments.⁸ Niven (2006) also uses messages from an independent organization (in a mayoral contest) to test the effect of negative campaigning. He randomizes the number of negative messages (from zero to three) sent by the organization regarding a city's incumbent mayor, and finds voters who receive the negative messages are mobilized, with those receiving more messages having higher turnout rates. Gottfried et al. (2009) find that positive messages for judges up for reelection lead to higher voter turnout relative to arguments against reelection and negative campaigns from past judicial elections in other states.

Even given these contributions to the literature, there is room both for replication and improvement in each paper on which we attempt to capitalize. First, Arceneaux and Nickerson (2010) can compare positive and negative framed information, but due to limitations on independent organizations, cannot use positive arguments *for a candidate* nor negative arguments *against a candidate*. By working with candidates' campaigns, our messages are actual positive arguments for the candidate's positions or genuine attacks on their opponents. Unlike Niven (2006), we can compare actual negative campaign messages to the effect of positive messages, with the added benefit that the messages come from one of the candidates, invoking any effect this has on affect for the attacking candidate. And Gottfried et al. (2009) compare the positive messages of judicial candidates seeking reelection to a recorded two-minute press

⁸ They also report a second experiment from a statewide ballot proposition in Los Angeles. Again working with an independent organization, they randomize whether voters receive an appeal indicating the negative effects of not supporting the proposition, or the positive effects of supporting the proposition. The results of this experiment also find no meaningful effect on turnout of either frame.

conference of a group opposed to reelecting judges generally, making it difficult to ascertain what aspects of the difference across treatments affect behavior.

In addition to measuring the effect of negative campaigning, previous research has also developed several possible reasons for a mobilizing effect of negative campaigns. Negative campaigning may stimulate a more immediate emotional response from voters, increasing turnout through greater enthusiasm either for the voter's party and candidates or through greater emphasis on the election result itself (Finkel and Geer 1998). Negative campaigns may also stimulate voter participation because negative advertising often has more information in it than positive advertising (Brians and Wattenberg 1996, Joslyn 1986).⁹ Even if negative campaign messages are not more informative, they may receive more weight in voters' minds. There are two reasons negative information might receive more weight. First, it may simply "stand out" against a general backdrop of positive information and life experience (Lau 1985). Second, negative messages draw attention to possible costs or losses to avoid (Lau 1985), which may receive more attention if voters are loss averse (Kahneman and Tversky 1979). Negative messages framing elections or political events in terms of possible losses from inaction may motivate participation more than gains from action (Miller and Krosnick 2004).¹⁰ Finally, negative messages, by drawing implicit or explicit comparisons, evoke a competition, which has been shown to matter for the provision of public goods in the lab (Bornstein and Ben-Yossef 1994, Bornstein et al. 2002) and the field (Augenblick and Cunha 2011, Erev et al. 1993).

⁹ As we show below, this is unlikely to be the case in our treatments, as partisan voters in a series of interviews find the *positive* message from both candidates to be more informative, but may be true of other particular negative messages.

¹⁰ Miller and Krosnick (2004) conducted a field experiment with an abortion-rights organization in Ohio. They varied whether an upcoming policy debate was framed in terms of an "opportunity" to advance abortion rights or a "threat" to those rights. The authors found that the threat generated greater rates and levels of giving to the organization relative to both the opportunity and control letters, which they attribute to loss aversion.

The above explanations for a difference in effect between positive and negative messages may apply to all voters, but several are particularly applicable to partisans. However motivated by anger an independent or moderate voter is by the information conveyed in a negative message, the partisan voters of the sender would be predictably more angered by the opposing candidate's record or personal attributes. Relative to a moderate voter, a partisan voter is likely to see the negatives of the opponent in greater relief, and to view the victory of the opponent as a genuine loss in terms of public policy. And finally, the very nature of partisan elections sets up a contest between the parties, and reminding voters of the opposition candidate's attributes is much more a call to compete against him for partisans than it is for the moderate voter.

In the environment we examine, we use distinctly positive and negative campaign messages, where a positive message is an argument for the sending candidate, while the negative message is an argument against the sender's opponent. Specifically, we emphasize that a failure to act will result in the opposition taking control of the county legislature and undoing past progress. We do not distinguish among (most) of the explanations above, which taken together, imply the following hypotheses:

H1. The negative message produces higher contribution rates than the positive message.

H2. The negative message produces higher voter turnout rates than the positive message.

We turn now to a discussion of our design.

3. Experimental Design

We conducted this experiment in two local elections for county legislature during the 2010 general election. The county legislature is comprised of three-member districts; we conducted the experiment with two Democratic candidates in two different districts. In the first district ("District A"), only a single seat is up for election, while in the other district ("District

B”) two seats are up for election. District A is predominantly Republican; the average Democratic share of the two-party vote for the county legislature from 2004 to 2008 is roughly 40%. The Democrats fielded no candidates in the district in 2002. District B is predominantly Democrats, with the average Democratic share of the two-party vote from 2002 through 2006 about 60%. The Republicans fielded no candidates in the district in 2008. Both candidates in our experiment are Democrats. Both candidates had run for the office previously: the District A candidate lost in the general election in 2008, while the District B candidate lost in the 2008 Democratic primary. In the 2010 general election, the District A candidate lost again, while the District B candidate won.

Our experiment focuses on the candidates’ attempt to mobilize funds (and, ultimately, votes) from likely partisan supporters in their respective districts. According to voter registration records, District A was comprised of about 15,200 registered voters, and District B had roughly 11,600 registered voters. We used voters’ participation in party primaries to construct a sample of likely supporters. First, we removed all voters who had not participated in at least one of the three Democratic Party primary elections from 2004 through 2008, or who had participated in any Republican Party primary during that time. Next, we removed all likely Democrats where any member of their household had participated in at least one of the three Republican Party primary elections from 2004 through 2008. The campaigns employed a private address verification system to determine whether voters continued to live in their respective districts; we removed all voters that moved outside of their current city.

Households in the candidates’ districts with at least one likely partisan supporter by the above criteria were randomly assigned to receive a negative letter, a positive letter or no letter.¹¹

¹¹ Candidates planned to make phone calls to the no-letter households to solicit support, although only half of these households had phone numbers listed in the voting data. One candidate began to attempt calls and found the

The District A candidate sent letters to individuals in 1,037 targeted households; the District B candidate sent letters to individuals in 1,432 targeted households. When households contain more than one Democrat, we randomly selected the recipient to whom we addressed the letter from among the Democrats in the household. Table 1 presents summary statistics on the individuals in the sample. Table 2 presents tests of our randomization procedure using the average characteristics of the household; there are no observable characteristics that predict assignment to treatment.

The authors produced the candidates' mailings using the candidates' resources and shipped the mail to the candidates to send. We developed the candidates' letters in consultation with their campaigns. Letters for each candidate have the same opening and concluding paragraphs; the two middle paragraphs contain the content that differs between treatments. The two letters are very similar in length for both candidates: the District A candidate's positive (negative) letter contains 270 (263) words, and the District B candidate's positive (negative) letter contains 281 (262) words. The supporting information contains the text of all messages.¹²

The two treatments involve the candidates' making an argument for their attributes and positions or against those of their opponents, rather than events cast in a positive or negative light or an argument from a third party. Each candidate's positive message is something positive about the candidate sending the message. Their negative messages are something undesirable

overwhelming majority of numbers were disconnected. The other candidate did not attempt to contact more than a few of these households by phone, and also reported unusable numbers.

¹² We also vary the quality of the delivery mechanism. Based on a casual examination of mail pieces from candidates in other races and discussions with several professional printers, a high quality mail piece is a brochure printed on glossy cardstock in full color, whereas the lowest quality mailers are postcards on the thinnest cardstock printed in black and white. We employed two intermediate choices. Each candidate sent both "high quality" and "low quality" single-page letters with a contribution card and return envelope. The sending envelope, return envelope, and the letterhead all had the candidate's logo in color in the high quality version. The high quality letter was printed on heavier, brighter paper, and the candidate's signature reproduced in color ink. The low quality letter, in contrast, used no logos on either envelope or letterhead, and was printed in black-and-white on the lowest quality of printer paper available. There were no discernable effects across these two treatments, so we pool the data across treatments.

about their opponent and the opponent's party, not merely negative information about the circumstances of the electorate. The mail pieces use the candidates' names and not generic party labels (though they refer to their opponents in the third person), and the letter is sent by the candidate (with the candidate's return address). These differences make the messages both more relevant and more directly linked to the campaign. Also, they more precisely test the effect of campaign tone by the primary actor in the electoral contest—the candidate—on voter behavior.¹³

Prior to sending the messages to likely partisan supporters, we conducted 24 individual interviews among frequent Democratic Primary voters in another state to confirm that our positive and negative letters were perceived as such by voters. During the interview, subjects in the interviews read both messages from one candidate, with the order randomized for each subject. We asked the subjects to rate the tone of the messages, their informational content, and their affect toward the sender of the messages. The interviews serve two purposes. First, they validate our interpretation of our experimental manipulation among like-minded voters outside the candidates' districts. Second, these surveys allow us to examine explanations for differences between positive and negative messages. In particular, we consider whether the subjects found the negative messages more informative, as Finkel and Geer (1998) posit this difference as a potential mechanism for a mobilizing effect of negative advertising as discussed above.¹⁴

We turn now to the results of the experiment.

4. Survey Results

¹³ In District A, the negative message focused on the opponent's lack of experience in government and her strong ties to a corporate political action committee (PAC). In District B, the negative message emphasized one of the Republican opponent's ties to landlords' interests in District B. The Republican Party placed a second candidate on the ballot in District B's two-seat race after the candidates had designed and the authors produced the fundraising mail.

¹⁴ Previous researchers (Brians and Wattenberg 1996, Joslyn 1986) have found that voters find negative campaign messages more informative than positive ones in other settings.

We begin by presenting the results of the individual interviews, and then consider the fundraising and voter turnout results. In late April 2010, we recruited 24 registered voters in northern Virginia who frequently participate in Democratic Party primary elections. We scheduled individual survey sessions within a week of the initial email in the offices of those who responded. Subjects were randomly assigned to inspect the mail of one of the candidates, and the order in which they read the positive and negative letter was also randomized.¹⁵

The quantitative results of these interviews are reported in Table 3, and provide strong evidence validating our interpretation of the treatments. Survey participants view the positive letter as “very positive” (it is median and modal response) and the negative message as between “somewhat” and “very negative.” This difference is strongly statistically significant (Wilcoxon signed-rank $z=-4.42$, $p>|z|=0.000$), and is reflected in subjects’ open-ended responses.

Participants responded to the framing effect without prompting. They described the positive letters as “positive”, but also indicated that it “emphasizes qualifications” of the candidates. As one participant stated, the positive letter was “selling himself.” The participants described the negative letter as “negative” and an “attack” and clearly had mixed views of the negative letter. One said it focused him on “what they’ll do if we let them win.” Another said it highlighted “threats from the other party”, while another said it was “clearly designed to get blood boiling.” Another indicated he found the negative message distasteful, but offered that it “forces you to do something.” And one participant who liked the attack summarized it this way: “do you *know* what the *Republicans* are up to?”¹⁶ Both the quantitative and qualitative evidence provide support that partisan-minded readers of the letter perceive the tonal difference between

¹⁵ The interview script is included in the supplementary materials.

¹⁶ These quotations are excerpts of statements made by survey participants to the interviewer, who was one of the authors, before the interviewer asked about the tone of either of the messages. The use of “positive” and “negative” is unprompted by the question. Please see the supporting information for the interview script and the raw data of the interviews. Copies of original and typed notes from the interviews are available upon request.

letters. There is also some qualitative evidence to suggest an emotional or loss-avoiding reaction to the negative letter.

Participants also indicated a difference in informational content between the two letters. On average, subjects found the positive letter to be between “very informative” and “somewhat informative,” but the negative letter to be between “somewhat” and “not very informative.” This difference is also statistically significant (Wilcoxon signed-rank $z=-3.83$, $p>|z|=0.000$). This finding is important, as one explanation for greater voter participation from negative advertising is its higher informational content. While it is possible that the ultimate recipients get more information out of the negative than the positive letter, the survey participants do not, suggesting that voters’ finding these negative messages *more* informative is unlikely to be the cause of any differences we see in fundraising and voter turnout. Furthermore, differences in tone are not merely differences in information. Participants found the tone difference between the two letters to be larger than the quality difference (Wilcoxon signed-rank $z -3.97$, $p>|z|=0.000$).

We also examined candidate affect. Because we do not observe candidate choice for the voters in the field, we wanted to assess the degree to which negative feelings might possibly influence candidate support. Consistent with the results of previous laboratory experiments, the positive letter makes the candidates between “much more” and “a little bit more likeable” to survey participants, while the negative letter makes them between “a little less” and “much less likeable.” This difference is also statistically significant (Wilcoxon signed-rank $z -3.32$, $p>|z|=0.001$). Interestingly, while participants felt less favorably toward the candidate from the negative message, several volunteered that they would still likely vote for the candidate following the negative message. One put it thus: I “vote for [the Democrat] unless he’s a real doofus.” Another, who was disinclined to support candidates who go negative, said “I might vote

for him, because he is a Democrat. But I would hold my nose.” Even if a candidate’s partisan supporters find him less likeable after negative campaigning, that does not imply they are predisposed to switch sides. We turn now to the results from the mail experiment.

5. Field Experiment Results

We conducted the experiment with the candidates in the first two weeks of June 2010. The authors produced both candidates’ letters using their campaign funds in late May 2010 and shipped the solicitations to the candidates. The candidates then mailed the solicitations to households. All letters were sent in the first two weeks of June.¹⁷ Candidates collected contributions over the next six weeks, and received no contributions from those solicited following the six week recording period. Following the election, we acquired voter turnout records for each district from the county board of elections. We consider each outcome below.

5.1 Campaign Contributions

Table 4 presents the contribution rates, revenue per solicitation (RPS), and total contributions received by district and pooled. About 0.8 percent of letter recipients contributed to the candidates’ campaigns overall, though District A’s candidate received significantly more contributions (1.2 percent) than District B’s candidate (0.4 percent) (p-value=0.051, two-sided t-test with unequal variances). In neither district do we find evidence that the negative letter stimulates greater rates of giving than the positive one. In District A, 1.4 percent of the positive message recipients donated to the candidate, while 1.2 percent of the negative message recipients did so (p-value=0.775, two-sided t-test with unequal variances). Only 0.6 percent of District B’s

¹⁷ Half of the District B candidate’s mail was distributed in the first week of June due to an error by the United States Postal Service (USPS), who mailed the contents of the shipped box upon arrival in the local facility rather than delivering the box to the candidate. The box contained both negative and positive letters in equal proportions. To confirm that the mail had been sent by USPS, the authors randomly surveyed 10 intended recipients of the mail. Eight had received the letters, and two had not checked their mail due to illness and travel, respectively. We exclude these individuals from subsequent analysis, though their inclusion does not change the results that follow.

positive message recipients donated, while 0.4 percent of the negative message recipients gave to the candidate (p-value=0.701, two-sided t-test with unequal variances).

We also do not find significant differences in revenue per solicitation between the two treatments. In District A, the negative letter earns about 56 cents per solicitation, compared to 58 cents per solicitation for the positive letter, but this difference is not statistically significant (p-value=0.96, two-sided t-test with unequal variances). District B's candidate earns almost three times as much from the positive letter (28 cents per solicitation) than the negative letter (11 cents per solicitation), though this difference is also not statistically significant (p-value=0.32, two-sided t-test with unequal variances). The fundraising data provide no evidence for the hypothesis that negative campaigning stimulates partisan financial support.

Table 5 presents linear probability models of the decision to contribute and contribution amount for both districts individually as well as pooled. There is no statistically significant difference between the negative and positive letter for rates or levels of giving. Recipients of the negative letter are two tenths of a percent *less* likely to give to the candidates compared to positive letter recipients, though this difference is not statistically significant. There is no consistent effect of message tone on levels of giving across treatments, nor are the differences statistically significant. Revenue per solicitation is about 3 cents higher for negative letter recipients in District A, but 20 cents lower in District B.

The main determinants of giving to the candidates, rather, are the prospective donors' age (serving possibly as a proxy for wealth or income), partisanship, and predicted participation in the election.¹⁸

¹⁸ Residing in a household with a previous Democratic donor is not a statistically significant predictor of giving to the candidates. This variable—provided by the county party—is a measure of giving to a Democratic candidate at the local, state, or federal level, and thus may not serve as a good guide to potential donors for local candidates.

In sum, while both positive and negative letters served to stimulate giving among Democrats (as neither candidate received donations from outside the target population during the period of the study), the negative letter did not stimulate giving relative to the positive letter, rejecting H1 above.

5.2 Voter Turnout

We present the relative effect of the negative letter (as compared to the positive letter) on the addressed recipients' voter turnout in Table 6 and on other occupants of the household in Table 7. While we find no difference in contribution behavior across the treatments, there are differences in recipient voting behavior. As shown in columns 1 and 3 of Table 6, the negative letter recipients are 5.6 (4.0) percentage points more likely to vote in the 2010 general election than the recipients of the positive letter in District A (B). This effect is statistically significant in District A, (p-value=0.062), but not in District B (p-values= 0.116). Pooling the data across districts yields a 4.7 percentage point difference (p-value=0.016) between the negative and positive letters.

We add covariates to each district separately and the pooled data in columns 2, 4, and 6 of Table 6. The effect size is substantial in both districts (though still not significant in District B alone) when adding covariates. Column 6 shows the pooled data with covariates. Negative message recipients are 3.8 percentage points (p-value=0.024) more likely to turn out than positive message recipients. So, while we find little evidence that negative messages stimulate donations, we find that voters who receive messages framed negatively are more likely to go vote than those who receive the positive message, evidence in support of our second hypothesis (H2).

We also examine the difference in turnout behavior of other members of the household between the two letter treatments.¹⁹ Nickerson (2008) demonstrated that affecting the voter turnout decision of one household member can influence the decision of others to vote.²⁰ We present results of regressing non-recipient individuals' voter turnout in the 2010 general election on the treatment assigned to those households in Table 7. In all columns, the difference in voter turnout between households targeted for the negative letter and those targeted with the positive letter is always positive. It is not, however, statistically significant at conventional levels. In column 6 (both districts pooled, with covariates), non-recipient voters in households that receive negative letters are 2.4 percentage points more likely to turn out than non-recipient voters in the positive letter households. This effect is roughly 60 percent of the effect on recipients, and is not significant (p-value=0.144).

So far, we see that the negative letter significantly raises turnout relative to the positive letter among targeted recipients, but not among other registered voters in the household. We also examine whether the negative and positive letters raise voter turnout for recipients and nonrecipients relative to a control group that receives no letter. This is important as it addresses the impact of contacting voters at all. Figure 1 shows the rate of voter turnout by treatment. The increase in voter turnout of a negative letter relative to a positive letter is clearly visible in Table 6, but this is not because both letters mobilize voters and the negative does relatively better. In District A, we see that the negative letter yields higher turnout than the control (though not significantly so), while the positive letter yields slightly lower turnout. In District B, both letters

¹⁹ There is no spillover behavior to analyze in the fundraising treatments. In one case in District B, we sent the fundraising letter to one household member, and another household member sent the return check. This person had, several months prior, indicated to the candidate that she wanted to donate to the campaign.

²⁰ In Nickerson's experiment, canvassers deliver the treatments to a particular voter in a two-voter household and then measure the turnout of the other member of the household. In our case, while we know to whom we address the letter, we cannot say with certainty which household members read it. Thus, whether differences in non-recipient behavior are a "contagious" reaction to the recipient's behavior, or the direct effect of the treatment on the non-recipients is not determinable in this context.

lead to *lower* levels of voter turnout than the control; the negative letter just has a smaller (and statistically insignificant) negative impact on turnout.

We examine this result further in Table 8. The first panel of Table 8 regresses voter turnout of the entire sample (including those in control households) as a function of the treatments. In District A (column 1), the negative message has a positive but statistically insignificant effect on turnout relative to no letter, while the positive message has a small negative effect. Conditional on recipient covariates (column 2), the negative (positive) letter increases (decreases) voter turnout by 1.9 (3.0) percentage points, but neither effect is statistically significant. In District B, however, the effect of both letters relative to the control is strictly negative. The negative letter reduces turnout by between 3 and 4 percentage points, while the positive letter reduces it by roughly 7 percentage points, though only the latter effect is statistically significant. The second panel demonstrates the treatment effect on nonrecipients in the household. They are not significantly affected by the treatments.

6. Discussion and Conclusions

Our experiment uses both survey and field experimental methods to study negative versus positive campaigning in an actual election. First, we use individually-conducted surveys among partisan voters similar to those in two candidates' districts both to verify our experimental manipulation, confirm that some stylized facts of negative campaigns apply to our treatments, and to examine some causal explanations for a mobilizing effect of negative messages. One explanation for negative messages' (relative) mobilizing effect is informational. This does not bear itself out in our data. Our survey results indicate strongly that like-minded partisans found the positive message more informative than the negative one. Furthermore, the survey provides some qualitative support for several alternative explanations. The negative message did reduce

likeability of the sender, but also provoked a sense of urgency among several respondents.²¹ This urgency may well have pushed voters to go to the polls.

Second, we measure the effect of our treatments on two aspects of actual voter behavior—donating to a campaign and turning out to vote—among the candidates’ likely partisan supporters. We focus on these outcomes because they are measurable behaviors and are also ways the voter can take action to support the candidate. Also, we focus on this particular population because the underlying causal explanations for negative campaigning’s effect on the electorate are particularly applicable to partisans. Partisans are more likely to have an emotional reaction to the “other side”, are more likely to be primed for competition through negative attacks, and are more likely to view “their” candidate’s defeat as a loss, and “their” candidate’s victory as a gain.

Overall, we find mixed evidence on the effect of negative campaigning in the field. With respect to fundraising, unlike previous experiments that framed fundraising in terms of policy “threats” and “opportunities” (Miller and Krosnick 2004) or that primed competitive motivations for partisan fundraising (Augenblick and Cuhna 2011), we find no evidence that negative messages about the opposition spurred more giving than the positive message about the candidate. The positive message had higher contribution rates and levels, though not statistically significantly so.

With respect to turnout, however, we do find a strong relative effect. This is consistent with previous research that compares positive and negative messages using observational and field experimental data. In our experiment, recipients of the negative message were roughly 4 percentage points more likely to go to the polls than recipients of the positive message. While it is

²¹ One avenue of subsequent research would be to blend qualitative and quantitative investigation to better separate voters’ sense of urgency from negative messages into its component parts and classify responses by competitive, loss-averse, and emotional motivations.

tempting to conclude therefore that negative messages motivate a candidate's core supporters, it is not the whole story. Unlike Niven (2006), our negative message did not have a statistically significant impact on turnout relative to the control group, while the positive message *lowered* voter turnout relative to the control group. This result runs contrary to evidence on partisan get-out-the-vote (GOTV) efforts (Nickerson, Friedrichs, and King 2006) which find a small mobilizing effect. Unlike the GOTV efforts, targeted voters received the message several months prior to Election Day, and our letters do not contain any information about how or where to vote. One possible explanation for this anomaly is that soliciting donations from voters decreases their desire to participate (i.e., lowers the sense of civic duty regarding voting) and that this effect is partially offset by voters' (emotional, loss-averse, or competitive) reaction to the negative message.

Finally, there are practical implications of these findings. Candidates and political parties depend on contributions, for which they generally have to ask. Our results suggest that these groups face a tradeoff when making purely positive arguments: the act of asking positively yields monetary contributions but reduces "political contributions" at the ballot box. No such tradeoff exists in our data when asking with a negative appeal. As campaigns need to fundraise in order to operate, but do not want to demobilize their own supporters, it appears that going negative is the best way to ask for political donations. Thus, despite voters' stated preferences for positive messages, it should not surprise partisan supporters of any stripe that their favored candidates go on the attack when asking for their support.

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Table 1. Sample Descriptive Statistics

District A

	Obs	Mean	Std. Dev.	Min	Max
Male	1296	0.414	0.493	0	1
Age	1281	52.552	15.789	20	97
Strong Democrat	1296	0.297	0.457	0	1
Weak Democrat	1296	0.703	0.457	0	1
Percent Democrats in Household	1296	0.783	0.263	0.14286	1
Voters in Household	1296	1.964	0.892	1	7
Previous Democratic Donor Household	1296	0.125	0.331	0	1
Predicted Likelihood to Vote	1281	0.682	0.249	0.05331	0.97444

District B

	Obs	Mean	Std. Dev.	Min	Max
Male	1789	0.382	0.486	0	1
Age	1774	50.543	16.253	20	98
Strong Democrat	1789	0.364	0.481	0	1
Weak Democrat	1789	0.636	0.481	0	1
Percent Democrats in Household	1789	0.826	0.252	0.11111	1
Voters in Household	1789	1.836	0.947	1	9
Previous Democratic Donor Household	1789	0.187	0.390	0	1
Predicted Likelihood to Vote	1751	0.680	0.248	0.06011	0.97162

Both Districts

	Obs	Mean	Std. Dev.	Min	Max
Male	3085	0.395	0.489	0	1
Age	3055	51.386	16.088	20	98
Strong Democrat	3085	0.336	0.472	0	1
Weak Democrat	3085	0.664	0.472	0	1
Percent Democrats in Household	3085	0.808	0.257	0.11111	1
Voters in Household	3085	1.890	0.926	1	9
Previous Democratic Donor Household	3085	0.161	0.368	0	1
Predicted Likelihood to Vote	3032	0.681	0.249	0.05331	0.97444

Strong Democrats voted in at least two of the last Democratic primaries and no other party primary. Weak Democrats voted in one of the last three Democratic primaries, or two of the last three and one non-Republican primary.

Some voters have their birthday recorded as “01/01/1900” in the voter registration records. According to Board of Election officials, this is the default value for those who provided no age on their registration materials.

Table 2. Randomization Check

	District A				District B			
	(1)		(2)		(3)		(4)	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
Percent Male	0.388 (0.248)	0.253 (0.251)	0.381 (0.243)	0.251 (0.246)	0.031 (0.184)	-0.126 (0.185)	-0.003 (0.182)	-0.135 (0.183)
Average Age	0.000 (0.006)	-0.003 (0.006)			-0.004 (0.005)	-0.002 (0.005)		
Pct. Strong Democrat	0.019 (0.441)	-0.362 (0.437)	0.036 (0.410)	-0.418 (0.407)	-0.385 (0.399)	-0.355 (0.398)	-0.517 (0.361)	-0.345 (0.360)
Pct. Weak Democrat	-0.297 (0.407)	-0.681* (0.403)	-0.261 (0.397)	-0.691* (0.393)	-0.499 (0.379)	-0.345 (0.378)	-0.535 (0.366)	-0.305 (0.365)
Voters in Household	-0.052 (0.115)	-0.033 (0.114)	-0.056 (0.114)	-0.024 (0.113)	-0.119 (0.095)	-0.031 (0.093)	-0.115 (0.094)	-0.027 (0.092)
Previous Democratic Donor Household	0.243 (0.260)	0.167 (0.263)	0.288 (0.256)	0.183 (0.259)	0.021 (0.188)	0.100 (0.185)	-0.015 (0.180)	0.090 (0.178)
Average Likelihood To Vote	0.151 (0.395)	0.095 (0.395)			-0.212 (0.352)	0.103 (0.352)		
Constant	0.640 (0.565)	1.177** (0.559)	0.736 (0.490)	1.092** (0.485)	1.572*** (0.491)	1.130** (0.489)	1.349*** (0.436)	1.053** (0.433)
Observations	1286	1286	1296	1296	1766	1766	1789	1789

Multinomial logistic regression of treatment assignment as a function of characteristics. Base group is control (no letter). z-statistics in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 3. Subject Evaluation of Letter Tone, Information, and Candidate Likeability

Tone of Letter					
[1=Very Positive; 4=Very Negative]					
	Positive		Negative		
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>p> z </u>
District A	1.1	0.3	3.3	0.6	0.002
District B	1.1	0.4	3.2	0.6	0.002
Both districts	1.1	0.4	3.2	0.6	0.000

Information in Letter					
[1=Very; 4=Not at all]					
	Positive		Negative		
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>p> z </u>
District A	1.5	0.5	2.9	0.7	0.002
District B	1.7	0.9	2.2	0.9	0.034
Both districts	1.6	0.7	2.5	0.9	0.000

Likeability of Candidate					
[1=Much more; 4=Much less]					
	Positive		Negative		
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>p> z </u>
District A	1.5	0.6	3.1	0.7	0.002
District B	1.9	0.7	2.8	0.9	0.082
Both districts	1.7	0.7	2.9	0.8	0.001

Last column (p>|z|) reports the statistical significance of Wilcoxon signed-rank test between the positive and the negative letters.

Table 4. Contribution Rate, Revenue per Solicitation, and Total Contributions by District

	Contribution Rate						p-value
	Positive			Negative			
	Obs	Mean	SD	Obs	Mean	SD	
District A	516	0.014	0.116	519	0.012	0.107	0.77
District B	706	0.006	0.075	709	0.004	0.065	0.70
Both Districts	1222	0.009	0.094	1228	0.007	0.085	0.65

	Revenue per Solicitation						p-value
	Positive			Negative			
	Obs	Mean	SD	Obs	Mean	SD	
District A	516	0.562	5.183	519	0.578	5.989	0.96
District B	706	0.283	4.407	709	0.106	1.624	0.32
Both Districts	1222	0.401	4.750	1228	0.305	4.089	0.59

	Total Contributions	
	Positive	Negative
District A	\$290	\$300
District B	\$200	\$75
Both Districts	\$490	\$375

Last column (p-value) reports the statistical significance of two-sided t-test (unequal variances) between the positive and the negative letters.

Table 5. Treatment Effects on Contributing to Campaigns

	Contribution Rate			Contribution Level		
	(1) District A	(2) District B	(3) Both	(4) District A	(5) District B	(6) Both
Negative letter	-0.002 (0.007)	-0.002 (0.004)	-0.002 (0.004)	0.029 (0.321)	-0.203 (0.185)	-0.109 (0.176)
Male	0.000 (0.007)	-0.003 (0.004)	-0.001 (0.004)	-0.035 (0.379)	-0.021 (0.164)	-0.008 (0.189)
Age/10	0.005** (0.002)	0.002** (0.001)	0.003*** (0.001)	0.202** (0.099)	0.073* (0.040)	0.136*** (0.047)
Strong Democrat	0.012 (0.010)	0.007** (0.003)	0.008* (0.005)	0.692 (0.510)	0.352* (0.199)	0.448* (0.244)
Pct Democrats in Household	0.007 (0.018)	0.022 (0.016)	0.014 (0.012)	0.448 (0.660)	1.814 (1.520)	1.138 (0.892)
Voters in Household	0.009 (0.006)	0.005 (0.007)	0.007 (0.005)	0.541 (0.379)	0.642 (0.631)	0.591 (0.397)
Previous Democratic Donor Household	0.005 (0.017)	0.010 (0.009)	0.006 (0.008)	0.334 (0.863)	-0.092 (0.422)	-0.047 (0.404)
Predicted Likelihood to Vote	0.028** (0.011)	0.004 (0.004)	0.017*** (0.006)	1.293** (0.585)	0.038 (0.217)	0.656** (0.296)
Constant	-0.060** (0.030)	-0.036 (0.025)	-0.046** (0.019)	-3.043** (1.420)	-2.865 (2.364)	-2.905** (1.468)
Observations	1023	1383	2406	1023	1383	2406
R-squared	0.024	0.019	0.019	0.024	0.025	0.020

All regressions estimated with OLS, as strong democrat=0 perfectly predicts not contributing in District B. Robust standard errors in parentheses. *** 1 percent, ** 5 percent, * 10 percent.

Table 6. Voter Turnout of Letter Recipients

	(1) District A	(2) District A	(3) District B	(4) District B	(5) Both	(6) Both
Negative letter	0.056* (0.030)	0.050* (0.026)	0.040 (0.025)	0.030 (0.022)	0.047** (0.019)	0.038** (0.017)
Male		-0.036 (0.027)		-0.006 (0.023)		-0.018 (0.017)
Age		-0.001 (0.001)		0.000 (0.001)		-0.000 (0.001)
Strong Democrat		0.003 (0.030)		0.014 (0.025)		0.009 (0.020)
Pct Democrats in Household		0.021 (0.066)		0.107* (0.060)		0.067 (0.044)
Voters in Household		0.024 (0.019)		0.035** (0.015)		0.030** (0.012)
Previous Democratic Donor Household		0.102*** (0.035)		0.028 (0.027)		0.056*** (0.021)
Predicted Likelihood to Vote		0.939*** (0.055)		0.891*** (0.047)		0.912*** (0.036)
District B Binary						0.049*** (0.017)
Constant	0.591*** (0.022)	-0.088 (0.093)	0.639*** (0.018)	-0.126 (0.081)	0.619*** (0.014)	-0.134** (0.062)
Observations	1035	1023	1415	1383	2450	2406
R-squared	0.003	0.247	0.002	0.247	0.002	0.247

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 7. Voter Turnout of Non-Recipients

	(1) District A	(2) District A	(3) District B	(4) District B	(5) Both	(6) Both
Negative letter	0.007 (0.032)	0.041 (0.025)	0.031 (0.030)	0.009 (0.022)	0.021 (0.022)	0.024 (0.017)
Male		0.005 (0.023)		-0.019 (0.021)		-0.008 (0.016)
Age		-0.002** (0.001)		0.001 (0.001)		-0.000 (0.001)
Strong Democrat		0.062 (0.061)		0.189*** (0.054)		0.131*** (0.040)
Weak Democrat		0.005 (0.053)		0.082* (0.047)		0.043 (0.035)
Pct Democrats in Household		0.040 (0.100)		0.043 (0.081)		0.040 (0.064)
Voters in Household		-0.022 (0.019)		-0.002 (0.015)		-0.010 (0.011)
Previous Democratic Donor Household		0.036 (0.034)		0.017 (0.027)		0.022 (0.021)
Predicted Likelihood To Vote		0.999*** (0.048)		0.864*** (0.052)		0.932*** (0.035)
District B Binary						-0.001 (0.017)
Constant	0.472*** (0.024)	0.042 (0.101)	0.437*** (0.022)	-0.076 (0.081)	0.453*** (0.016)	-0.027 (0.064)
Observations	1007	996	1179	1146	2186	2142
R-squared	0.000	0.425	0.001	0.484	0.000	0.453

Robust standard errors clustered on the household level in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table 8: Voter Turnout Relative to Control Group
Recipients

	(1) District A	(2) District A	(3) District B	(4) District B	(5) Pooled	(6) Pooled
Positive letter	-0.004 (0.037)	-0.030 (0.034)	-0.073** (0.030)	-0.070** (0.028)	-0.044* (0.024)	-0.052** (0.021)
Negative letter	0.053 (0.037)	0.019 (0.033)	-0.033 (0.030)	-0.038 (0.027)	0.003 (0.023)	-0.014 (0.021)
Covariates?	No	Yes	No	Yes	No	Yes
Observations	1294	1279	1772	1735	3066	3014
R-squared	0.003	0.242	0.003	0.230	0.002	0.236

Nonrecipients

	(1) District A	(2) District A	(3) District B	(4) District B	(5) Pooled	(6) Pooled
Positive	0.043 (0.041)	0.012 (0.031)	-0.029 (0.038)	-0.021 (0.030)	0.003 (0.028)	-0.006 (0.022)
Negative	0.050 (0.040)	0.053* (0.030)	0.002 (0.037)	-0.012 (0.030)	0.024 (0.027)	0.019 (0.021)
Covariates?	No	Yes	No	Yes	No	Yes
Observations	1247	1232	1477	1438	2724	2670
R-squared	0.001	0.425	0.001	0.464	0.000	0.443

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 1. Voter Turnout by Treatment

