

The Nature and Impact of Emotional Content in Congressional Candidate Communications

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Abstract

Research suggests that the emotional content of elite campaign communications shapes the quantity and quality of political participation and the voting intentions of citizens. Appeals to anger and enthusiasm increase participation but decrease deliberation and openness to persuasion. Anxiety, by contrast, increases information-seeking and deliberation but not necessarily participation. This work suggests that candidates have incentives to carefully consider the nature of their emotional appeals and differentiate distinct emotions that share a valence category. In this paper, we extend existing work on campaign strategy by examining the emotional content of emails sent by candidates for the US House to their partisan supporters. Consistent with expectations from research on emotions and political behavior, we find that anger is more prevalent than anxiety but, at the margin, incumbents use positive affect and anger more than challengers, and challengers use anxiety more than incumbents. In a unique quasi-experimental study fielded during the 2018 elections, however, we find little evidence that citizens are influenced by the emotional content of these appeals.

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Emotional language is ubiquitous in politics and a growing literature seeks to understand how elites use emotional appeals to shape the political attitudes and behavior of citizens (Albertson and Gadarian 2015; Brader 2006; Huddy et al. 2005; Marcus, Neuman, and MacKuen 2000; Valentino et al. 2008). Research suggests that the emotional content of communications, and the emotional experience of citizens, shape the quantity and quality of political participation and the direction of policy attitudes. This implies that politicians have a strong incentive to choose the emotions they target carefully—eliciting anxiety about one’s political opponents, for example, will have very different effects on political behavior than eliciting enthusiasm or anger (Brader 2006). Despite substantial progress over the last two decades, we nonetheless believe the literature falls short in important respects.

First, a substantial proportion of studies rely on citizens’ self-reported emotional experiences (Brader, Valentino, and Suhay 2008; Huddy et al. 2005; MacKuen et al. 2010; Marcus and MacKuen 1993). While this research has been generative, self-report measures have serious limitations. They exhibit very high correlations among nominally distinct emotions that share valence (i.e., negative or positive). Indeed, when asked in reference to salient political objects (e.g., anxiety about a candidate), self-reported emotional experiences may largely measure positive and negative attitudes rather than discrete emotions such as enthusiasm or anxiety (Johnston, Lavine, and Woodson 2015; Lodge and Taber 2013). Relatedly, studies using self-reports can make only weak causal claims as they are correlated with a variety of other individual-level factors relevant to political behavior and these are difficult to fully control.

Second, a distinct line of research uses experimental designs that attempt to isolate emotional content while holding constant other sources of variation in experience (Banks and Hicks 2016; Brader 2006; Gadarian and Albertson 2014). To exert such control, this work

typically utilizes contrived materials (e.g., fake campaign ads) or politically-neutral manipulations of emotions (e.g., recall of emotionally evocative personal memories). These studies are valuable because they demonstrate the *potential* for emotional content to shape political attitudes and behavior. By their very nature, however, they are limited in what they can say about how emotional appeals shape behavior in more realistic contexts where inducements are rarely so clean and where other factors may be present that mute or modify the impact of emotional content.

Finally, neither set of studies provides information about how (or even if) emotions are used by political elites in their communication with the public. While there is a robust literature on “negative” campaign strategy (see Lau and Rovner (2009) for a comprehensive review), little work has explored the nature and impact of appeals that differentiate among emotions that share negative valence, such as anxiety and anger.

In this article, we return to the question of the use of emotional appeals in campaign communications and their effects on political behavior using a new research design that builds on previous work while overcoming some of its limitations. Specifically, we examine the nature and impact of emotional content in campaign communications from candidates for the U.S. House of Representatives to their partisan supporters. Our first study is descriptive and examines how a large sample of House candidates in 2012 and 2018 used emotional language in appeals to their supporters during the height of the campaign season. Our second study uses an innovative experimental design that attempts to optimize on the tradeoff between internal and external validity to estimate the causal impact of emotional appeals on citizen attitudes and behavior in the 2018 House elections.

Emotions and Political Behavior

The literature on emotions and electoral behavior has focused primarily on three constructs: enthusiasm, anxiety, and anger. While there is substantial recent interest in other emotions, such as disgust (Terrizzi, Shook, and McDaniel 2013) and guilt (Khalmetski 2016), these studies tend to focus on their role in shaping broad preferences, such as ideology or altruism, rather than campaign effects and political persuasion (Gerber, Green, and Larimer 2010; Leach, Iyer, and Pedersen 2006; Panagopoulos 2010). Accordingly, we focus our attention on the three emotions central to the literature, but this is not intended as an argument against the potential relevance of other emotions for political participation.

One reason for the centrality of enthusiasm, anger, and anxiety is the highly influential work by Marcus and colleagues on affective intelligence theory (AIT) (MacKuen et al. 2010; Marcus 2010; Marcus et al. 2000). AIT argues that behavior is regulated by a set of emotional subsystems that roughly correspond with these three emotions. In this view, emotional experiences emerge from “preconscious affective appraisals [of] the strategic character of the environment” as familiar and rewarding, familiar and aversive, or uncertain and risky (MacKuen et al. 2010). Familiar and rewarding contexts elicit feelings of enthusiasm which promote reliance on well-established routines in the pursuit of existing goals. Enthusiasm thus fosters reflexive engagement with a problem or task. Familiar and aversive contexts elicit emotions related to anger and similarly promote reflexive engagement.¹ Anger signals a known threat—with which one has substantial experience—and thus motivates aggressive action based on previously learned routines. In contrast, uncertain or risky contexts—in which coping potential is unclear—elicit feelings of anxiety which promote greater deliberation and care in decision making.

¹ Work on AIT sometimes uses the term “aversion” which encompasses a suite of emotions, including anger, disgust, and contempt, which are typically highly correlated in survey self-reports (MacKuen et al. 2010).

Anxiety signals a novel environment where routine behaviors are unlikely to be useful and thus promotes information seeking, reflection, and general flexibility in decision making. These ideas have been applied to a wide variety of topics in the study of public opinion and political behavior and we do not attempt a comprehensive review here.² Instead, we focus on the literature directly relevant to our present interest in campaign communication, political participation, and voting behavior.

First, because they signal a familiar and rewarding environment, feelings of enthusiasm increase participation in elections but reduce deliberation. Enthusiastic citizens are engaged in terms of turnout and engagement with the campaign, but shallow in terms of information gathering and processing and largely closed to persuasion. For example, (Brader 2005, 2006) finds that a non-verbal manipulation of enthusiasm in a campaign advertisement increases expressed interest in the campaign and intention to vote. However, this treatment has little effect on information seeking, reduces openness to persuasion, and thus increases stability in candidate evaluations and vote choice across the campaign (Marcus and MacKuen 1993).

Anger has similar effects to enthusiasm on political behavior (MacKuen et al. 2010). As argued by Vasilopoulos et al. (2019), political anger is reliably induced by threats to the in-group by familiar out-groups. This need to confront a known adversary promotes political engagement but reduces deliberation and flexibility. Indeed, the combination of an imminent threat with high perceived coping potential is a particularly strong driver of (potentially risky) action. The prototypical angry person is thus both confrontational and impulsive and unlikely to reflect on their political options. For example, Huddy, Feldman, and Cassese (2007) find that anger is associated with support for militaristic responses in the context of debates over the Iraq War and

² For useful recent reviews, see Albertson and Gadarian (2015) and Brader and Marcus (2013).

MacKuen et al. (2010) find that anger reduces information seeking in response to an identity-threatening public policy proposal (see also Valentino et al. 2008). For similar reasons, appeals to anger may be a particularly useful strategy for convincing citizens to exert costly personal effort on behalf of the group and thus to solve collective action problems. Groenendyk and Banks (2014), for example, find that activated partisan identities elicit anger which subsequently drives political participation, and Banks, White, and McKenzie (2018) find that anger about racial inequality promotes political protest among blacks in the United States (see also Claassen 2016; Vasilopoulos 2018).

Anxiety, by contrast, signals that the current environment provides a poor fit to existing cognitive categories and thus previously learned strategies are of questionable utility. It halts the decision process to carefully consider the present context as a new case. In the political realm, this translates to increases in political information seeking, more extensive deliberation about one's choices, and greater openness to persuasion (Marcus 2010). MacKuen et al. (2010), for example, find less bias in information search and a greater willingness to compromise among anxious citizens and Valentino et al. (2008) find that anxiety-inducing threats increase political information seeking and learning (see also Marcus et al. 2000). In contrast, induced anxiety is not reliably associated with greater political participation in the sense of *action*: anxious citizens seek to learn more about their options but are not necessarily more likely to turn out or engage in other political activities on behalf of a group or issue (Groenendyk and Banks 2014).

Based on this line of research, we derive the following hypotheses regarding the effects of emotional appeals by Congressional candidates to their partisan supporters:

1. Appeals to *anger* and *enthusiasm* will:
 - a. Increase in-candidate/in-party evaluations
 - b. Increase in-candidate vote intention
 - c. Increase overall participation
 - d. Decrease information seeking
2. Appeals to *anxiety* will:
 - a. Increase information seeking
 - b. Have no effect on participation

We have no prior expectations regarding the effect of appeals to anxiety on candidate evaluations and intended vote choice. On one hand, we might expect that anxiety will reduce in-candidate evaluations and vote intention because it reduces reliance on partisan habits and increases reliance on issue positions (Marcus et al. 2000). Alternatively, we might expect no effect if anxiety works primarily through information gathering and deliberation, which we do not expect to happen between the treatment and our post-treatment survey measures. In this case, our study is simply unable to detect this kind of mediated effect. Finally, we might even expect a positive effect of appeals to anxiety on in-candidate evaluations and vote intention. While not a canonical hypothesis in the literature, in lab experiments Brader (2006) finds that fear advertisements shift evaluations in favor of the sponsor of the ad. Further, Albertson and Gadarian (2015) find in survey experiments that anxious citizens not only seek more information but place their trust in elites deemed expert or trustworthy in the relevant area. On contested issues, anxiety increases trust in the party that is perceived to be most competent (who “owns” that issue area). If citizens generally think their own party is better able to handle the average

issue, then we might expect appeals to anxiety to increase support for the in-party candidate. In sum, we treat the effect of appeals to anxiety on evaluations and vote choice as exploratory.

Implications for Campaign Strategy

Existing theory and research strongly suggest that elite political actors have an incentive to carefully consider the emotional content of their communications. Since anger and enthusiasm tend to have very different effects from anxiety, shrewd politicians should appeal to the emotions that are theoretically most likely to induce behavior congenial to the goals of the campaign. Yet there is little research on the use of discrete emotions in campaign communications. Instead, work in political science has considered the distinction between “negative” and “positive” campaign strategies without drawing a distinction between different kinds of appeals within these domains (Auter and Fine 2016; Hassell and Oeltjenbruns 2016; Lau and Pomper 2001; Lau and Pomper 2004; Nulty et al. 2016).

Yet the research reviewed in the previous section suggests this is a critical distinction: negative appeals vary in their expected behavioral consequences and thus in their utility within a given campaign. Indeed, it may often be the case that anxiety and anger work at cross-purposes.³ For example, while previous work suggests that challengers are more likely to “go negative” than incumbents (Druckman, Kifer, and Parkin 2009; Hassell and Oeltjenbruns 2016; Kahn et al. 1999; Lau and Pomper 2001; Lau and Pomper 2004), research on emotions suggests that this should be true primarily for appeals to *anxiety*. Challengers seek to break citizens’ reliance on habits and reflexive decision strategies (e.g., status quo bias, reflexive partisanship) not reinforce them. Conversely, we should expect communications narrowly targeted to partisan supporters to

³ This may contribute to mixed findings regarding the effects of negative campaigns on political behavior (Ansolabehere and Iyengar 1995; Barton, Castillo, and Petrie 2016; Brooks 2006; Krupnikov and Piston 2015; Lau and Rovner 2009; Lau, Sigelman, and Rovner 2007).

appeal to voters' anger about the out-party not their anxiety. When turning out the base, deliberation and extended reflection hinder electoral success while "blind" engagement promotes it.

In general, then, the literature on emotions and politics suggests a need to reconsider the determinants of negative campaigning by distinguishing between anger and anxiety. It should often be the case that variables with a positive effect on appeals to anger should also have a positive effect on appeals to enthusiasm but a negative effect on appeals to anxiety (and vice-versa). Thus, if negative campaigns are defined by anger, their etiology should be similar to that of positive campaigns because anger shares behavioral consequences similar to those of positive emotions (Lerner and Keltner 2001; MacKuen et al. 2010). Conversely, the etiology of negative campaigns defined by anxiety should be very different from that of positive campaigns.

Adapting previous work on the determinants of negative campaigning (Druckman, Kifer, and Parkin 2010; Kahn et al. 1999; Lau and Pomper 2001; Lau and Pomper 2004) to theory and research on emotions in political psychology (e.g., Brader 2006; Groenendyk and Banks 2014; MacKuen et al. 2010), we derive the following hypotheses regarding the determinants of emotional appeals in Congressional campaign messages to partisan supporters:

3. Overall, anger and enthusiasm will be more prevalent than anxiety in campaign messages to partisan supporters.
4. *At the margin*, however:
 - a. Anger and enthusiasm will be more prevalent in incumbent than challenger messages.
 - b. Anxiety will be more prevalent in challenger than incumbent messages.

5. The disparity in emotional content between incumbents and challengers will decrease as the competitiveness of the race increases.

Study 1. The Content of Emotional Appeals to Partisan Supporters

Our first study seeks to describe the nature and etiology of emotional appeals by Congressional candidates to their partisan supporters. To this end, we utilize a database of more than 3,500 email communications from candidates for the U.S. House of Representatives in 2012 and 2018 selected from a random sample of 100 congressional districts. The full set of congressional districts is listed in the supplemental appendix (Appendix A) and includes both districts that were competitive and those that were not. Previous research has shown that email communications are as representative or more representative of the overall campaign messaging than other forms of communication such as campaign websites and television advertising (Hassell and Oeltjenbruns 2016). In addition, while the price of television advertising is prohibitive for many low budget campaigns, almost every campaign sends emails to supporters (Druckman et al. 2009; Hassell and Oeltjenbruns 2016), which allows us to get a more comprehensive measure of the rhetoric used by both the campaigns that are well financed and those that struggle to raise sufficient funds.

To collect the emails, we visited each website of the Republican and Democratic candidates from the congressional districts that were randomly selected prior to September 1 of the election year and signed up with an email address to receive campaign updates from each campaign. If prompted to enter an address or a zip code, we entered an address within the congressional district where the race was taking place. In our analysis, we include emails received from the campaigns beginning in September 1 of both election years until Election Day (November 6 for both election years). We began collecting emails on September 1st because

Labor Day is the traditional start of the general election campaign. Additionally, as some states had primary elections in late August or early September of both years, we wanted to avoid including messages from the campaign that were geared towards the primary election campaign.⁴

We coded the emails for emotional content using the Linguistic Inquiry and Word Count database (hereafter, LIWC; Pennebaker et al. 2015).⁵ LIWC estimates the emotional content of text by counting the number of words associated with several emotion categories, including anger, anxiety, sadness, positive affect, and negative affect.⁶ It thus distinguishes between positive and negative valence but also allows for more nuanced distinctions within the negative domain.

Consistent with other work in political communication (Jones et al. 2018), we calculated the percent of each email's words that fall in each emotion category. For example, a value of "2.00" for anxiety indicates that 2% of the respective email's words were categorized by LIWC as belonging to its anxiety dictionary. With this operationalization, the distribution of word proportions for anger and anxiety are highly skewed in both 2012 and 2018—campaign emails generally contain few, if any, words falling in these categories. Indeed, for both anxiety and anger in 2012, and for anxiety in 2018, the median email contains zero words related to these emotions. For purposes of hypothesis-testing, we thus recoded the anger and anxiety variables to binary indicators that represent the absence ('0') or presence ('1') of the emotion in a given email, but results are similar using the original variable and conclusions do not change.

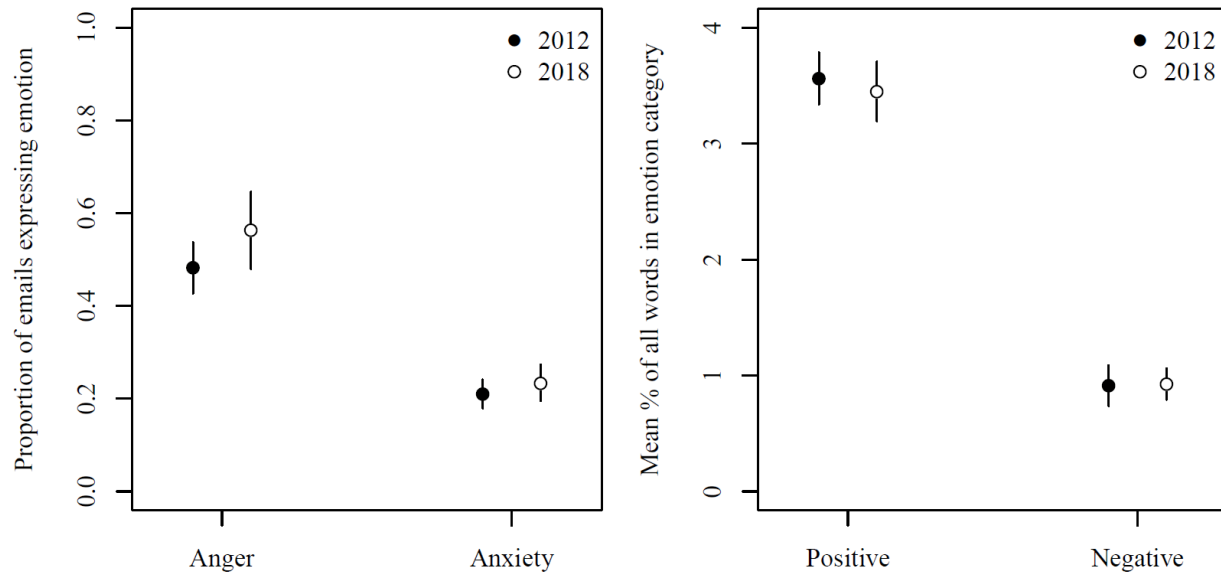
⁴ We exclude emails that were sent by campaigns prior to the end of the primary election season in the few states where the primary was after September 1st.

⁵ LIWC is a widely used program for text analysis using word counts (see Tausczik and Pennebaker 2010 for a review). LIWC has been used in previously published work in political science (Graham, Haidt, and Nosek 2009; Nulty et al. 2016; Jones et al. 2018; Robinson, Boyd, and Fetterman 2014).

⁶ Anger, anxiety, and sadness each contribute to the overall negative affect count.

Hypothesis 3 states that appeals to anger will be more prevalent in communications to partisan supporters than anxiety. To test this hypothesis, we plot the proportion of emails expressing anger and anxiety in the left panel of Figure 1.⁷

Figure 1



As expected, anger is far more likely to be expressed than anxiety in both 2012 and 2018. In both years, about 50% of emails express at least some anger while only about 20% of emails express anxiety. Since these are emails largely targeted at supporters, this is consistent with the claim that anger promotes participation but not reconsideration of partisan habits, while anxiety promotes reflection but not necessarily participation. We also plot the average percent of email words that are positive and negative valence in the right panel of Figure 1. When ignoring within-valence distinctions, positive affect is much more prevalent than negative affect. The former appears at a rate of about 3.5% while the latter appears in only about 1% of all words. Thus, negative affect is

⁷ Extended vertical lines are 95% confidence bounds. These were obtained by taking 10,000 samples (with replacement) from the set of candidate-year observations and stacking the emails for each drawn candidate-year to form a single dataset. We estimated quantities of interest for each of these datasets and then calculated the 2.5% and 97.5% quantiles for the set of estimates.

utilized less than positive affect, but, when negative emotional appeals *are* made, anger is preferred to anxiety as a communication strategy (consistent with hypothesis 3).

Hypothesis 4 claims that anger and enthusiasm will be more prevalent in incumbent messages than challenger messages, but anxiety will be more prevalent in challenger messages than incumbent messages. To test this, we estimated four regression models, one for each for anger, anxiety, positive affect, and negative affect.⁸ For anger and anxiety, we estimated the following model, where Y_{ij} is a binary indicator of the presence of the respective emotion for the i^{th} email in the j^{th} candidate-year, Λ is the cumulative logistic function, and X_j is a set of characteristics of the j^{th} candidate-year, including election year (2012 or 2018), party (Democrat or Republican), status (dummies for incumbent, challenger, or open/other), and competitiveness (listed or not listed as competitive per Cook Political Reports):⁹

$$\begin{aligned} Y_{ij} &\sim \text{Bernoulli}(y_{ij}|\pi_{ij}) \\ \pi_{ij} &= \Lambda(\beta_{0j} + X_j\beta) \\ \beta_{0j} &\sim N(0, \tau) \end{aligned}$$

For positive and negative affect, we estimate a very similar model via maximum likelihood:

$$\begin{aligned} Y_{ij} &\sim N(y_{ij}|\mu_{ij}, \sigma^2) \\ \pi_{ij} &= \beta_{0j} + X_j\beta \\ \beta_{0j} &\sim N(0, \tau) \end{aligned}$$

In Figure 2, we report the quantities of interest along with 95% confidence bounds.¹⁰

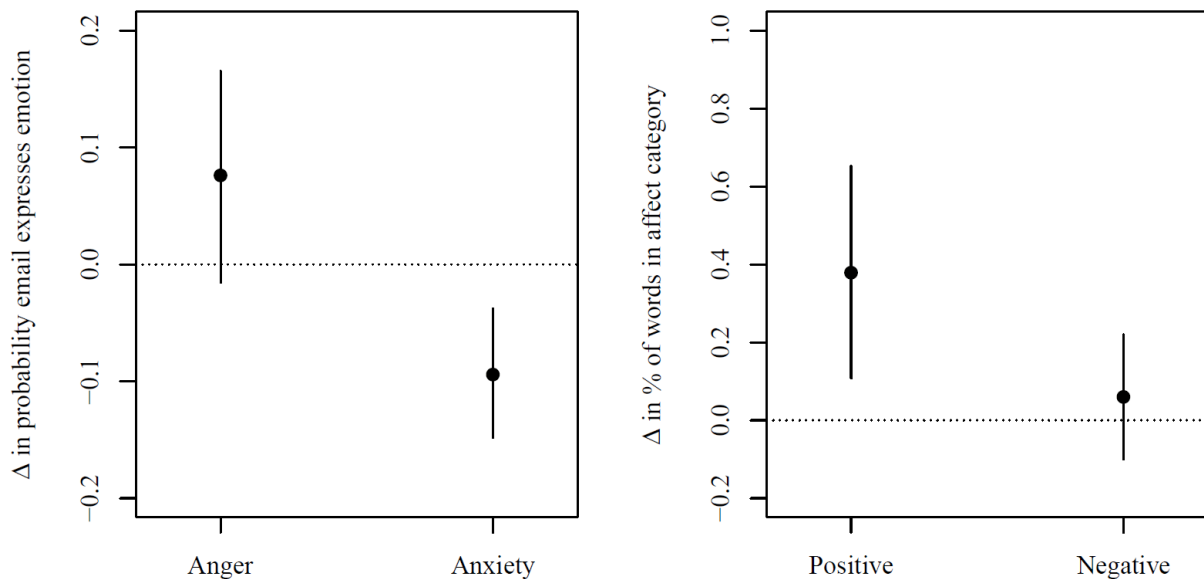
Each point in the figure represents the difference in the expected value of the dependent variable

⁸ Estimates were obtained by maximum likelihood with the marginal likelihood function for the fixed effects approximated using adaptive Gauss-Hermite quadrature with 8 quadrature points.

¹⁰ Confidence bounds were obtained by taking 10,000 draws from the sampling distribution of fixed and random effects for each model, calculating the quantity of interest for each draw, and then calculating percentile intervals for each model's set of estimates. For the non-linear models, changes in predicted probabilities were estimated using the so-called observed value approach, in which the quantity is estimated for each respondent given their characteristics on all non-focal variables and then averaging over these respondent-specific estimates (Hanmer and Ozan Kalkan 2013).

comparing incumbents to challengers. First, we find support for the hypothesis that anger and enthusiasm are more prevalent in communications from incumbents. The estimate for anger in the left panel shows that the probability of appealing to anger is 8 percentage points higher among incumbents than challengers (95% CI = [-0.02, 0.17]). The estimate for positive affect—here a proxy for enthusiasm—shows that the average percent of positive affect words is about four-tenths of 1 percent higher for incumbents than challengers (recall that the overall average is about 3.5%). Second, we find support for the hypothesis that appeals to anxiety are more prevalent among challengers, by about 9 percentage points (95% CI = [-0.15, -0.04]).¹¹ Thus, consistent with prior theory, at the margin, incumbents are more likely to appeal to emotions associated with reflexive participation, while challengers are more likely to appeal to anxiety, which promotes openness to alternatives, but not necessarily action.

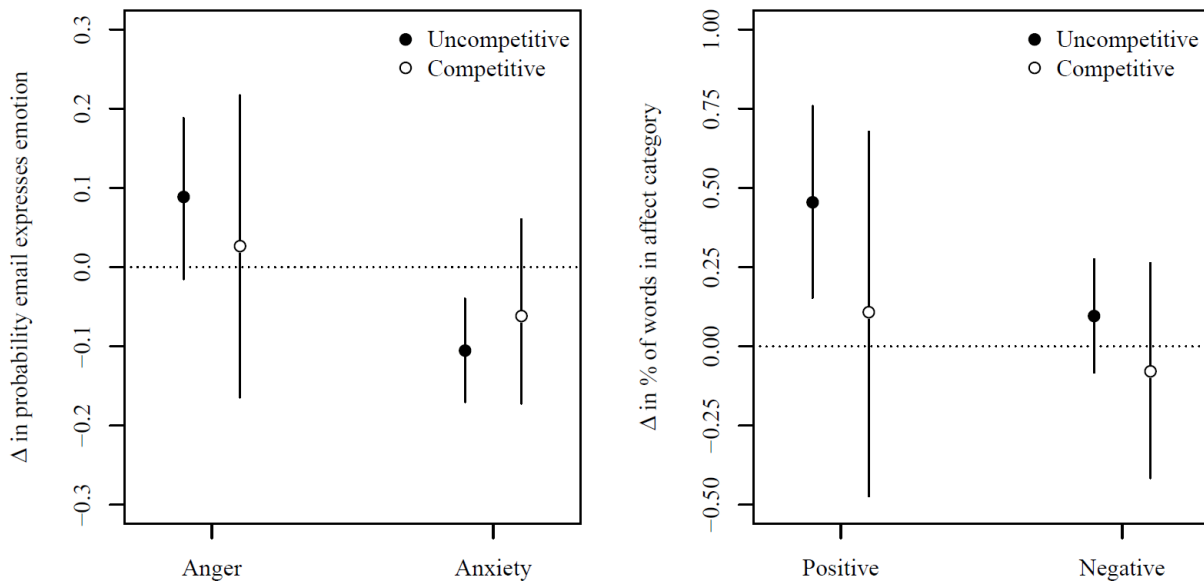
Figure 2



¹¹ The uncertainty in these estimates is larger than one might expect, given the sample size, because there is a very high intraclass correlation for each model.

We briefly consider the remaining predictors in our model. While we find no differences in affect or emotions between 2012 and 2018, the remaining predictors reinforce the importance of distinguishing emotions within the negative valence domain. First, Democrats were significantly more likely to use positive affect in their communications relative to Republicans but no less likely to use generic negative appeals or appeals to anger and anxiety. Given the sharp differences in context between 2012 and 2018, we also examined interactions between year and party. We find a strong interaction for anxiety such that Democrats were slightly less likely to use anxiety in 2012 (though insignificantly so) but substantially more likely to use anxiety in 2018. We find no significant differences in communication strategy comparing candidates in open seat races to challengers. Finally, consistent with past work, we find a substantial increase in negativity in competitive versus non-competitive races. Importantly, however, this increase is expressed in appeals to anger but not anxiety.

Finally, hypothesis 5 states that the gap between incumbents and challengers declines as a function of race competitiveness. To test this hypothesis, we estimated identical models to those above, but added interactions of the status dummies with the competitiveness indicator to each. The key estimates are shown in Figure 3 where the effect shown is the effect of changing the identity of a candidate from an incumbent to a challenger. As shown, we are unable to draw any conclusions about this hypothesis given our data, because our estimates for the relationship of incumbency to emotional appeals are too uncertain in competitive races. While the interactions are in the expected direction in each case (the differences between incumbents and challengers move closer to zero in competitive elections)—they cannot be reliably distinguished from the estimates for uncompetitive races.

Figure 3

In sum, we find support for hypothesis 4 and suggestive support for hypothesis 5. Overall, appeals to anger are more prevalent in Congressional candidate email communications to their supporters than appeals to anxiety. However, at the margin, incumbents rely more than challengers on appeals to anger and positive affect, while challengers rely more than incumbents on appeals to anxiety. This pattern is consistent with the strategic implications of the existing literature on emotions and political behavior, which suggests that anger has effects more akin to a positive than to anxiety. We thus clearly demonstrate the importance of distinguishing emotions within the negative valence category. Indeed, we find no differences in appeals to negative affect in general between incumbents and challengers. The reason, it seems, is that there are two offsetting differences contained in the overall estimate for negativity: a positive difference for anger and a negative difference for anxiety.

Study 2. The Effects of Emotional Appeals on Political Behavior

Our second study examines the effects of different types of emotional appeals on political behavior. To do so, we use a subset of emails from the 2018 database. Specifically, we chose a

subset of nineteen Congressional districts for which we had emails from both the Republican and Democratic candidate (listed in Table A2 in the online appendix). We then collected a sample of 1800 survey respondents from these nineteen districts from October 22nd through November 5th (the day before the election).¹² The sample was collected through Lucid Marketplace, which is an online exchange that connects researchers with survey respondents from (potentially) hundreds of panel providers (Coppock and McClellan 2019).¹³

We put in place quotas for age, sex, Hispanic or Latino identification, and racial identification based on the 2010 Decennial Census for people aged 18 and over, but these were difficult to achieve given the need to sample from only nineteen Congressional districts. The demographic and political characteristics of the respondents in our final sample, along with the distribution of survey dates, are shown in the supplemental appendix (Appendix B).

Respondents first completed a set of demographic and politics questions, including age, gender, race and ethnicity, educational attainment, employment status, union membership, household income, religious identification and religiosity, pocketbook retrospections, political interest, political knowledge, partisanship, partisan identity strength (Huddy, Mason, and Aarøe 2015), and ideology. They also completed a block of issue position questions and a block of issue importance questions. Following the initial survey, respondents were randomly assigned to either

¹² The bulk of data collection began on October 24th. Our soft roll-out on October 22nd included a mistake in the assignment of stimuli to Congressional districts in the state of Pennsylvania which was corrected for the subsequent roll-out on the 24th. The respondents from the 22nd in these two PA districts are excluded from all analyses but we retain the remaining respondents from this day who are unaffected by the error.

¹³ Respondents were identified by zip code. We allowed respondents to enter the survey if they reported living in a zip code with boundaries fully within a targeted Congressional district. Most respondents were paid \$0.75 to complete the survey, which took an average of XX minutes to finish. This time includes an experiment unrelated to the current study which was placed after all materials associated with our study. A small number of respondents were paid \$0.50 during a soft roll-out, but this was quickly increased to \$0.75 to increase the rate of survey entrants. 2,227 individuals entered the survey and 1,723 completed the survey. Most who entered, but failed to complete, were terminated for either failing a “bot check” question at the very beginning of the survey or failing to correctly identify Donald Trump as the current President of the United States in a multiple-choice question. The remainder voluntarily failed to finish the survey. The full survey is available in the reproduction materials for the paper.

treatment or control groups with the probability of assignment to control set at 0.20. Those assigned to the treatment group were then randomly assigned to read one email sent by the candidate of their party in their Congressional district of residence. An example of a campaign email is available in the supplemental appendix (Appendix C). Independent “leaners” were treated as members of the party to which they lean, and “pure” independents were randomly assigned to receive Democratic or Republican treatment materials. For analysis purposes, however, we drop pure independents altogether.

After being exposed to the email, respondents completed a post-experiment survey. The first module of the survey contains a set of behavioral measures of participation and information seeking. Specifically, respondents were asked whether they would be interested in learning more about the in-party candidate’s (IPC) and/or the out-party candidate’s (OPC) issue positions and/or personal background and qualifications. They were also asked whether they would be interested in signing up for the IPC’s email list, volunteering for the IPC’s campaign, and/or donating to their campaign. If the respondent answered “Yes” to any of these possibilities, they were provided real links to the relevant candidate’s website and we recorded any “clicks” on these links. We create two binary measures of information seeking and participation from these recorded clicks: (1) whether a respondent clicked to “learn more” information (of any kind) and (2) whether they clicked to sign up for the email list, donate to, or volunteer for the campaign.

Following the behavioral measures, we assessed respondents’ evaluations of each of the two major-party candidates in their home district using a branching format to create seven-point scales ranging from “strongly like” to “strongly dislike.” We created a single measure of “relative in-party feelings” by subtracting the latter from the former. We also asked about intention to turnout to vote on a five-point scale ranging from “definitely not” to “definitely yes.”

We then asked about intended vote choice in the House election and this item included response options for the Democratic and Republican candidates (with both names and party labels provided), “someone else,” and “don’t know.” We coded this variable so that “1” means the respondent intends to vote for the in-party candidate and “0” contains all other possibilities.

Respondents then completed a set of five-point scales assessing their likelihood of participating in several activities broken into two sets. The first measured self-reported intention to seek information and included talking about the elections with someone else, finding information about the candidates, and following the elections closely. The second set measured self-reported intention to participate in various ways and included trying to convince someone to turn out to vote, trying to persuade someone to vote in a certain way, displaying campaign materials on one’s person or possessions, and attending a campaign speech or rally. For each respondent, we calculated the average value of each set for all available responses as measures of intended information seeking and campaign participation, respectively.

Finally, respondents completed two 101-point feeling thermometers for the Republican and Democratic Parties. We calculated a measure of respondent-level “affective polarization” by taking the absolute value of the difference in these two scores (Iyengar et al. 2019; Iyengar, Sood, and Lelkes 2012).

Analysis and Results

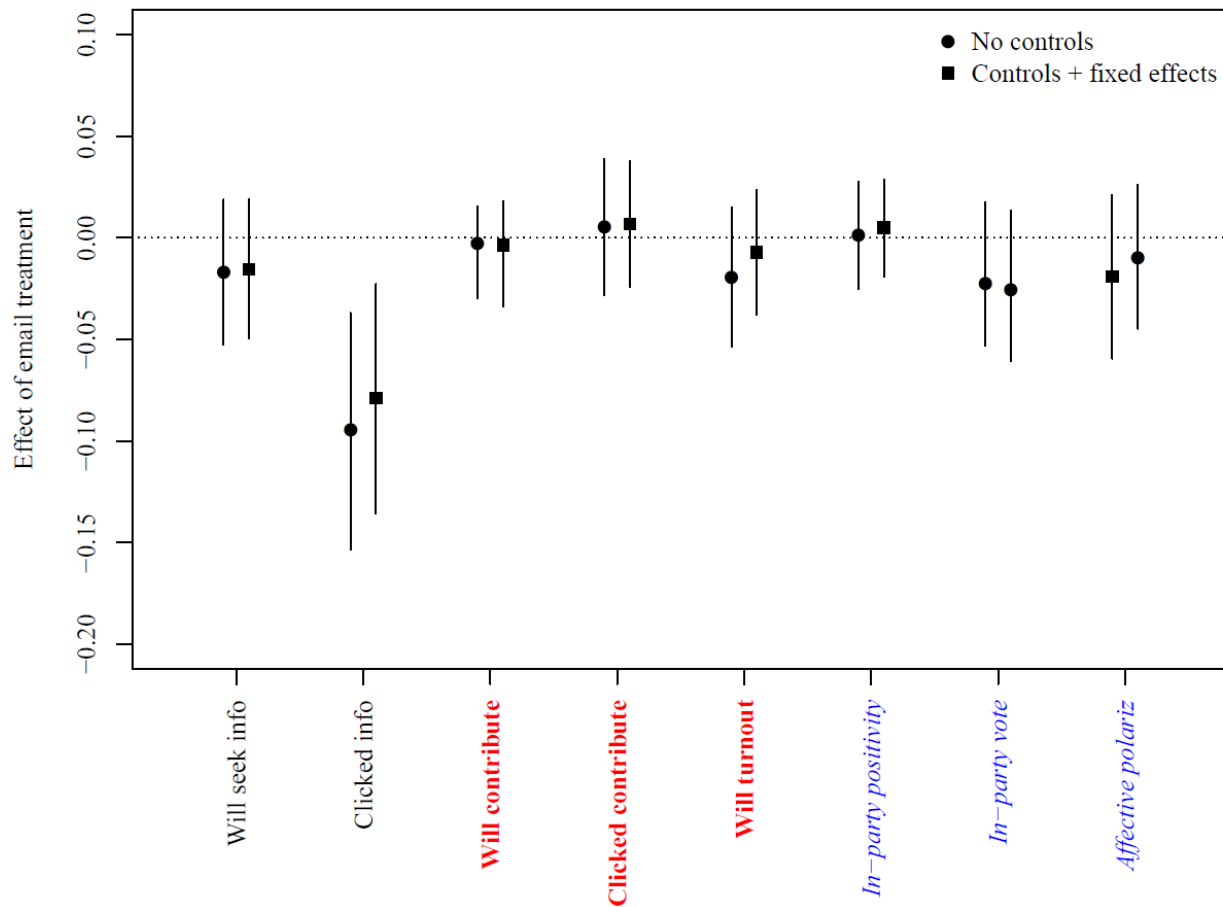
We begin with a simple examination of the effects of receiving an email treatment (of any kind) relative to receiving no email (the control). We recode all dependent variables to a zero to one scale and estimate two sets of models. In the first set, we regress each dependent variable on a binary indicator coded “1” for the treatment condition and “zero” for the control condition. In the second, we again regress all dependent variables on the treatment indicator but add a set of

individual-level predictors we expect to be associated with information-seeking and participation, as well as fixed effects for candidate-year.¹⁴ As seen in Figure 4, The choice between these two modeling approaches is practically irrelevant. With one exception, the estimated treatment effects are small and insignificantly different from zero. The exception is the tendency to click at least one link for additional information on either candidate, where we find the email treatment reduced the tendency to seek out additional information. Specifically, receiving an email treatment reduced the probability of clicking for more information by about 7 to 10 percentage points—a sizeable effect. Given that candidates are unlikely to benefit from intensive deliberation among their base (less thought, more action), this effect may be consistent with the goals of the campaign so long as it does not reduce campaign activities and turnout. Given that we find no other effects of the treatment, however, this result should be treated cautiously.

We turn now to tests of our focal hypotheses concerning the relationship between emotional appeals and political behavior. We first explain our modeling approach. By randomly assigning respondents to emails, we remove the possibility of biases due to respondent selection effects at the level of emails—for example, that people who are more likely to participate tend to choose angry over anxious political content as a general matter and campaigns target message content at voters based on their past political participation (Hassell and Monson 2014).

¹⁴ We estimated logistic regressions via maximum likelihood for binary dependent variables and ordinary least squares regressions for all non-binary dependent variables.

Figure 4



Importantly, however, random assignment does *not* remove biases due to associations between content and candidate characteristics. For example, as demonstrated in the previous section, incumbents are more likely to write angry emails. If people who identify with the incumbent's party (in her district) are also more likely to turn out to vote than out-partisans, this would induce a (spurious) correlation between message content and political behavior. To help alleviate this second source of bias, we include fixed effects for candidate-year in all models. This controls for average differences across candidates and thus focuses solely on differences in

political behavior across emails relative to the mean value of each dependent variable for each candidate in each year.¹⁵

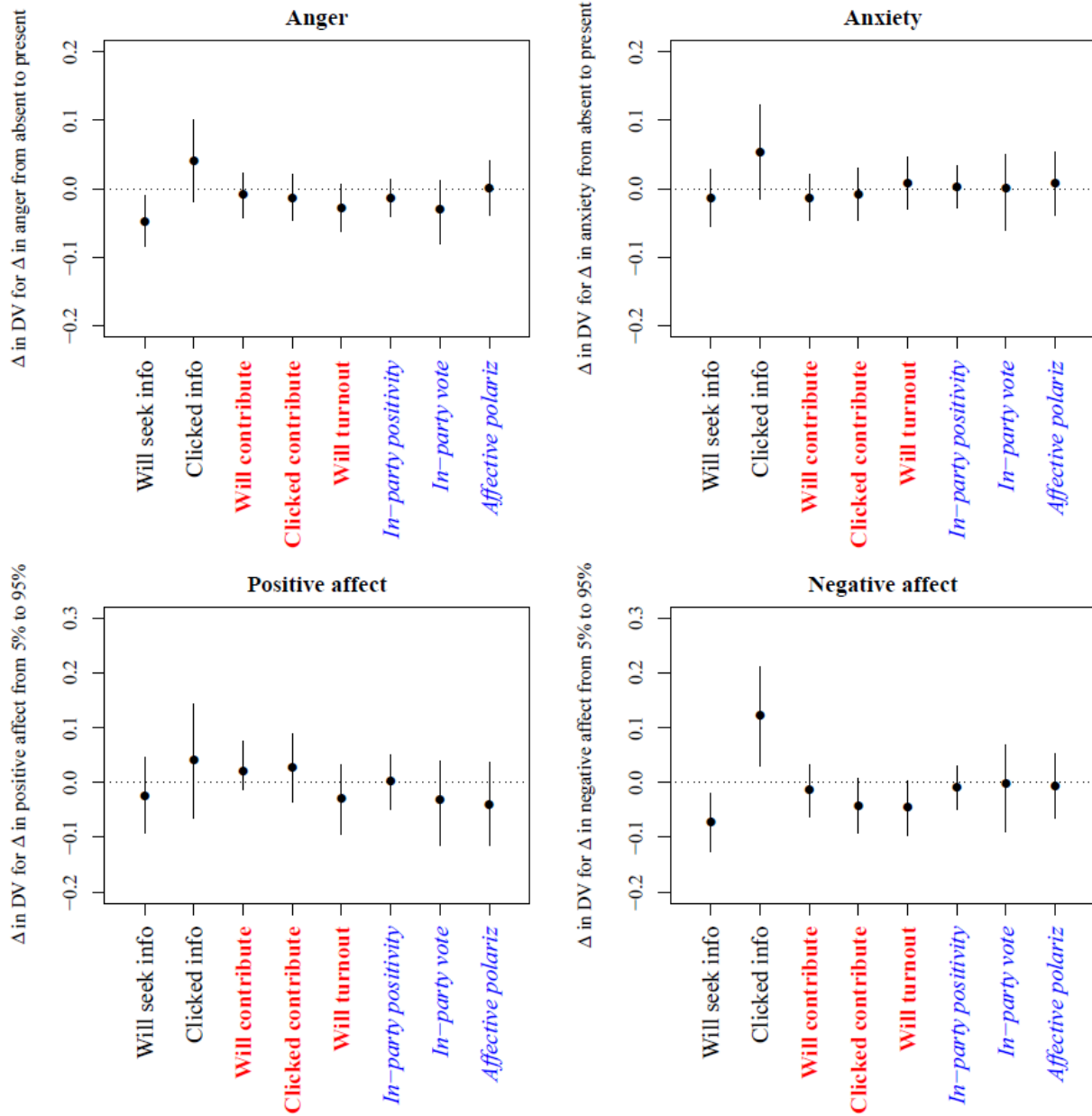
Specifically, we estimated a set of models in which we regressed each dependent variable on our set of emotional content variables (binary indicators for anger and anxiety and percentage values for positive and negative affect), a set of individual-level controls, and a set of dummy variables for candidate-year (with one excluded as baseline). We estimated logistic regressions via maximum likelihood for binary dependent variables and ordinary least squares regressions for non-binary dependent variables.

The key estimates are shown in Figure 5. We find little to no support for previous hypotheses. Very few coefficients attain traditional levels of statistical significance and most hover around zero. The relationship between angry appeals and stated intention for information-seeking is negative and significant, as expected, but this is not replicated with the behavioral measure (actually clicking to learn more information about the candidates) and indeed it is in the “wrong” direction. Moreover, the coefficients for all participation-related dependent variables are negative, which is counter to expectations. Similarly, the coefficient for clicking on information is positive for anxiety, but it does not attain significance and is not replicated with the self-report measure. All other coefficients for anxiety are effectively zero. We similarly find no reliable relationship of generic positive affect to behavior. The coefficients for generic negative affect are a bit more interesting but offer no consistent conclusion: all three subjective measures of information-seeking and participation are negatively associated with the presence of negative affect—which is consistent with classic theorizing in this literature (Ansolabehere and Iyengar

¹⁵ In this sense, we are estimating the “within” effect of email content.

1995)—but the coefficient for clicking for more information is *positive* and significant. All other coefficients for negative affect are effectively zero.

Figure 5



In sum, we find little support for extant hypotheses linking discrete emotional content to distinct patterns of political behavior. Indeed, we find little evidence for *any* effect of emotional content on behavior. While there is some evidence that generic negative affect depresses intention to participate and seek more information about the candidates, negative content also increases the probability of actually taking genuine action to gather more information.

General Discussion

This paper explores the nature and impact of emotional appeals in Congressional candidate direct communications with supporters. We have two goals. First, to expand the investigation of Congressional campaign strategy to include variation in emotional content *within* positive and negative valence domains. A great deal of work focuses on the extent and etiology of “negative” campaigning, and recent research also explores the substantive content of negative communications (e.g., personal versus issue-based; Druckman et al. 2009; Hassell and Oeltjenbruns 2016), but little to no research has examined how negative communications vary in terms of their *emotional* content.

Second, we aim to test prominent theories of the relationship between emotions and political behavior with a design that balances concerns with both causal identification and external validity. Past work has typically relied on either self-reports of emotional experience or experimental designs with contrived materials. Our experimental design examines the effects of emotional content during the height of the 2018 U.S. House elections using treatment materials taken directly from the campaign of each respondent’s in-party candidate. We remove respondent-level selection effects into content through random assignment to emails, and control for candidate-level heterogeneity through a fixed effects specification. While no research design is perfect, we believe ours achieves a particularly high level of external and internal validity

relative to past work. If nothing else, this work expands the range of contexts within which emotional campaigning is investigated and thus contributes to a more encompassing literature. Indeed, despite growing interest in emotions in politics, there are relatively few tests of existing theory in the context of campaign effects.

Our results are mixed. First, we find evidence for our hypotheses regarding campaign strategy and emotional content. Email communications to partisan supporters are, on average, more likely to use appeals to anger than to anxiety. This is consistent with existing theory and research that suggests anger is a particularly effective way to get supporters to “stop thinking” and just get out and support the campaign (e.g., Groenendyk and Banks 2014). Anxiety, by contrast, promotes deliberation but not necessarily participation, and thus is less likely to be an effective strategy for turning out the base. We also find evidence for a more subtle prediction: at the margin, incumbents are more likely to appeal to anger than challengers, while challengers are more likely to appeal to anxiety. Past work argues (Druckman et al. 2009) that challengers in general are more willing to accept risky campaign strategies, such as negative advertisements and rhetoric, because it is often the case that only a high variance strategy has the potential to overcome the incumbency advantage (McDermott, Fowler, and Smirnov 2008). However, we demonstrate the value of further distinguishing the emotional content of negative messages. While challengers are indeed more likely to use appeals to anxiety, *incumbents* are more likely to use appeals to *anger*. This pattern is consistent with existing theory which argues that anger is more similar in its effects to positive emotions like enthusiasm than other negative emotions like anxiety (e.g., MacKuen et al. 2010). Indeed, we also find that incumbents use positive affective appeals more often than challengers. Given that our study examines only one campaign context

(emails to supporters in House elections), future work should expand our investigation to include other types of campaign messages and other electoral settings.

Second, we find no support for expectations that emotional content shapes political behavior. Using both self-reports (e.g., Marcus et al. 2000) and experimental designs (e.g., Brader 2006), past work finds that anxiety increases information-seeking and deliberation while enthusiasm (i.e., positive affective appeals) reduces deliberation and increases participation. More recent work has found effects for anger similar to those for enthusiasm, again using both self-reports (MacKuen et al. 2010) and experimental designs outside of the context of a real campaign (Groenendyk and Banks 2014). Across a wide range of dependent variables, including behavioral and self-report measures of information-seeking and participation, and three measures of openness to alternative candidates (in-party evaluations, voting, and affective polarization), we find no consistent evidence that the emotional content of campaign emails shapes political behavior. These results—when combined with our examination of the emotional content of campaign appeals in Study 1—suggest a counter-intuitive conclusion: candidates communicate in ways that are consistent with the incentives implied by theories of emotions and mass political behavior, but the actual impact of emotional appeals is minimal, which suggests these incentives are illusory. This is similar to the conclusion of recent research which suggests that campaign contact and advertising—despite extensive use in contemporary politics—has little effect on political attitudes and behavior (Kalla and Broockman 2018). We consider several alternative interpretations.

First, one might argue that one should be interested in the cumulative effect of campaign communication rather than the effect of only a single appeal. In this view, the effects in our study are small, but they would accumulate and be both substantively and statistically significant over

the course of the campaign. There are two problems with this argument. First, past research has found effects of emotions on behavior for one-shot exposure to campaign advertisements (Brader 2006). More importantly, perhaps, cumulating our effects over multiple exposure would not necessarily support existing theory. Looking at the results for anger, six of eight coefficients are in the “wrong” direction relative to expectations, and the estimates for anxiety and positive affect are mixed with respect to directional hypotheses. In the latter two cases, the coefficients vary seemingly randomly about zero with confidence bounds that include both positive and negative values. For these latter two cases, given the confidence bounds on the estimates, any theory-consistent effect that does exist—for which we have insufficient power to detect—is likely to be quite small even when cumulated across multiple exposures.¹⁶

A related possibility is that these emails have little effect late in the campaign. Since these emails are representative of candidates’ broader campaign strategies (Hassell and Oeltjenbruns 2016), it may be the case the typical respondent in our study has been “treated” sufficiently prior to the experiment and there are decreasing marginal returns to campaign exposure. In this view, emails sent earlier in the campaign may be more effective. This is possible but we are unable to test this possibility given our design. A recent meta-analysis on campaign contact in general supports this idea but also finds that the effects decay rather rapidly (Kalla and Broockman 2018). And even if true, our study has implications for the effects of appeals in the four weeks leading up to Election Day, which is a time of intense campaign activity.

Another critique is that our results can only speak to text-based communications—and perhaps only to emails—and this is an especially difficult medium for evoking emotional responses. In this view, emotional appeals are effective when used in media that contain

¹⁶ This is especially true if there are decreasing marginal returns to exposure.

audiovisual components (e.g., Albertson and Gadarian 2015; Brader 2006). While possible, previous work in political psychology has successfully utilized text-based manipulations of discrete emotions in other contexts, such as newspaper articles about public policy (Albertson and Gadarian 2015; MacKuen et al. 2010). Further, even if this claim is true, our research contributes to the existing literature by exploring the scope conditions for the effects of emotional appeals in campaigns. Given the importance of text-based communication, it is important to know if emotional appeals are less successful in such media relative to others.

Another possibility is that our research context—despite using real emails from actual campaigns—is too contrived. That is, being forced to read an email during a paid survey is too different from contexts of interest (e.g., choosing to read an email during daily activities) and our estimates are thus difficult to generalize. This is possible and we hope future research will expand on our work with designs that overcome some of these limitations (e.g., intent to treat designs with the ability to choose; Arceneaux, Johnson, and Cryderman 2013). It is important to note, however, that these issues are not unique to our study, and are present in all existing experimental work on this topic to date. And while our study shares with past work any inferential biases associated with forced exposure, we have attempted to improve the external validity of the study by utilizing stimulus materials drawn from real campaigns in the respondents' own districts during the heart of an actual campaign and using actual behavioral actions. Thus, while limited in important ways, our study improves upon past experimental work (in this regard) at the margin.

Finally, some researchers have argued that subjective self-reports of emotional experience are essential to testing predictions emerging from AIT and related theories (MacKuen et al. 2010). The logic here is that emotions vary in terms of their antecedents across individuals. Put

another way, what evokes anger for one person may evoke anxiety for another. This is, of course, true, but the argument is problematic in the context of studying political campaigns. Even if there is individual-level heterogeneity in what stimuli evoke these emotions, there is also a great deal of shared emotional experience within a given culture—the types of things that evoke anxiety for one person will, on average, evoke anxiety for a different, randomly-selected person from the same population. When we aggregate over random variation about this tendency, we should find an average treatment effect. This is no different from the situation faced by any study of content-based persuasion such as priming or framing of concepts. Moreover, if one argues that the heterogeneity is so large that we cannot identify stimuli that will reliably elicit average increases in a targeted emotion, this makes the study of emotional appeals in campaigns uninteresting. That is, if researchers cannot—in principle or only with great difficulty—identify content that produces shared emotional experiences, then neither can political campaigns. In this world, candidates have no strategic incentive to appeal to emotions because they have no ability to predict average treatment effects. Thus, we are led to a very similar conclusion regarding the effects of emotional appeals in campaign communications.

Overall, we think that work on emotions in campaigns remains in its infancy. There have been several creative and important studies on this topic, but the literature remains sparse, especially with respect to designs that are strong in terms of both causal inference and external validity. In the present paper, we have tried to surmount the difficulties associated with this tradeoff and our results are intriguing: campaigns act as-if existing theories of emotions and behavior are correct, but citizens do not. More work is needed to see if this conclusion can be sustained or if it is idiosyncratic to the present research design.

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Appendix A. Congressional Campaigns Used in Study 1 and Study 2

Table A1: List of Randomly Selected Congressional Districts used in Study 1

AL-5	FL-4	IN-8	NV-4	PA-10
AZ-4	FL-6	KS-4	NH-2	PA-11
AR-1	FL-9	KY-2	NJ-8	PA-13
CA-3	FL-11	KY-4	NY-4	PA-17
CA-8	FL-19	LA-5	NY-11	TN-2
CA-11	FL-21	LA-6	NY-20	TX-8
CA-12	FL-23	ME-1	NC-6	TX-19
CA-14	FL-25	ME-2	NC-7	TX-22
CA-18	GA-4	MA-1	NC-8	TX-23
CA-21	GA-7	MA-5	NC-12	TX-24
CA-24	GA-10	MA-9	OH-4	TX-29
CA-25	GA-13	MI-2	OH-5	TX-35
CA-28	GA-14	MI-3	OH-8	UT-1
CA-29	HI-2	MI-4	OH-9	UT-2
CA-33	IL-1	MN-5	OH-12	VA-10
CA-34	IL-4	MN-6	OH-15	WA-7
CA-35	IL-17	MO-2	OK-2	WV-1
CA-37	IL-18	MO-5	OR-4	WV-2
CA-50	IN-2	NE-1	PA-1	WI-5
CA-53	IN-7	NE-3	PA-5	WI-7

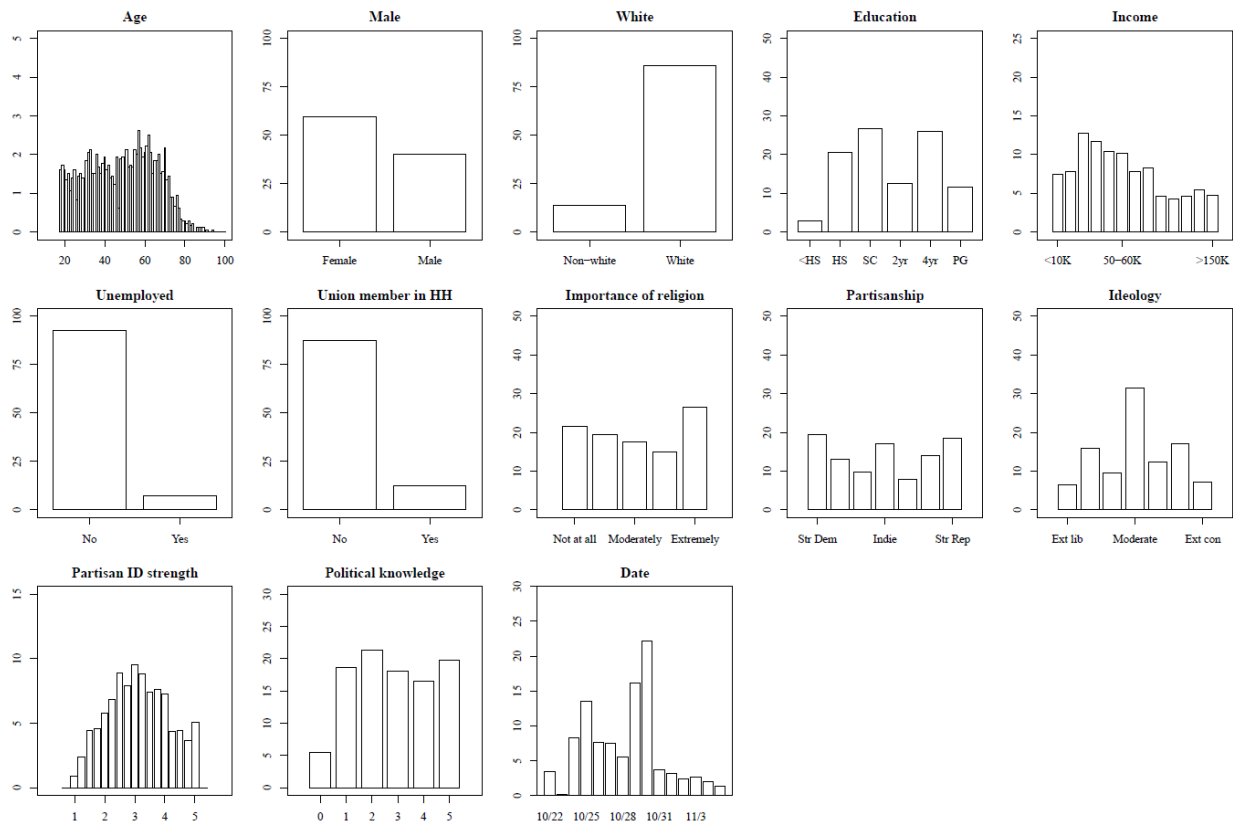
Table A2: List of Congressional Districts used in Study 2

CA-24	MO-2
CA-33	NV-4
CA-53	OH-15
IN-2	OH-8
KS-4	OK-2
MA-9	PA-1
ME-1	PA-5
MI-2	TX-19
MI-3	WV-2
N-6	

Appendix B. Information about the Lucid Sample

Lucid is a platform which links researchers with over 250 sample providers. Providers direct their panelists to Lucid's Marketplace and Lucid directs these panelists to available surveys for which they qualify. In the United States, there were approximately 17.5 million unique visitors to Marketplace during the sixth-month period preceding January 2019 (Lucid 2019). Lucid determines unique respondents within each survey through a combination of IP address, a unique Lucid identification number, and a unique panel identification number (Lucid, private correspondence). In a recent study, Coppock and McClellan (2019) find (with one exception) that samples drawn from Lucid replicate previously published experimental findings and show effect sizes comparable to both the original studies and samples drawn from MTurk. We put in place quotas for age, gender, race, and ethnicity based on adults in the 2016 American Community Survey. Given the geographic restrictions inherent to the study, however, we were unable to meet all quotas. We used two attention checks and terminated all respondents that failed either check. The first also served as a "bot-check" and asked respondents to click on all photographs that contained a stop sign. The second was a multiple-choice question asking the name of the current President of the United States. The characteristics of the final analytical sample are shown in Figure A1.

Figure B1. Characteristics of the Lucid Sample



Appendix C. Example Email Treatment

Since my first day in Congress, I've been honored to have the opportunity to visit farmers across the Second District, sit at their dining room tables, and tour their farms to learn how I can best represent agriculture in Congress.

After all, Indiana's farmers are major producers of our food, fuel, and fiber. We rely on the health of our farms to support the Hoosier economy -- and we cannot let federal regulation jeopardize that.

In recent years, I've had the opportunity to fight against excessive EPA regulations, protect crop insurance, and support important trade legislation that will open doors for economic growth in agriculture. And all that hard work hasn't gone unnoticed!

The Indiana Farm Bureau endorsed my campaign for re-election this year in recognition of my "support of policies that will foster a positive environment for agriculture and rural communities across the state."

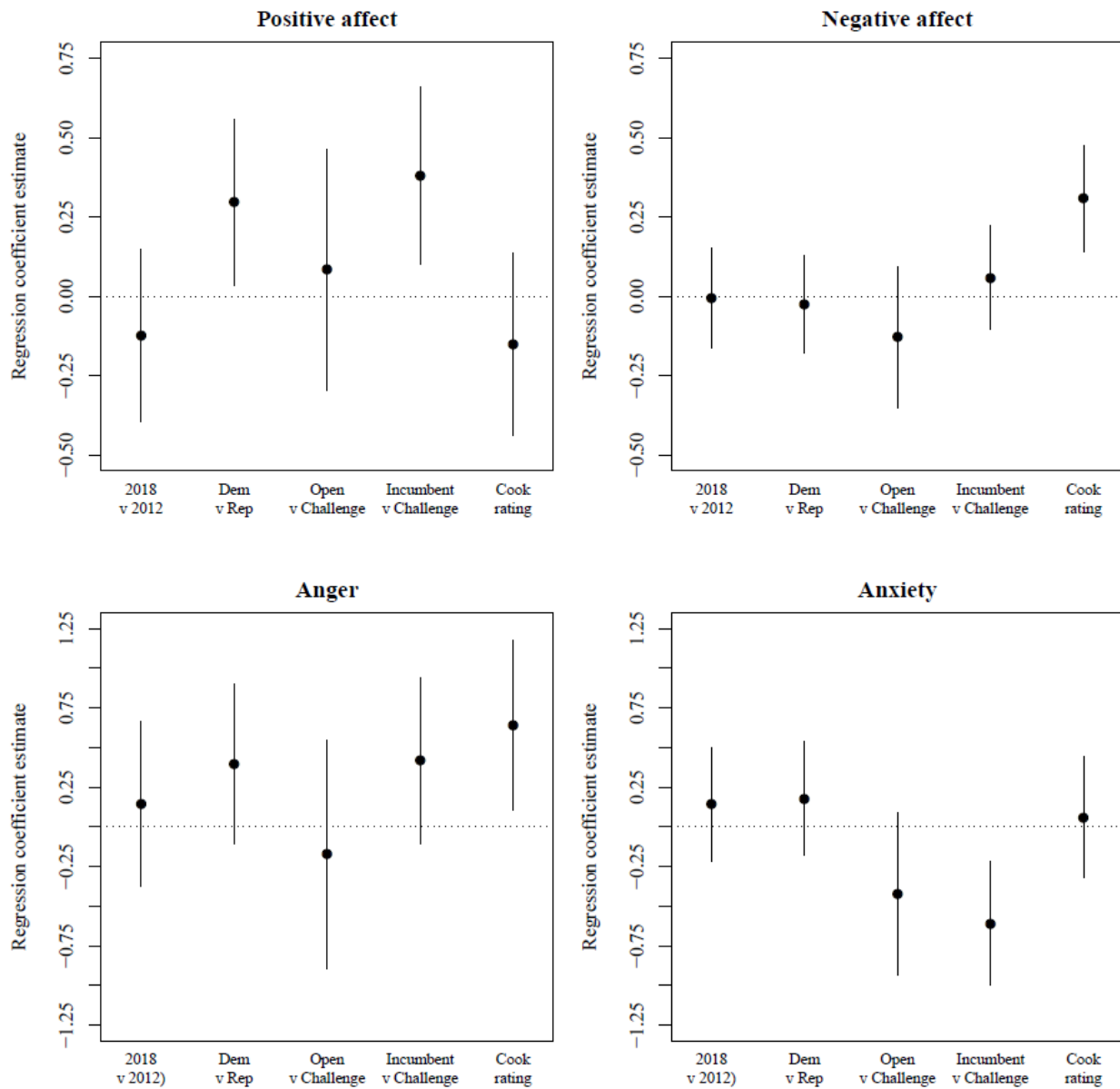
I'm grateful to the Indiana Farm Bureau ELECT PAC for their endorsement, and I hope to have the privilege of continuing the fight for Hoosier farmers.

I hope you'll chip in today to join Indiana's farmers in supporting my re-election.

Thanks,

Jackie

Appendix D. Regression Coefficients Predicting Emotional Content of Emails



Appendix E. Regression Coefficients Predicting Political Behavior

