Field Experiments Invoking Gloating Villains to Increase Voter Participation: Anger, Anticipated Emotions, and Voting Turnout*

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Abstract

In two field experiments conducted in Mississippi and Florida, we present novel evidence about how emotions can be harnessed to increase voter turnout. When we inform respondents that a partisan villain would be happy if they did not vote (e.g., a Gloating Villain treatment), we find that anger is activated in comparison to other emotions and turnout increases by 1.7 percentage points. In a subsequent field experiment, we benchmark this treatment to a standard GOTV message, the social pressure treatment. Using survey experiments that replicate our field experimental treatments, we show that our treatment links the act of voting to anticipated anger. In doing so, we contribute the first in-the-field evidence of how we can induce emotions, which are commonly understood to be fleeting states, to shape temporally distant political behaviors such as voting.

Key Words: voter turnout; emotions; anger; field experiments

Word Count: 9,996

1   Introduction

Emotions are a powerful force guiding human behavior and politics is an emotion-laden environment. In the contemporary United States, scholars have linked partisan animosity—relative disdain for a partisan outgroup—to rising political engagement, suggestive evidence of a causal relationship between negative feelings toward that outgroup and participation (Costa et al. 2022; Iyengar and Krupenkin 2018). Anger towards one's political opponents is hypothesized to drive participation (see, e.g., Valentino et al. 2011), an argument broadly consistent with prior work finding that anger is a motivating or "approach" emotion (Carver and Harmon-Jones 2009). A desire for partisan retribution, or schadenfreude, has also been used to explain the desire to support candidates who would adopt policies antithetical to that hated outgroup (Webster, Glynn and Motta 2024).

The key role of emotional appeals focused on the partisan "other" is commonplace in campaign communications. These messages often highlight the specter of a hated opponent, such as former Democratic presidential candidate Hillary Clinton for Republicans. Practitioners seem to believe that these so-called "partisan villains" are useful for encouraging participation, but is this accurate, and if so, why? Can campaign communications effectively channel our emotional responses to partisan outgroups to drive political participation?

Prior analyses of observational data reveal a positive correlation between reported anger and reported (e.g., Valentino, Gregorowicz and Groenendyk 2009) or measured (e.g., Phillips and Plutzer 2023) participation, while experimental studies that induce emotional reactions provide evidence linking contemporaneous emotional states to intended participation (e.g., Valentino et al. 2011). These effects appear targeted, in that it is political anger that is associated with participation, rather than anger more generally (Phillips and Plutzer 2023). But it is unclear from this prior work whether inducing feelings of anger can cause people to vote at increased rates. Prior observational studies cannot rule out the possibility that anger and voting are caused by another factor, such as perceived issue differences with an opposing party or political interest, that might both cause voting and anger. Experimental studies

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have shown a link between induced anger and intended voting, but not whether anger can be made to shape a targeted, future decision to *vote* days later rather than reported intentions minutes later. More generally, how can one harness political anger and productively target it to voting? When and how can our emotional reactions be used to guide our political choices and behaviors?

We argue that our existing negative feelings toward partisan outgroups makes them a fruitful reservoir of political anger that can be channeled to increase political participation. We hypothesize that thinking about a partisan villain being happy at one's own decision to stay home, that is, a gloating villain, will induce anger, and that voting is a means for productively resolving that anger. Importantly, interventions that invoke a gloating villain are likely to shape future choices because individuals treated with this message will anticipate feeling angry when they contemplate a future in which they have not voted. Thus, while emotions are volatile states, we harness existing reservoirs of anger and link these emotional states to voting by inducing anticipated anger, which comes from considering the joy that not voting brings to one's opponents. The treatment guides a choice that is distant from the stimuli through anticipated emotional states.

This discussion has so far focused on the role of a negative emotion, anger. But it is of course also possible that other emotions can be fruitfully harnessed to cause voting. Enthusiasm, for example, is associated with voting intentions (Brader 2005; Phillips and Plutzer 2023), and it could be that a third party's positive feelings about one having voted—their pride—might also be an effective way to use positive emotions to induce voting. While prior work argues negative emotions have larger behavioral effects than positive emotions because negative emotions induce action (see, e.g., Weber 2013), we are unaware of a direct test of the relative effects of inducing positive versus negative emotions or linking them to the choice to vote on actual turnout decisions.

To test our broad argument about how to harness emotions to shape voting, we worked with two non-partisan civic organizations on two novel randomized field experiments of non-

partisan mobilization messages in elections in Mississippi and Florida. These interventions, delivered by mail, were designed to evoke emotional responses. In the first experiment, we tested four messages which were constructed to test the efficacy of linking different targets (so-called partisan heroes and villains) to different emotions (negative and positive). We find that invoking a villain who experiences a positive emotion when the respondent does not vote—what we describe as a gloating villain—is particularly effective in increasing turnout. In the 2014 Election in Mississippi, the Gloating Villain treatment significantly increased turnout by 1.7%, while the other treatments we tested had smaller and insignificant effects. We replicated the effect of the Gloating Villain treatment in the second experiment, which took place in a set of Special Elections in Florida in 2019, and benchmarked it to both an untreated control group and the group's typical message, a social comparison GOTV appeal. We found that the Gloating Villain treatment increased turnout by 1.3%, making it just as effective as the social comparison mailing in this context.

In two subsequent survey experiments, we explore the emotional mechanisms underlying this treatment efficacy. We show that compared to treatments in which the villain experiences a negative emotion because the respondent voted—a Foiled Villain—or analogous treatments that instead describe the emotional reaction of someone the respondent respects—a Disappointed or Happy Hero—the Gloating Villain treatment is most effective at causing respondent both to feel angry in general and to anticipate feeling less angry if they did vote rather than if they did not. That is, invoking the gloating villain both made people angry on average and thwarting this villain by voting was most effective in reducing feelings of anger. Therefore, one previously underexplored mechanism through which emotions may affect political participation is that the act of voting itself can regulate our anticipated emotions. Other treatments distinct from the Gloating Villain treatment are more effective in inducing different emotional states, such as anxiety and happiness. The Happy Hero mailing, for example, generated happiness and respondents thought that voting would cause a greater increase in their happiness. That the Gloating Villain treatment is

demonstrated to be more effective at causing turnout than the Happy Hero suggests that relative effectiveness of anger as a motivating emotion for voting.

The broader implication of our work is that we show how a treatment designed to induce an emotion today may lead to changes in future behavior. Our treatments link anticipated anger or happiness to the act of turning out. Although emotions are fleeting states, it appears possible to harness current emotions toward an outgroup to cause a future action through this linkage. Notably, the interventions we test are subtle and modest—unlike a great deal of contemporary campaign communication that conjures up fears of democratic collapse or trauma from extreme policies, we do not address substantive issues as a way of inducing strong emotional reactions. Instead, our treatments harness existing feelings and link them to the choice to participate. Nonetheless, we still show that this modest treatment causes individuals to anticipate feeling angry if they do not vote and that voting causes the largest decline in anticipated anger. These anticipated emotions (which are distinct from anticipatory emotions, as we detail below) "can be considered a cognitive construction of a future state based on expectancies" (Feil et al. 2022, 2), that is a decision model or heuristic that shapes future choices based on how one expects one will feel emotionally based on the choices one makes or how one thinks about the choice itself. Understanding political stimuli as affecting anticipated emotional states helps reveal how and when those *contemporaneous* feelings can shape our *future* political choices. More generally, this work provides further evidence about how to resolve the apparent paradox of voting by focusing on the psychological factors that explain voting (Wang 2013), while also showing how investing in the act of participation with an emotional content can produce meaningful increases in turnout.

2 Induced Anger, Gloating Villains, and Political Action

2.1 Anger as a motivating emotion

Emotions are broadly thought to shape political behavior, in part because negative (rather than positive) emotions induce information search and disrupt standing behavioral patterns according to Affective Intelligence Theory (AIT) (Marcus and MacKuen 1993). Different negative emotions, however, appear to cause distinct behavioral responses. For example, anxiety, which is commonly agreed to increase low-cost activities like information seeking, may be demobilizing when it is associated with responses to threats one cannot address or more costly actions (see, e.g., Valentino, Gregorowicz and Groenendyk 2009). By contrast, anger is induced by frustration of a desired goal and can "propel someone toward action" in response to that impediment (Huddy, Feldman and Cassese 2008, 206). Importantly, anticipated emotions may also shape future behaviors, as research outside of the political context shows that individuals regularly form expectations about future emotional states and act in anticipation of those future feelings (Baumgartner, Pieters and Bagozzi 2008).[1]

A key question is therefore whether political stimuli can induce anger and whether such anger can shape future political behavior. Extant work studying how emotions shape political action has taken two broad and often overlapping research approaches, summarized in Table 1. We focus in this summary on work that examines the role of anger because it is theorized to encourage action.[2] We note that some work reports multiple studies and therefore is listed

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[1]It is important to distinguish anticipated emotions and anticipatory emotions. Anticipatory emotions are how thinking about a future event causes one to feel in the *current moment.* By contrast, anticipated emotions are how thinking about how a future event will cause one to feel in the *future moment* (Feil et al. 2022). While a treatment can induce both anticipatory and anticipated emotions at the same time, we argue that anticipated emotions are likely most effective in influencing one's actions in the future because contemporaneous emotional states are generally short-lived.

[2]Anger is not the only emotional state that has been linked to participation. However, most comparative work examining the relative effects of emotions on participation finds that negative emotions (such as fear or anger), in contrast to positive emotions (such as pride or enthusiasm), are more strongly associated with political participation (Valentino et al. 2011; Weber 2013). Even so, negative emotions may have inconsistent effects on participation. In a notable study where the emotion-inducing treatments are different

Table 1: Selection of Observational and Experimental Work on Anger and Politics

A. Observational Work			B. Experimental Work		
Authors	Outcome	Treatment	Authors	Outcome	Treatment
Huddy, Feldman and Cassese (2008)	Political news consumption, support for Iraq War	Emotional responses about battery of questions about Iraq War	Aytaç and Stokes (2018), Chapter 6	Vote intention in 2016 election	News story cuing guilt and anger
Magni (2017)	Political participation, populism support	Panel study of anger to 2008 financial crisis	Banks (2014)	Race-specific political preferences	Emotional recall from facial cue
Phillips and Plutzer (2023)	Validated turnout	Emotional response to something in politics or the news	Ryan (2012)	Information seeking (field experiment)	Political advertisements
Valentino, Gregorowicz and Groenendyk (2009)	Political participation	How the candidate made the respondent feel	Valentino et al. (2011), Study 1	Political participation	Emotion recall task about the campaign
Valentino et al. (2011), Studies 2, 3	Political participation	Emotional responses about the state of the nation (Study 2), how the candidate made the respondent feel (Study 3)	Valentino et al. (2008)	Political information seeking	Emotion recall task about the campaign (Study 1), threatening news article (Study 2)
Vasilopoulos et al. (2019)	Far right support	Emotional response to November 13th terrorist attacks	Weber (2013)	Political participation	Campaign advertisements on crime
Webster (2020), Chapter 3	Trust in government	Trait-based anger measured using Angry Hostility NEO-PI-R	Webster (2020), Chapter 4	Trust in government	Emotional recall about politics, emotional recall about general anger
			Webster (2020), Chapter 5	Democratic norms and values	Emotional recall about politics, emotional recall about general anger
			Webster, Connors and Sinclair (2022)	Partisan polarization	Emotional recall task about the opposite party

Note: Each entry of the table reports the author (and specific study if relevant), the measured outcome variable, and the measurement of anger (or how it was induced for experimental work). The left side of the table (Panel A) lists observational work relating to anger and politics, while the right side of the table (Panel B) lists experimental work.

in multiple panels of the Table.

One set of work, summarized in Panel A of Table 1, assesses the observed relationship between naturalistic variation in measured anger and reported or observed political action. For example, Huddy, Feldman and Cassese (2008) examined the correlation between reported anger (and anxiety) and attention to media coverage of the Iraq War, finding that measured anxiety and anger are both associated with self-reported consumption of media coverage of the war. Studies 2 and 3 in Valentino et al. (2011) examine the correlation between

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versions of campaign advertisements, Brader (2005) examines how positive advertisements that vary in their enthusiasm cues or negative advertisements that vary in their fear cues affect a variety of outcomes measured in a contemporaneous survey. This work finds that enthusiasm cues increase interest and intention to vote, while effects of fear cues are small and inconsistent. Similarly, Aytaç and Stokes (2018) note that unemployed Americans induced to feel guilt are not more likely to vote, but unemployed Americans who are made to feel angry report the opposite. The ambiguous effects of fear may arise because fear can induce both anxiety and anger, with potentially offsetting behavioral effects (Ryan 2012).

reported campaign participation and self-assessed anger, fear, and enthusiasm. In Study 2, which focuses on the 2008 presidential election, they find that only anger is positively associated with campaign participation, while in a pooled 1980-2004 analysis (Study 3) they find anger and fear both have the same positive effects on participation, other than voting.[3] In analysis of longitudinal survey data, Valentino, Gregorowicz and Groenendyk (2009) examine variation in anger across individuals, showing that those with higher internal efficacy are more likely to express anger and that this anger is associated with greater participation, reinforcing the sense of efficacy. An important recent study is Phillips and Plutzer (2023), which in a panel setting finds that both reported political anger and political fear are associated with validated turnout, but that these effects are not present when general anger and fear are measured.[4] This last study implies that the role of emotional state is domain specific, in that the action is oriented toward the source of the emotion.

All of the literature discussed so far does not examine the question of whether considering a future emotional state affects subsequent political participation. Additionally, as with all observational studies, this work is subject to concerns about omitted variables bias and endogeneity, in that it cannot fully isolate the role of emotional states on political action from the possibility that there are confounding factors that explain both emotional states and behavior (see Ladd and Lenz (2008, 2011)). For example, choosing to vote and being angry or anxious may both be caused by some third factor, like perceiving an opposing party's platform is at odds with one's policy preferences. It is therefore difficult to isolate the role of emotions per se from potential confounders.

Complementing this rich observational literature, a second set of work experimentally manipulates political anger and considers the effect on reported or observed behaviors (see Panel B of Table 1). Most of this earlier work focuses on information seeking, rather than

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[3]However, when they disaggregate "cheap" (i.e., low cost activities like talking to other people) and costly participation (i.e., high cost activities like donating money or volunteering for a candidate), they find that while both anger and anxiety increase cheap participation, only anger mobilizes costly participation.

[4]However, we note that Webster (2020) find that inducing apolitical anger, rather than political anger, has a much stronger effect on eroding trust in institutions.

political participation or candidate choice (for a helpful summary of past studies, see Groenendyk (2011)). Writing about information seeking, Valentino et al. (2008) reports the results of two such studies. In one study, subjects are asked to reflect on how the 2004 campaign made them angry, anxious, or enthusiastic. They find that respondents asked to consider how the race made them anxious report higher levels of interest in the campaign and information than those in the anger condition. In a second study, the threat to Democrats is manipulated by exposure to a story describing either a likely Kerry victory or defeat. Using a causal mediation analysis, they find that that the threat of a Kerry defeat causes increases in both anger and anxiety, but that only changes in the latter is associated with greater information search. By contrast, Ryan (2012) is one of the only studies to use results from a *field experimental* design, in which the outcome is clicking on online Facebook advertisements. He finds that compared to advertisements designed to invoke fear or a neutral condition, those that invoke Democrats' anger at Republicans are associated with more users clicking to "Get the facts you need..."

Turning to political participation, most relevant for the current research is Study 1 in Valentino et al. (2011). Here, the treatments are the same as reported in Valentino et al. (2008), but the outcome is reported interest in campaign participation measured using an index of 5 potential actions. They find that respondents asked to reflect on how the campaign made them angry are more likely to report interest in campaign participation than in the other conditions. This provides stronger causal evidence of a link between being induced to feel anger and the intention to participate, but it, along with the other experimental work, leaves open two critical questions about how to induce emotions in a manner that is simultaneously *long-lasting* and *targeted*.

First, do those self-reported intentions predict actual behaviors outside of the survey context? While individuals may report an interest in campaign involvement, such interest may not reflect actual behavioral outcomes that may be costly. This concern is compounded when emotional inducements are seeking to shape behavior that must take place days or

weeks after the manipulation of emotional states, a particular concern given that emotional states are often short-lived. Evidence from experimental contexts may therefore exaggerate the relationship between approach emotions like anger and participation, as participants who are made to be angry might overreport their tendency to participate in politics (Phillips and Plutzer 2023).

Second, would these effects persist if the treatments were political stimuli, such as campaign advertisements or mobilization messages, rather than emotional reflection tasks? Whereas emotional reflection tasks can relatively effectively induce specific emotional states in isolation, actual stimuli might induce multiple and potentially offsetting emotional reactions (e.g., both anxiety and anger) (Ryan 2012). Additionally, being asked to reflect on why a campaign made one angry may make one angry, but it may also induce reflection of cognitive factors—for example, the perceived material stakes of the election—that independently shape participation. Outside of the survey- or lab-experimental setting, there is no guarantee that one can link emotions and actions such as voting, as just making someone angry at a political opponent does not automatically imply that voting is related to that emotional reaction.

Stepping back, these rich observational and experimental literatures provide important suggestive evidence that political stimuli inducing anger may be a mechanism for increasing participation. But the empirical work to date has not bridged the gap between contemporaneous political treatments inducing emotional reactions and subsequent behavioral responses that last beyond the current survey context. Furthermore, an additional challenge for experimental approaches is to identify treatments that induce specific emotional reactions that result in targeted behavioral choices without also activating alternative mechanisms that could also shape participatory choices.[5] We take up this question in the next subsection.

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[5]For example, a message highlighting the policy preferences of one's opponent may both make someone angry and change perceptions of the material stakes of the election, and both could shape turnout.

2.2 Giving Political Anger a Target to Induce Participation

If activating anger is a potential means to increase participation, how can one do so in a targeted and behaviorally consequential way? (We focus on negative emotions here but discuss the potential efficacy of linking positive emotions to turnout in the discussion section.) Beyond the simple fact of inducing anger, one challenge is linking this emotional state to a desired future action, as simply being made to feel angry does not naturally mean voting is the logical response. That is, "[E]motions primarily produce action orientations toward the source of the stimulus... If I am angry because I feel cheated by a local contractor, I am far more likely to complain to the Better Business Bureau than I am to register to vote." (Phillips and Plutzer 2023, 1096). In the case of seeking to increase political participation, how can one use anger to induce people to undertake the act of voting? A second challenge is that in the political setting, efforts to increase participation usually take place temporally distant from the targeted action. This means a successful treatment that induces an emotional state must affect an action that takes place much later.[6] How can one make political anger relevant for future choices?

Our argument is that to harness latent anger to induce future participation, one must 1) identify a target one can get angry at, 2) make one feel anger, and 3) make a "solution" to that angry feeling being turning out to vote. We develop each of these three parts of our argument in turn.

Political opponents as sources of anger: In the contemporary United States, many individuals already have strong, negative feelings about politics (Iyengar, Sood and Lelkes 2012). This means there may be an opportunity to harness emotional reactions not by creating new feelings toward political actors, but instead by linking those pre-existing negative feelings to political action.

To harness our emotional orientation toward these others, as we explain in greater detail

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[6]As we note above, an additional challenge, from a theory-testing perspective, is that many stimuli that induce emotional reactions likely also affect alternative potential pathways that may have unexpected implications for participation.

below, we ask individuals to "think about a person you truly can't stand in politics today." We expected this to cause individuals to envision their political opponents, which for expositional purposes we label as political villains, an assumption we subsequently validated.[7] These are the political opponents (i.e., partisan out group elites) that individuals report holding negative feelings toward in observational studies and against whom political conflict is perceived to take place (Druckman and Levendusky 2019; Kingzette 2021).[8] Consistent with this pattern, messages with outgroup cues on social media platforms are strong predictors of angry reactions, compared to ingroup messages that predict positive reactions (Rathje, Van Bavel and van der Linden 2021). Overall, we expected consideration of the outgroup (those one can't stand), and especially those by outgroup elites they see as emblematic of the party, to be effective in inducing anger.

Activating anger with outgroup happiness: The second step in our theoretical argument is that we can induce anger by asking people to envision the oppositely-valanced emotional state of the outgroup. While there are multiple potential ways to induce feelings of anger, as we explain below, using the outgroup as the source of that anger maximizes our ability to link it to a desired behavior. We posit that inducing individuals to think about the happiness of the outgroup will be likely to induce anger and we operationalize the outgroup member experiencing a positive reaction by asking the respondent to "Imagine how happy they'll be if people like you don't vote," which both describes the outgroup member as gloating (being pleased about something undesirable happening to someone else), and links that to the respondent staying home.

There are several reasons the outgroup's happiness is likely to induce ingroup anger. First, because of the simple fact that the (political) out-group is defined as those who we dislike and who hold values opposite to our own, then their well-being and happiness is itself evidence of injustice. This notion of a desire for angry vengeance toward the outgroup is apparent

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[7]See Appendix D for this analysis.

[8]We contrast this with a manipulation in which we ask people to envision a person "you truly respect in politics today," which we label as political heroes. As expected, we find in Appendix D that when thinking about these "heroes," individuals tend to recall members of their partisan ingroup.

even in Biblical language. "Why do the wicked prosper, growing old and powerful. . . . Let them see their destruction with their own eyes. Let them drink deeply of the anger of the Almighty" (Job 7:7–20 New Living Translation). Second, it is specifically likely that an outgroup member expressing happiness will induce anger, an argument articulated clearly in Aristotle: "And they are angry with those who rejoice, or in a general way are cheerful when they are unfortunate; for this is an indication of enmity or slight" (Aristotle 1926, 183).

Empirical social psychology research validates these arguments, showing that we have oppositely valanced reactions to the emotional states of outgroup members. For example, individuals have negative reactions to joy expressions by outgroup members (Weisbuch and Ambady 2008). In contrast with our reactions to the fortunes of outgroup members, our own feelings about the misfortunate or joy of ingroup members are aligned (Ben-Ze'ev 2001; Ouwerkerk et al. 2018).[9]

Importantly, it is not simply that individuals experience oppositely valenced emotions to what an outgroup member is feeling that undergird our argument. Instead, it is that *outgroup happiness* induces *ingroup anger*. By comparison, if the outgroup member has a negative emotion, such as disappointment (at the respondent having voted), then the respondent is likely to be happy and satiated at justice having been achieved. Our disappointment at an outgroup member's happiness (gluckschmerz) and our joy at their misfortune (schadenfreude) may be opposite sides of the same coin (see, e.g., Smith and van Dijk 2018; Hoogland et al. 2015), but we anticipate that only considering the former (gluckshmerz) will induce feelings of anger.

Linking anger to voting to induce action: The final step in our argument is that while the outgroup is a potent source of angry feelings, to generate changes in future political behavior, the voting decision must be relevant for that emotional state. There are two reasons this link is important. First, we need to ensure the target of action is the individual's own future decision to vote. As we note above, apolitical anger likely has no bearing on political actions

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[9]There is also evidence that individuals mimic ingroup members' emotional displays more than out-group members (van der Schalk et al. 2011).

because anger requires a relevant target to shape choices, so in this case, voting must be a way to resolve anger.[10]

Second, linking the (future) decision to participate to the emotion means that when thinking about the action (or thinking about one's feeling about the action), one is likely to anticipate experiencing that emotion. In other words, linking the choice to vote to anger means that the (potential) feeling of anger is likely to persist as a motivator even after the immediate stimuli creating an angry feeling is removed. In this perspective, the persistent power of anger is fully harnessed when it is linked to a future choice. Psychological research finds that those who are angry are more likely to feel motivated to confront the cause of their anger (Frijda, Kuipers and ter Schure 1989). Moreover, this motivational effect of anger is likely exacerbated "when one is anticipating revenge or punishment or witnessing the misfortune of disliked others" (Litvak et al. 2010, 303), meaning that "getting even" by making an opponent unhappy (schadenfreude) is particularly likely to guide our choices when we are angry.

Importantly, when thinking about a future decision (i.e., voting or not), people anticipate (imagine) their emotional reaction in light of how they make that decision (see Gleicher et al. (1995), who labels this "prefactual" thinking, and Baumgartner, Pieters and Bagozzi (2008)). This means that people can envision their feelings if they take an action or not. In the case of voting, an outgroup member being happy (i.e., gloating) over one not having voted therefore can both make one angry now (an anticipatory response) and also shape one's forecast of an emotional state if one does not vote (an anticipated response).[11]

Stepping back, the argument we advance here is that political anger is particularly likely

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[10]More generally, negative feelings without a relevant outlet might never become anger. Anxiety, which is similarly negatively valenced, arises when we cannot identify a productive outlet for our negative feelings (Valentino et al. 2008).

[11]One can also forecast one's emotional state if one does vote, and in the case of a disliked outgroup member who would be made unhappy (because they were happy when the person had not voted), voting is a means to experience schadenfreude at that out-group member's resulting unhappiness. In the survey setting, those who demonstrate schadenfreude by choosing to support a candidate who advocate policy hurting an outgroup partisan are more like to vote (see, e.g., Webster, Glynn and Motta 2024). However, whether harnessing feelings of anger toward an outgroup implies that a desire for schadenfreude can cause voting is less clear.

to shape future behavior when the source of that anger can be affected by the act of voting. Political outgroups are powerful sources of anger that can be harnessed to shape future behavior by linking the outgroup's happiness, which makes one angry, to the decision not to vote, making our own future voting a way to productively resolve anger we feel toward the outgroup.

3   Field Experimental Tests to Establish Behavioral Evidence

In this section we describe and present results from two field experiments. The first is a field test of four relevant interventions, including the intervention we believe would be most effective, on voter turnout. The second is a field experimental replication of the effectiveness of the most successful intervention compared to a highly effective benchmark. These tests demonstrate the power of invoking a gloating villain to induce political participation.

3.1   Field Experiment 1: 2014 Mississippi Election

The first field experiment was fielded as part of a non-partisan voter mobilization effort that took place during the November 2014 general election in Mississippi.[12] We worked with a third-party political group to help design the messages used in the experiment, which was paid for and implemented by a non-profit civic engagement group, the Mississippi Center for Voter Information. The messages were incorporated into their mail program. The group selected an initial sample of 244,940 individuals who were 18+ years of age, registered to vote, had a valid in-state mailing address, and met the group's other selection criteria.[13]

Individuals were then randomly assigned to an uncontacted control group (n = 210,940), one of the four treatments discussed below (n = 5,000 each), or 4 unrelated treatments of

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[12]This field experiment was deemed exempt by the IRB at the researcher's universities.

[13]If there were multiple eligible individuals in a given household, one was selected at random for inclusion in the sample.

Table 2: Factorial Design for Experiment 1

	Referent: VILLAIN	Referent: HERO
Emotion: HAPPY	Now, think about the person you truly **can't stand** in politics today. Imagine how **happy** they'll be if people like you **don't vote**. (Gloating Villain Treatment)	Now, think about the person you truly **respect** in politics today. Imagine how **happy** they'll be if people like you **vote**. (Happy Hero Treatment)
Emotion: DISAPPOINTED	Now, think about the person you truly **can't stand** in politics today. Imagine how **disappointed** they'll be if people like you **vote**. (Foiled Villain Treatment)	Now, think about the person you truly **respect** in politics today. Imagine how **disappointed** they'll be if people like you **don't vote**. (Disappointed Hero Treatment)

interest to the civic group (n = 3,500 each) not analyzed here.[14]

Following the theoretical discussion on the role of emotions and turnout, the messages that were fielded comprise a 5-cell field experiment described in greater detail here. One cell was an untreated control group. The other four cells, summarized in Table 2, were composed of a 2 by 2 manipulation of an external referent (the in-group hero or the out-group villain) and that referent's response to the citizen's voting behavior (happy or disappointed).

The first dimension of manipulation, shown on the horizontal axis, is whether the person is asked to think about someone "in politics today" they either (1) "respect" or (2) "can't stand." We refer to the first condition as the "hero" treatment and the second as the "villain" treatment. The treatments were intended to evoke considerations of either an admired co-partisan or a disliked opposing partisan, respectively.

The second dimension of manipulation, shown on the vertical axis, is the emotional

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[14]In Tables A1 and A2, we present summary statistics for the sample and conduct balance assessments of whether gender, race, voting history, and age jointly predict treatment assignment and find they do not, leading us to believe randomization was successful.

reaction of the external referent that the respondent decision to either vote or not vote evokes. Specifically, in the "hero" arm, the referent is assigned to either be "happy... if people like you do vote" or "disappointed... if people like you don't vote." By opposite construction, in the "villain" arm, the referent is assigned to either be "happy... if people like you don't vote" or "disappointed... if people like you do vote." For simplicity, we label the satisfied hero condition as the Happy Hero, the disappointed hero as the Disappointed Hero, the happy villain as the Gloating Villain, and the disappointed villain as the Foiled Villain.

Our expectation, which we test below, was that the described emotional reaction of the referent to the respondent voting or not would affect the respondent's own anticipated emotional reaction to that action. Considering these dimensions of treatment together, we note that they describe the positive or negative emotional response of a third party that we assign to be someone the person respects or loathes. As we discussed above, we expected that the reaction by an ingroup hero (to the respondent's hypothetical choice) would evoke a similarly valanced anticipated emotional response in the respondent, while the anticipated emotional responses would be in the opposite direction of that experienced by an outgroup villain. Moreover, because these reactions are linked to a particular behavior (voting or not), we expected that the anticipated positive (negative) reaction by a "hero" would cause an individual to be more likely to undertake (avoid) that action, while an anticipated positive (negative) reaction by a "villain" would cause an individual to be less likely to undertake (avoid) that action.

The treatment mailings employing this language were prepared by the Mississippi Center for Voter Information and sent by the group 5 days prior to Election Day (November 4, 2014). Each mailing was a folded 8.5 x 11 inch sheet with the outside asking the individual to think about someone the individual respected or can't stand (the hero or villain manipulation) and instructed the respondent to wait to unfold the paper until they had thought of that person. Inside the folded mailing was the treatment language describing that person's reac-

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tion to the respondent's behavior of voting or not (happy or disappointed emotion). Below this information was standard GOTV treatment language, meaning that it is held constant across conditions. Examples of each treatment mailing appear in Appendix E. Our outcome measure is a binary measure of turnout in the November 2014 election and was measured using records obtained from state voter files. Individuals were coded as having voted if the state voter file indicated they had voted in the 2014 election and were otherwise coded as not having voted.

Our analysis of this experiment appears in Table 3, which presents OLS regression estimates of the effect of each treatment on turnout. The Control group is the baseline (omitted category), and we present estimates both without (column 1) and with covariate adjustments (column 2, the same covariates used to assess balance).[15]

We focus our attention on the covariate adjusted estimates in column (2). While each treatment has a positive or zero estimated effect on turnout compared to the Control treatment, the Gloating Villain treatment is the only estimate that is significant at conventional levels with an estimated effect of 1.7 percentage points ($p < .01$). The baseline turnout in the election for the untreated Control group is 26.9%, meaning that the Gloating Villain treatment increased turnout by 6.5% compared to this baseline.

The second largest estimate is for the Happy Hero treatment, which is estimated to increase turnout by 1.0 percentage points ($p < .1$) compared to the control group. Finally, the Foiled Villain and Disappointed Hero treatments are individually not significant, with estimates of 0.7 and 0.0 percentage points, respectively. While the estimate for the Gloating Villain treatment is significantly different from the Control group and the Disappointed Hero treatment estimate ($p < .05$), it is not statistically distinguishable from the Foiled Villain ($p = .25$) or the Happy Hero ($p = .45$) treatment estimates.

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[15]Model specifications for all of our analysis is OLS regression with robust (Huber/White) standard errors unless otherwise specified. To avoiding excluding cases because of incomplete covariate information, we created indicator variables for missing gender, race, and age. Observations missing age were assigned the sample mean (56.1 years old).

Table 3: Effect of Gloating Villain on Turnout, Experiment 1 (MS)

	Turnout in 2014	Turnout in 2014
Gloating Villain	0.018**	0.017**
	(0.006)	(0.006)
Foiled Villain	0.004	0.007
	(0.006)	(0.006)
Happy Hero	0.011	0.010
	(0.006)	(0.006)
Disappointed Hero	0.002	−0.000
	(0.006)	(0.006)
Voted in 2008		0.023***
		(0.002)
Voted in 2010		0.195***
		(0.002)
Voted in 2011		0.199***
		(0.002)
Voted in 2012		0.173***
		(0.002)
Female		−0.021***
		(0.002)
Missing Gender		−0.046***
		(0.004)
Black		0.014***
		(0.004)
White		0.038***
		(0.004)
Missing Race		0.011***
		(0.003)
Age (imputed)		0.001***
		(0.000)
Missing Age		−0.048***
		(0.002)
Constant	0.269***	−0.044***
	(0.001)	(0.005)
R^2	0.000	0.125
Observations	230940	230940

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.
Note: Models estimated using ordinary least squares regression, with robust standard errors. The dependent variable is a binary measure of turnout in the 2014 Mississippi Special Election.

3.2 Field Experiment 2: 2019 Florida Election

Experiment 1 provides promising evidence of the power of invoking a gloating villain to induce political participation. Experiment 2 tests whether this result replicates in a different electoral context and provides evidence about the magnitude of this effect relative to a high performing benchmark intervention.

Specifically, the second field experiment was fielded during the Special Election on June 18th, 2019, for the Florida House of Representatives Districts 7 and 38 by The Voter Participation Center (VPC), a non-profit, non-partisan organization that seeks to increase turnout among groups with low rates of participation. The experimental messages were incorporated into the VPC's mail program, and the mail program was implemented and paid for by the Voter Participation Center.[16] Unlike in Experiment 1, randomization in this experiment took place at the household level. The VPC's program began with a sample of 63,833 households, which contained a total of 100,000 individuals. Individuals were initially eligible for inclusion if they were registered to vote, were aged 18 to 89 on Election Day, their mailing address and voter registration addresses were the same, and the voter met the group's other selection criteria.

Households were then randomized (within house district) by the VPC into three groups: an uncontacted control group (households = 12,767, n = 19,873), the Gloating Villain treatment from Experiment 1 (households = 25,532, n = 39,980), and a social pressure "Report Card" treatment described below (households = 25,534, n = 40,147).[17]

The second experiment simplified the treatment arms by keeping the best performing treatment from Experiment 1, the Gloating Villain treatment, and compares it to both an untreated control group and a well-performing unrelated GOTV treatment. The mailing for the Gloating Villain treatment was the same as in Experiment 1, with standard GOTV treatment language below. The comparison treatment was a social comparison mailing which was the standard VPC GOTV mailing at the time. The mailing was a "report card" in which the voter's recent turnout record was reported and the voter was informed through a graphic whether their turnout was above or below the average voter's turnout. Previous mailings with messages stating or implying that voting records are public have been very

[16]This field experiment was deemed exempt by the IRB at the researcher's universities.

[17]In Tables B1 and B2, we present sample statistics and confirm the balance assessments conducted by VPC of whether gender, race, voting history, marriage, age, household size, and mail address type jointly predict treatment assignment. We find that they do not, leading us to believe that the randomization was successful.

effective at increasing turnout (see, e.g., Gerber, Green and Larimer 2008; Panagopoulos 2010). Examples of each treatment mailing appear in Appendix E. Our outcome measure is a binary measure of turnout in the June 2019 Special Election. Individuals were coded as having voted if the state voter file indicated they had voted in the 2019 election and were otherwise coded as not having voted.

Our analysis of Experiment 2 appears in Table 4. We present OLS estimates, with standard errors clustered at the household level because this is the level at which randomization took place, for the entire sample without covariates (column 1) and with covariate adjustment (column 2), as well as separate results for House District 7 (column 3) and House District 38 (column 4). The covariate-adjusted estimates in column 2 are highly similar to the estimates from Experiment 1. We find that the Gloating Villain treatment is estimated to increase turnout by 1.3 percentage points ($p < .001$), which is a 11% effect given baseline turnout in the control group is 12.6%. We also find that this effect is nearly identical in magnitude to the Report Card treatment, which is also estimated to increase turnout by 1.3 points ($p < .001$). There are modest difference across districts: the Gloating Villain treatment effect is .8 percentage points greater in District 7. However, the interaction effect of House District and each treatment is not significant (not shown), implying that there is no statistically significant difference between the two State House Districts in the effectiveness of the Gloating Villain or the Report Card treatments.

Overall, the results from these two field experiments demonstrate the robust behavioral effectiveness of the Gloating Villian treatment and also provide evidence about the comparative effectiveness of this novel treatment.

Table 4: Effect of Gloating Villain on Turnout, Experiment 2 (FL)

	All	All	Florida House District 7	Florida House District 38
Gloating Villain	0.014***	0.013***	0.018***	0.010*
	(0.004)	(0.003)	(0.005)	(0.004)
Report Card	0.013***	0.013***	0.017***	0.011**
	(0.004)	(0.003)	(0.005)	(0.004)
Asian		−0.012	0.028	−0.019*
		(0.008)	(0.021)	(0.008)
Black		−0.063***	−0.025***	−0.092***
		(0.004)	(0.007)	(0.006)
Hispanic		−0.040***	−0.007	−0.046***
		(0.003)	(0.009)	(0.004)
Race Other/Unknown		−0.019**	−0.005	−0.026***
		(0.006)	(0.011)	(0.008)
Female		−0.012***	−0.006*	−0.016***
		(0.002)	(0.003)	(0.002)
Age		−0.006***	−0.005***	−0.007***
		(0.000)	(0.001)	(0.000)
Age^2		0.000***	0.000***	0.000***
		(0.000)	(0.000)	(0.000)
Married		0.004	−0.000	0.009**
		(0.003)	(0.004)	(0.003)
Voted in 2012		−0.013***	−0.013***	−0.012***
		(0.002)	(0.004)	(0.003)
Voted in 2014		0.090***	0.087***	0.094***
		(0.003)	(0.004)	(0.004)
Voted in 2016		0.010***	0.007*	0.013***
		(0.002)	(0.003)	(0.003)
Voted in 2018		0.131***	0.115***	0.142***
		(0.002)	(0.003)	(0.003)
Household Size		−0.005***	−0.003	−0.006***
		(0.001)	(0.002)	(0.002)
Catalist Ideology		−0.006***	−0.005***	−0.005***
		(0.000)	(0.001)	(0.001)
Catalist Ideology^2		0.000***	0.000***	0.000***
		(0.000)	(0.000)	(0.000)
Florida House District 38		0.034***		
		(0.003)		
Constant	0.126***	0.145***	0.137***	0.168***
	(0.003)	(0.014)	(0.024)	(0.018)
R^2	0.000	0.161	0.135	0.181
Observations	100000	100000	41698	58302

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.
Note: Models estimated using ordinary least squares regression, with standard errors clustered by household. The dependent variable is a binary measure of turnout in the 2019 Florida Special Election.

4   Survey Experimental Evidence to Assess Emotional Mechanisms

The preceding field experimental tests demonstrate the efficacy of the Gloating Villain treatment in increasing participation. We posited that this treatment might be particularly effective because it induces feelings of anger, but we have not empirically validated this assumption (or that voting may ameliorate that anger). Additionally, we have not ruled out the possibility the treatment induces other emotional responses that may also be linked to voting.

To test these assumptions, we fielded two survey experiments in which we identified and measured the emotions individuals reported feeling after reading the treatments from the first field experiment while anticipating that they had either voted or not. This analysis allows us to estimate both average emotional reactions to each treatment (whether having voted or not) as well as how those anticipated emotional forecasts change depending on whether the respondent envisions having voted or not.

In each survey, after obtaining informed consent, respondents provided basic demographic information.[18] We then assigned respondents randomly to a survey version of one of the field experimental treatments summarized in Table 2. First, respondents were asked to "...think about that person you truly [respect/can't stand] in politics today." After clicking to the next page, respondents were told to "Imagine how [happy/disappointed] they'll be if people like you [vote/don't vote]."

Then, after clicking to the third page, respondents were asked "if you [vote/didn't vote] in the next election, how will that person's reaction make you feel?" Individuals were asked about both voting or non-voting on separate pages in a randomly assigned order. These questions were designed to elicit the respondent's anticipated emotional reactions following the decision to vote or not.

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[18]Both surveys were deemed exempt by the IRB at the researcher's universities.

Each emotion was assessed by using 7-point Likert scales ranging from "Not at all" to "Very much" and respondents assessed their anticipated feelings for several different emotions, presented in a random order.[19] In Experiment A, respondents assessed how angry, smug/defiant, happy, proud, ashamed, guilty, disappointed, and indifferent they would feel using a slider that they manipulated below the labeled 7-point scale.[20] In Experiment B, we removed the indifferent and disappointed emotions for reasons of cost and respondents indicated their answer using radio buttons to address the possibility that individuals were not manipulating the sliders before advancing in the survey.

Experiment A was included on a survey fielded in June 2017 and Experiment B was included on a survey fielded in August 2017. The sample for Experiment A was recruited on Amazon's Mechanical Turk Platform (MTurk) and the survey was hosted on Qualtrics (n = 503).[21] To address concerns about the representativeness and quality of MTurk samples, the sample for Experiment B was purchased from Survey Sampling International, which compensated respondents for their participation. This survey included a pre-treatment attention check and the sample is much larger, improving the precision of our estimates. This survey was also hosted on Qualtrics (n = 2,297). Sample demographics for both experiments are described in Tables C1 and C2 in the Appendix.

We analyze these data in two ways. First, to assess the average level of emotional reaction that each treatment induced, we present average assessments of each emotional state by treatment regardless of envisioning voting or not. In this analysis, for each emotion and treatment, we calculate averages across the scenarios in which the individual is asked to assess their feelings supposing they voted or did not vote. Second, to assess the way in which respondents anticipated that voting would change their emotional state, we calculate for each treatment and emotion the *change* in their anticipated emotional state induced by

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[19]This order was held constant within respondent.

[20]These 8 emotions were identified in a pilot survey, described in the appendix, in which respondents were randomly assigned a treatment and asked to provide their emotional response in their own words.

[21]This survey excluded those who did not consent. Respondents were compensated fairly for this survey, which took approximately 6 minutes to complete.

Table 5: Mean Level of Emotions by Treatment, Experiment A

	Negative				Neutral	Positive		
	Angry	Ashamed	Guilty	Disappointed	Indifferent	Defiant/Smug	Happy	Proud
Gloating Villain	**1.950**	1.696	1.735	2.127	1.954	1.831	1.727	1.835
	(0.120)	(0.130)	(0.134)	(0.136)	(0.126)	(0.111)	(0.140)	(0.141)
Foiled Villain	1.780	1.524	1.496	1.799	**2.236**	**2.114**	2.094	1.969
	(0.122)	(0.132)	(0.135)	(0.138)	**(0.127)**	**(0.112)**	(0.141)	(0.143)
Disappointed Hero	1.268	**2.086**	**2.005**	**2.277**	1.527	0.905	1.945	1.955
	(0.131)	**(0.141)**	**(0.146)**	**(0.148)**	(0.137)	(0.121)	(0.152)	(0.154)
Happy Hero	0.826	1.567	1.641	1.652	1.522	0.693	**2.681**	**2.641**
	(0.118)	(0.128)	(0.131)	(0.134)	(0.123)	(0.109)	**(0.137)**	**(0.139)**
Observations	1004	1004	1004	1004	1004	1004	1004	1004

Note: The dependent variable is the emotion level on a 7-point Likert scale. Emotions are ordered from negative, neutral, then positive. In each column, the treatment that induces the highest level of emotion is bolded.

voting by subtracting the average in the voting condition from the average in the not voting condition.

Tables 5 and 6, present average levels of emotion by treatment, pooling across the voting and not voting conditions, for Experiments A and B, respectively. Each column is a distinct emotion, with negative emotions (anger, shame, guilt, and disappointment [Experiment A only]) on the left, indifference in the middle [Experiment A only], and positive emotions on the right side (defiance, happiness, and pride). Each emotion is scored from 0 to 6, with 0 corresponding to "Not at all" and 6 to "Very much." Each row is the average in that experimental condition, and for each column we bold the condition with the highest average, indicating that emotion is most strongly felt in that treatment.

The tables reveal two important facts. First, on average, the Gloating Villain treatment is associated with the highest levels of anticipated anger. In Experiment A, the average level of anger in the Gloating Villain treatment is .17 units larger than the next largest average in the Foiled Villain condition ($p = .32$), while in Experiment B the same difference is .15 ($p = .06$).[22]

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[22]One concern is that this result may arise because the survey may cause people to think about their level of anger. We note, however, that individuals are asked to assess their anger in all treatment conditions, so that priming is held constant across cells. Additionally, we also found differences in anger in the pilot study used to identify the emotions asked about in these surveys, with anger mentioned much more frequently in

Table 6: Mean Emotion Levels by Treatment, Experiment B

	Negative			Positive		
	Angry	Ashamed	Guilty	Defiant/Smug	Happy	Proud
Gloating Villain	**2.238**	2.019	**1.981**	1.861	2.107	1.984
	(0.059)	(0.063)	**(0.062)**	(0.053)	(0.067)	(0.067)
Foiled Villain	2.086	1.875	1.779	**1.926**	2.239	2.134
	(0.056)	(0.060)	(0.059)	**(0.050)**	(0.064)	(0.063)
Disappointed Hero	1.468	**2.050**	1.972	1.081	1.962	1.956
	(0.057)	**(0.061)**	(0.060)	(0.051)	(0.065)	(0.064)
Happy Hero	1.227	1.619	1.658	0.989	**2.854**	**2.748**
	(0.057)	(0.061)	(0.060)	(0.051)	**(0.065)**	**(0.064)**
Observations	4545	4545	4545	4545	4545	4545

Note: The dependent variable is the emotion level on a 7-point Likert scale. In each column, the treatment that induces the highest level of emotion is bolded.

Second, anger is the only emotion for which the Gloating Villain treatment is consistently associated with the greatest anticipated emotional state, demonstrating its targeted effectiveness.[23] The Disappointed Hero treatment is associated with the highest levels of shame and disappointment (asked only in Experiment A), and it is associated with the highest level of guilt in Experiment A while falling very close to the Gloating Villain average in Experiment B (a difference of only .01, $p = .92$). For positive emotions, the Foiled Villain is associated with the greatest feelings of defiance in both studies, and the Happy Hero is associated with the highest levels of happiness and pride in both studies.

Next, we examine differences in how individuals predict their emotional state would be if they voted rather than not doing so. These estimates, which are presented in Tables 7 and 8, for Experiments A and B, respectively, are estimated using OLS regression with the dependent variable being the difference in emotion levels for voting compared to not voting for each treatment condition. Negative numbers therefore indicate that individuals anticipated

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the Gloating Villain treatment.

[23]We focus here on the highest level of each emotional response, but we note that the absence of an emotion might also explain the Gloating Villain's distinctive effectiveness. Reassuringly, there is no emotion for which the Gloating Villain has the lowest average in both studies.

Table 7: Mean Effects of Voting Minus Not Voting on Emotion Levels by Treatment, Experiment A

	Negative				Neutral	Positive		
	Angry	Ashamed	Guilty	Disappointed	Indifferent	Defiant/Smug	Happy	Proud
Gloating Villain	**−1.038**	−1.392	−1.885	−1.377	0.169	1.077	1.531	1.715
	(0.195)	(0.223)	(0.223)	(0.236)	(0.160)	(0.181)	(0.245)	(0.237)
Foiled Villain	−0.661	−1.346	−1.748	−1.205	−0.173	**1.441**	1.591	1.764
	(0.198)	(0.226)	(0.226)	(0.239)	(0.162)	**(0.183)**	(0.248)	(0.240)
Disappointed Hero	−0.155	−1.900	−1.936	−1.700	−0.055	−0.264	2.073	2.109
	(0.213)	(0.242)	(0.243)	(0.257)	(0.174)	(0.196)	(0.266)	(0.258)
Happy Hero	−0.704	**−1.919**	**−2.244**	**−2.030**	**−0.319**	0.007	**2.948**	**2.911**
	(0.192)	**(0.219)**	**(0.219)**	**(0.232)**	**(0.157)**	(0.177)	**(0.240)**	**(0.233)**
Observations	502	502	502	502	502	502	502	502

Note: The dependent variable is the difference in emotion levels, which ranges from -6 to 6. Emotions are ordered from negative, neutral, then positive. For negative and neutral (positive) emotions, the treatment that decreases (increases) the emotion level the most when voting is bolded.

Table 8: Mean Effects of Voting Minus Not Voting on Emotion Levels by Treatment, Experiment B

	Negative			Positive		
	Angry	Ashamed	Guilty	Defiant/Smug	Happy	Proud
Gloating Villain	−0.861	−1.214	−1.331	0.445	1.145	1.284
	(0.094)	(0.106)	(0.105)	(0.078)	(0.113)	(0.111)
Foiled Villain	−0.598	−1.097	−1.339	**0.501**	1.165	1.262
	(0.089)	(0.100)	(0.100)	**(0.074)**	(0.107)	(0.105)
Disappointed Hero	−0.479	−1.287	−1.339	−0.150	1.787	1.858
	(0.091)	(0.102)	(0.102)	(0.076)	(0.109)	(0.107)
Happy Hero	**−0.877**	**−1.602**	**−1.716**	−0.130	**2.414**	**2.449**
	(0.091)	**(0.102)**	**(0.102)**	(0.076)	**(0.109)**	**(0.107)**
Observations	2269	2269	2269	2269	2269	2269

Note: The dependent variable is the difference in emotion levels, which ranges from -6 to 6. For negative (positive) emotions, the treatment that decreases (increases) the emotion level the most when voting is bolded.

their emotional state would decrease with voting, while positive numbers indicate it would increase. As before, we bold the treatment for which the effect of voting had the largest (absolute) effect on that emotional state, which empirically highlights negative estimates for the negative and neutral emotions and positive numbers for the positive emotions.

At the macro level, across almost all of the treatments and emotions, asking respondents to imagine a future where they had voted compared to not having done so heightens anticipated positive emotions and weakens anticipated negative emotions.[24] Additionally, as with the analysis of the average level of emotionality induced by each treatment, it appears that the Gloating Villain treatment is among the most effective at decreasing anticipated anger levels, and that this treatment is distinctive for its effect on anger relative to other emotions. In Experiment A, voting rather than not is associated with a 1.04 unit ($p < .001$) decrease in anticipated anger in the Gloating Villain condition, and the next largest effect is a .70 ($p < .001$) unit decrease in anger in the Happy Hero condition (difference $= .33$ units, $p = .22$). In Experiment B, while the effect of voting on anger is largest for the Happy Hero condition, a .88 unit decrease ($p < .001$), it is indistinguishable from the .86 ($p < .001$) unit decrease in anger in the Gloating Villain treatment. In both experiments, no other treatment had a comparable effect on reducing the feeling of anger when voting rather than not.

Notably, for the other emotions, the effect of voting rather than not is highly consistent across both experiments. For the other negative emotions apart from anger (shame, guilt, and disappointment [Experiment A only]), voting reduces anticipated negative emotion levels the most in the Happy Hero condition. For positive emotions, the effect of voting increases feelings of defiance the most in the Foiled Villain condition and increases feelings of happiness and pride in the Happy Hero condition.

Finally, while we have focused so far on average levels of different emotions and how voting changes those anticipated emotional states, there are also important differences in anticipated emotionality even conditional on envisioning voting. In particular, conditional on voting, individuals still anticipate being most angry in either the Gloating Villian or Foiled Villain treatment in each experiment (see Appendix Table C3 and C4).

To summarize, on average, individuals anticipate being the angriest in the Gloating

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[24]The exceptions to this characterization are the Disappointed and Happy Hero treatments for feeling smug/defiant. This is not surprising, however, as feeling "smug" is a type of schadenfreude for thwarting someone else, and the referent here is an ally (hero). Effects on indifference, which is neither negatively nor positively valenced, are modest and inconsistently signed.

Villain condition. Additionally, this treatment is associated with among the largest declines in anticipated anger by voting rather than not. But despite these patterns, individuals still remain comparatively angry when thinking about voting in the Gloating Villain treatment condition.

Cumulatively, these survey experiments highlight the targeted effect of the Gloating Villain treatment, relative to the other treatments, on anticipated anger. Given anger's hypothesized motivating effects, this means that the Gloating Villain treatment appears uniquely able to trigger this emotion and also to link resolution of that anger to the act of voting (i.e., voting changes anticipated levels of anger). Finally, the Gloating Villain treatment does not have distinctly larger effects on any other potential emotional pathway, on average or as affected by voting.

5   Discussion and Conclusion

Politics and political communications rely heavily on emotional appeals. Anger is a potentially powerful explanation for political behavior, but isolating its causal force and measuring the relative effects of appeals channeling positive versus negative emotions is difficult. Moreover, whether one can generate and productively direct political anger temporally distant from a treatment to induce political participation is uncertain from existing work. Building on prior theorizing as well as key observational and experimental evidence, we hypothesize that harnessing pre-existing political anger toward outgroup leaders, so called villains, may be a productive means to increase the motivation and willingness to vote. Specifically, we expected that envisioning an outgroup member "gloating" at one having stayed home on Election Day will be particularly effective at channeling anger by linking that anger to the respondent's own decision to vote.

In a pair of field experimental tests, we confirm this expectation, demonstrating that a gloating villain treatment increases voter turnout and is likely to be more effective than

parallel treatments invoking foiled villains or political heroes. We conducted a pair of survey experiments to measure the effect of the treatment scripts on respondent's emotions. This evidence shows that the Gloating Villain treatment has highly specific emotional effects: It induces the highest levels of anger among the four treatment scripts and also causes individuals to anticipate that voting, rather than staying home, will most reduce their future anger.

This paper offers two important contributions. First, it provides, in a field setting, externally valid evidence of a novel treatment to increase political participation. Notably, it works through a theoretical pathway—emotional reactions—that has been the subject of rich observational and experimental analyses, but heretofore, the evidence that such a pathway could be used outside of the lab or survey setting to generate behavioral changes in turnout and temporally distant from a treatment is unavailable. Our work also pairs survey- and field-experimental evidence to provide evidence in support of a posited theoretical (emotional) mechanism, confirming that our proposed emotional manipulations did in fact target specific emotions.

Second, it presents a theoretical framework for thinking about how interventions designed to evoke political anger can be used to induce political participation. Building on prior work, we argue that outgroups are a source of anger, that thinking about outgroup happiness will induce ingroup anger, and that linking that outgroup happiness (causing anticipated anger) to not having voted makes voting an outlet for reducing anger. Notably, anger toward an outgroup (due to their happiness from one not having voted, or the Gloating Villain treatment) is posited to have distinct emotional effects compared to treatments focusing on that villain being unhappy (due to one having voted, or the Foiled Villain treatment) or similar evocations of the emotional reaction of ingroup members. Anger, as an approach emotion, when combined with a relevant targeted behavioral solution (voting), appears able to induce action over the long term, despite the fact that emotions are often understood as fleeting, likely because one anticipates feeling anger when thinking about how the outgroup member

will be happy if one stays home. In doing so, it may personalize the act of voting, turning an abstract choice into an action directed at a hated villain. This ability to create persistent behavior effects from a brief treatment inducing an emotional state has not previously been documented and allows us to build our understanding of why people may vote.

In light of our findings, we note that there are several ways in which our results may help understand both the upside and potential downside to inducing political anger and linking it to participation. Foremost, anger without a behavioral outlet like turning out to vote could either demobilize (Watson 2009; Magni 2017) or induce undesirable political spillovers (Webster 2020). Anger is understood as an approach emotion, where one can act toward a target that makes one angry. If one is angry at an outgroup but voting is not the "solution" to that anger, two alternative behavioral patterns might instead emerge. One is that anger could become anxiety, a potentially demobilizing emotion, because one has a negative feeling that one's goals are thwarted but there is no clear way to address that frustration. Alternatively, anger might spillover into undesirable action: Rather than voting to resolve one's anger, one could turn to violence toward outgroup members, as it may be encouraged by racist rhetoric that demonizes an outgroup. Notably, most of our theorizing about anger focuses on its immediate effects, whereas less attention has been given to how anger shapes future behaviors.

The fact that we find that anger is causally related to participation also helps to understand the incentives that exist in the current political system to stoke it. Importantly, the treatments we test do not denigrate the outgroup or seek to inflame the underlying sources of conflict between the parties, but instead harness existing feeling to direct individuals toward a civically desirable action—voting. One important question is whether different institutional features in a political system, for example ranked choice voting or proportional representation, might reduce the zero-sum nature of mobilization and the assumption that the value of motivating one's supporters to get to the polls is the most desirable form of communication.

Our results also help understand a pathway linking perceptions of the stakes of an election to voting. Scholars have noted that while standard game theoretic models of elections sometimes produce forecasts of almost no turnout, turnout in high stakes contests is the norm (Schuessler 2000). One potential explanation offered for this pattern is that emotions, rather than "rational" actions, guide our choices (Aytaç and Stokes 2018; Wang 2013). Our theorizing and experimental evidence may help understand this pattern: In thinking about what will happen if the other side wins, we may anticipate being angry that someone else will be in charge and enact policies we deplore, and so our motivation to vote may be tied to our anticipated reactions if our opponents (get to enjoy the) win and we stay home (i.e., our emotions personalize the choice to participate).

In light of these findings and speculation, we note that importance of future work to understand the ways in which political stimuli change our emotional understanding of the decision to participate. We believe the theory advanced here, as well as our pairing of field- and survey-experimental evidence, provides a fruitful model for studying these pressing questions. Additionally, while we have focused our attention on the Gloating Villain treatment in light of prior work on the mobilizing effect of anger, the Happy Hero intervention also has promising, if smaller effects. In a campaign environment, some combination of communications referencing one's opponents gloating at one staying home and one's allies being proud of turning out might be an especially effective pairing. Moreover, such communication, with its positive framing, might be particularly effective at mobilizing one's core supporters.

Finally, it is important to place our interventions in comparison to contemporary campaign communications to understand their relative efficacy. Many campaign messages explicitly discuss the threat posed by the political outgroup and seem directly crafted to induce anger, fear, and outrage. By contrast, our messages are subtle and modest—they ask a respondent to reflect on how they would feel in light of how an in- or out-group member reacts to their choice to vote or not. We posit that our treatments are efficacious because they explicitly link an emotional state to the choice to vote, that is, they create an anticipated

emotional reaction, whereas most campaign communication does not. But unresolved is whether stronger emotional inducements would be more or less effective. On the one hand, if one anticipated being extremely angry if one didn't vote, one might be more likely to do so. On the other hand, being made to feel extremely angry might induce a backlash or reactance effect, undercutting treatment efficacy. This constitutes an important avenue for future study.

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Supplementary Materials

Field Experiments Invoking Gloating Villains to Increase Voter Participation: Anger, Anticipated Emotions, and Voting Turnout

Table of Contents

A   Experiment 1 Additional Results

Table A1: Summary Statistics, Experiment 1 (MS)

Variable	Mean	SD	Min	Max
Voted in 2008	0.796	0.403	0	1
Voted in 2010	0.267	0.442	0	1
Voted in 2011	0.328	0.470	0	1
Voted in 2012	0.747	0.435	0	1
Female	0.563	0.496	0	1
Missing Gender	0.053	0.223	0	1
Black	0.199	0.399	0	1
White	0.145	0.352	0	1
Missing Race	0.532	0.499	0	1
Age (imputed)	56.102	12.137	20	113
Missing Age	0.409	0.492	0	1

Table A2: Balance Tests of Treatment Conditions, Experiment 1 (MS)

	Gloating Villain	Foiled Villain	Happy Hero	Disappointed Hero
Voted in 2008	−0.027	0.051	−0.020	−0.016
	(0.038)	(0.039)	(0.038)	(0.038)
Voted in 2010	0.013	−0.032	0.003	0.034
	(0.033)	(0.034)	(0.033)	(0.033)
Voted in 2011	0.024	−0.010	0.029	0.018
	(0.031)	(0.031)	(0.031)	(0.031)
Voted in 2012	−0.010	−0.016	−0.001	−0.024
	(0.034)	(0.034)	(0.034)	(0.034)
Female	−0.004	0.024	−0.052	−0.001
	(0.030)	(0.030)	(0.030)	(0.030)
Missing Gender	0.072	0.077	−0.081	−0.008
	(0.067)	(0.067)	(0.069)	(0.069)
Black	0.013	−0.030	0.087	0.065
	(0.063)	(0.062)	(0.063)	(0.062)
White	0.016	−0.084	0.085	0.057
	(0.067)	(0.066)	(0.067)	(0.066)
Missing Race	0.059	−0.036	0.051	−0.007
	(0.050)	(0.049)	(0.050)	(0.050)
Age (imputed)	−0.000	−0.000	−0.001	−0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Missing Age	−0.009	−0.019	0.084*	0.002
	(0.036)	(0.037)	(0.037)	(0.037)
Constant	−3.750***	−3.725***	−3.746***	−3.715***
	(0.093)	(0.093)	(0.093)	(0.093)
Observations	230940	230940	230940	230940

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.

Note: Models estimated using multinomial logistic regression. The dependent variable is each treatment condition regressed on the demographic covariates used in the main analysis of Experiment 1. The p-value of the likelihood ratio test was 0.94, which means we fail to find that the covariates jointly predict treatment assignment.

B Experiment 2 Additional Results

Table B1: Summary Statistics, Experiment 2 (FL)

Variable	Mean	SD	Min	Max
Voted in 2012	0.589	0.492	0.0	1.0
Voted in 2014	0.436	0.496	0.0	1.0
Voted in 2016	0.678	0.467	0.0	1.0
Voted in 2018	0.597	0.490	0.0	1.0
White	0.666	0.472	0.0	1.0
Asian	0.025	0.156	0.0	1.0
Black	0.160	0.367	0.0	1.0
Hispanic	0.120	0.325	0.0	1.0
Female	0.564	0.496	0.0	1.0
Age	50.362	18.003	19.0	90.0
Married	0.516	0.500	0.0	1.0
Household Size	1.929	0.881	1.0	4.0
Catalist Ideology (White)	54.461	13.749	27.5	94.7
Catalist Ideology (Non-White)	63.923	18.894	3.5	95.0

Table B2: Balance Tests of Treatment Conditions, Experiment 2 (FL)

	Florida House District 7		Florida House District 38	
	Gloating Villain	Report Card	Gloating Villain	Report Card
Past Elections Voted	0.017	0.013	−0.004	−0.014
	(0.010)	(0.010)	(0.009)	(0.009)
Address Type (Apartment)	0.035	−0.004	−0.012	−0.006
	(0.098)	(0.098)	(0.057)	(0.057)
Age	−0.001	0.000	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Black	0.014	0.008	−0.011	0.007
	(0.034)	(0.034)	(0.037)	(0.036)
Hispanic	−0.043	−0.116	−0.055	−0.057
	(0.094)	(0.095)	(0.030)	(0.030)
Asian	−0.039	−0.041	0.007	0.059
	(0.175)	(0.175)	(0.061)	(0.060)
Female	−0.019	−0.027	−0.014	0.004
	(0.027)	(0.027)	(0.023)	(0.023)
Married	0.022	−0.021	−0.034	−0.016
	(0.030)	(0.030)	(0.025)	(0.025)
Household Size	0.009	0.024	0.044**	0.052***
	(0.016)	(0.016)	(0.014)	(0.014)
Constant	0.688***	0.647***	0.610***	0.619***
	(0.057)	(0.057)	(0.048)	(0.048)
Observations	41698	41698	58302	58302

***$p < 0.001$; **$p < 0.01$; *$p < 0.05$.
Note: Models estimated using multinomial logistic regression. The dependent variable is each treatment condition regressed on the demographic covariate variables used to balance the randomizations. The p-value of the likelihood ratio test was 0.76 for HD 7 and and 0.05 for HD 38, which means we fail to find that the covariates jointly predict treatment assignment.

C Experiment A and B Additional Results

Table C1: Summary Statistics, Experiment A

Variable	Mean	SD	Min	Max
Age	36.008	11.439	18	76
Female	0.448	0.498	0	1
Education	4.201	1.248	2	6
Partisanship (7-point)	4.595	1.992	1	7
White	0.771	0.421	0	1

Table C2: Summary Statistics, Experiment B

Variable	Mean	SD	Min	Max
Individual Income	2.522	1.361	1	6
Household Income	3.110	1.418	1	6
Education	4.031	1.403	1	6
Ideology	3.094	1.182	1	6
Female	0.468	0.499	0	1
White	0.760	0.427	0	1
Partisanship (5-point)	3.073	1.621	1	5
Age	45.043	13.941	18	84

Table C3: Mean Level of Emotions by Treatment when Voting, Experiment A

	Negative				Neutral	Positive		
	Angry	Ashamed	Guilty	Disappointed	Indifferent	Defiant/Smug	Happy	Proud
Gloating Villain	1.431	1.000	0.792	**1.438**	2.038	2.369	2.492	2.692
	(0.157)	(0.140)	(0.126)	(**0.160**)	(0.178)	(0.160)	(0.195)	(0.197)
Foiled Villain	**1.449**	0.850	0.622	1.197	**2.150**	**2.835**	2.890	2.850
	(**0.159**)	(0.142)	(0.127)	(0.162)	(**0.180**)	(**0.162**)	(0.197)	(0.199)
Disappointed Hero	1.191	**1.136**	**1.036**	1.427	1.500	0.773	2.982	3.009
	(0.171)	(**0.152**)	(**0.137**)	(0.174)	(0.194)	(0.174)	(0.212)	(0.214)
Happy Hero	0.474	0.607	0.519	0.637	1.363	0.696	**4.156**	**4.096**
	(0.154)	(0.138)	(0.124)	(0.157)	(0.175)	(0.157)	(**0.191**)	(**0.193**)
Observations	502	502	502	502	502	502	502	502

Note: The dependent variable is the emotion level on a 7-point Likert scale. Emotions are ordered from negative, neutral, then positive. In each column, the treatment that induces the highest level of emotion is bolded.

Table C4: Mean Emotion Levels by Treatment when Voting, Experiment B

	Negative			Positive		
	Angry	Ashamed	Guilty	Defiant/Smug	Happy	Proud
Gloating Villain	**1.807**	**1.411**	**1.315**	2.083	2.679	2.627
	(**0.076**)	(**0.074**)	(**0.069**)	(0.075)	(0.093)	(0.094)
Foiled Villain	1.788	1.323	1.106	**2.176**	2.822	2.766
	(0.072)	(0.070)	(0.065)	(**0.071**)	(0.088)	(0.089)
Disappointed Hero	1.227	1.405	1.298	1.005	2.855	2.885
	(0.074)	(0.071)	(0.066)	(0.072)	(0.090)	(0.091)
Happy Hero	0.788	0.818	0.800	0.923	**4.061**	**3.972**
	(0.074)	(0.071)	(0.067)	(0.072)	(**0.090**	(**0.091**)
Observations	2272	2272	2272	2272	2272	2272

Note: The dependent variable is the emotion level on a 7-point Likert scale. In each column, the treatment that induces the highest level of emotion is bolded.

D   Who are the Heroes and Villains?

We note that our treatments did not describe a particular person as a hero or villain. We expected that individuals would bring to mind those typical partisan allies and opponents, but who did they actually think about? To answer this question, we turn to an additional item we asked at the beginning of our pilot study. The pilot study (n = 817) was fielded on April 2017 on Amazon MTurk and hosted on Qualtrics. After exposing each respondent to their assigned treatment ("Think about someone you truly [respect/can't stand] in politics today"), we asked each respondent "Who is that person?" with an open-ended text response box. After asking them about their partisan heroes and villains, we asked respondents to record how that person's reaction would make them feel, supposing they did or did not vote in the next election. This provided the basis for the emotions selected in Experiments A and B.

To analyze who the partisan heroes and villains were, we partition the sample by respondent partisanship (Democrats and Republicans, including leaners; pure independents are excluded) and present tables of the frequency of the most common heroes and villains in Tables D1 and D2, respectively, among those respondents who provided a response. For Democrats (n = 472), heroes mentioned most frequently are Bernie Sanders (35%), Barack Obama (19%), Elisabeth Warren (9%), and Hilary Clinton (7%). For Republicans (n = 231), they are Donald Trump (31%), Mike Pence (6%), Bernie Sanders (5%), and Rand Paul (5%). Villains, by contrast, display much less variability: For Democrats, the standout villain is Donald Trump (81%), followed distantly by Paul Ryan (4%) and Mitch McConnell (3%). For Republicans, the villains are more varied, but begin with Hillary Clinton (44%) and are followed by Donald Trump (16%), Nancy Pelosi (9%), and Chuck Schumer (7%).

Overall, these data provide clear evidence that individuals think of elite partisan figures in response to the inducement to "Think about someone...in politics today." Both groups of partisans largely think of elite leaders of the other party when asked to identify villains, although Trump is a notable aberration for some Republicans. Heroes are more varied, but they are overwhelmingly prominent copartisans. Importantly, villains are the same figures that prior observational survey research indicates are loathed by members of the other party (Druckman and Levendusky 2019).

Table D1: List of Heroes by Subject's Party Identification

Hero	Party	Occupation/Title	N	Percent of Total
Democrat (n = 472)				
BERNIE SANDERS	I	US SENATOR (I, VT)	166	35%
BARACK OBAMA	D	FMR. US PRESIDENT	92	19%
ELIZABETH WARREN	D	US SENATOR (D, MA)	44	9%
HILLARY CLINTON	D	FMR. SECRETARY OF STATE AND FMR. PRESIDENTIAL CANDIDATE	31	7%
JOE BIDEN	D	FMR. US VICE PRESIDENT	13	3%
DONALD TRUMP	R	US PRESIDENT	13	3%
OTHER/UNKNOWN	NA	NA	10	NA
JOHN MCCAIN	R	US SENATOR (R, AZ)	9	2%
NONE	NA	NA	7	NA
ADAM SCHIFF	D	US REP (D, CA-26)	6	1%
Independent (n = 113)				
BERNIE SANDERS	I	US SENATOR (I, VT)	22	19%
DONALD TRUMP	R	US PRESIDENT	21	19%
NONE	NA	NA	16	NA
BARACK OBAMA	D	FMR. US PRESIDENT	9	8%
OTHER/UNKNOWN	NA	NA	8	NA
RAND PAUL	R	US SENATOR (R, KY)	7	6%
RON PAUL	R	FMR. US REP (R, TX-14)	6	5%
JOE BIDEN	D	FMR. US VICE PRESIDENT	2	2%
HILLARY CLINTON	D	FMR. SECRETARY OF STATE AND FMR. PRESIDENTIAL CANDIDATE	2	2%
UDO PASTORS	NA	FOREIGN POLITICIAN	1	NA
Republican (n=231)				
DONALD TRUMP	R	US PRESIDENT	71	31%
MIKE PENCE	R	US VICE PRESIDENT	15	6%
BERNIE SANDERS	I	US SENATOR (I, VT)	12	5%
RAND PAUL	R	US SENATOR (R, KY)	11	5%
PAUL RYAN	R	US REP (R, WI-1) AND SPEAKER OF THE HOUSE	8	3%
BARACK OBAMA	D	FMR. US PRESIDENT	8	3%
TED CRUZ	R	US SENATOR (D, TX)	7	3%
RON PAUL	R	FMR. US REP (R, TX-14)	7	3%
MARCO RUBIO	R	US SENATOR (R, FL)	7	3%
JOHN KASICH	R	GOVERNOR OF OHIO	6	3%

Table D2: List of Villains by Subject's Party Identification

Villain	Party	Occupation/Title	N	Percent of Total
Democrat (n = 472)				
DONALD TRUMP	R	US PRESIDENT	382	81%
PAUL RYAN	R	US REP (R, WI-1) AND SPEAKER OF THE HOUSE	18	4%
MITCH MCCONNELL	R	US SENATOR (R, KY) AND SENATE MAJORITY LEADER	13	3%
HILLARY CLINTON	D	FMR. SECRETARY OF STATE AND FMR. PRESIDENTIAL CANDIDATE	12	3%
OTHER/UNKNOWN	NA	NA	7	NA
MIKE PENCE	R	US VICE PRESIDENT	5	1%
TED CRUZ	R	US SENATOR (R, TX)	4	1%
SEAN SPICER	R	WHITE HOUSE PRESS SECRETARY	4	1%
STEVE BANNON	R	WHITE HOUSE CHIEF STRATEGIST	3	1%
VLADIMIR PUTIN	NA	FOREIGN POLITICIAN	2	NA
Independent (n = 113)				
DONALD TRUMP	R	US PRESIDENT	46	41%
HILLARY CLINTON	D	FMR. SECRETARY OF STATE AND FMR. PRESIDENTIAL CANDIDATE	29	26%
STEVE BANNON	R	WHITE HOUSE CHIEF STRATEGIST	3	3%
OTHER/UNKNOWN	NA	NA	3	NA
BERNIE SANDERS	I	US SENATOR (I, VT)	3	3%
BARACK OBAMA	D	FMR. US PRESIDENT	3	3%
ALL POLITICIANS	NA	NA	3	NA
TED CRUZ	R	US SENATOR (R, TX)	2	2%
NANCY PELOSI	D	US REP (D, CA-12) AND HOUSE MINORITY LEADER	2	2%
MITCH MCCONNELL	R	US SENATOR (R, KY) AND SENATE MAJORITY LEADER	2	2%
Republican (n = 231)				
HILLARY CLINTON	D	FMR. SECRETARY OF STATE AND FMR. PRESIDENTIAL CANDIDATE	102	44%
DONALD TRUMP	R	US PRESIDENT	38	16%
NANCY PELOSI	D	US REP (D, CA-12) AND HOUSE MINORITY LEADER	21	9%
CHUCK SCHUMER	D	US SENATOR (D, NY) AND SENATE MINORITY LEADER	17	7%
BERNIE SANDERS	I	US SENATOR (I, VT)	7	3%
ELIZABETH WARREN	D	US SENATOR (D, MA)	6	3%
BARACK OBAMA	D	FMR. US PRESIDENT	6	3%
JOHN MCCAIN	R	US SENATOR (R, AZ)	3	1%
CLINTON	D	NA	3	1%
TED CRUZ	R	US SENATOR (R, TX)	2	1%

A11

E   Experiment Materials

E.1   Experiment 1 Mailers

This mailing has been paid for by the Mississippi Center for Voter Information a non-government, non profit organization.

Now, imagine how **happy** they'll be if people like *you* don't vote…

Vote on November 4th.

Mississippi Center for
Voter information

US
Postage
PAID
Nonprofit

Address Here

Dear {{NAME}}

Elections decide candidates who make decisions that affect your life. Take control of those decisions and exercise your right to vote. Your voice begins with your vote.

The election is on Tuesday November 4th.

Polling stations will remain open from 7 am to 7 pm. If you have any questions, please contact 800-829-6786 for assistance.

We hope to see you at the polls this Tuesday.

Alfred Johnson, President
Mississippi Center for Voter Information

Think about someone you truly **can't stand** in politics today…

(DON'T open this until you have thought of them)

Figure E1: Example Mailers for Gloating Villain Treatment, Experiment 1

This mailing has been paid for by the Mississippi Center for Voter Information, a non-government, non-profit organization.

Now, imagine how **<u>disappointed</u>** they'll be if people like *you* do vote…

Vote on November 4th.

Dear {{NAME}}

Elections decide candidates who make decisions that affect your life. Take control of those decisions and exercise your right to vote. Your voice begins with your vote.

The election is on Tuesday November 4th.

Polling stations will remain open from 7 am to 7 pm. If you have any questions, please contact 800-829-6786 for assistance.

We hope to see you at the polls this Tuesday.

Alfred Johnson, President
Mississippi Center for Voter Information

Mississippi Center for
Voter information

Address Here

US Postage PAID Nonprofit

Think about someone you truly **<u>can't stand</u>** in politics today…

(DON'T open this until you have thought of them)

Figure E2: Example Mailers for Foiled Villain Treatment, Experiment 1

This mailing has been paid for by the Mississippi Center for Voter Information, a non-government, non-profit organization.

Now, imagine how **<u>disappointed</u>**
they'll be if people like *you*
don't vote…

Vote on November 4th.

Mississippi Center for
Voter information

US
Postage
PAID
Nonprofit

Address Here

Think about someone you truly
<u>respect</u> in politics today…

(DON'T open this until you have thought of them)

Dear {{NAME}}

Elections decide candidates who make decisions that affect your life. Take control of those decisions and exercise your right to vote. Your voice begins with your vote.

The election is on Tuesday November 4th.

Polling stations will remain open from 7 am to 7 pm. If you have any questions, please contact 800-829-6786 for assistance.

We hope to see you at the polls this Tuesday.

Alfred Johnson, President
Mississippi Center for Voter Information

Figure E3: Example Mailers for Disappointed Hero Treatment, Experiment 1

This mailing has been paid for by the Mississippi Center for Voter Information, a non-government, non-profit organization.

Now, imagine how **<u>happy</u>**
they'll be if people like *you*
do vote…

Vote on November 4th.

Mississippi Center for
Voter information

US
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Nonprofit

Address Here

Think about someone you truly
<u>respect</u> in politics today…

(DON'T open this until you have thought of them)

Dear {{NAME}}

Elections decide candidates who make decisions that affect your life. Take control of those decisions and exercise your right to vote. Your voice begins with your vote.

The election is on Tuesday November 4th.

Polling stations will remain open from 7 am to 7 pm. If you have any questions, please contact 800-829-6786 for assistance.

We hope to see you at the polls this Tuesday.

Alfred Johnson, President
Mississippi Center for Voter Information

Figure E4: Example Mailers for Happy Hero Treatment, Experiment 1

E.2   Experiment 2 Mailers

The Voter Participation Center
800 Ocala Rd. Ste 300 #356
Tallahassee FL 32304

Nonprofit Org
US Postage
PAID
TPG

Think about someone you truly **can't stand** in politics today…
(DON'T open this until you have thought of them)

64 P3 T3 1 20   **********AUTO**5-DIGIT 32008

VPC19_003   FL9J73198

Now, imagine how **happy**
they'll be if people like *you*
don't vote…
Vote on June 18th.

Dear ▮▮▮▮,

Elections decide candidates who make decisions that affect your life. Take control of those decisions and exercise your right to vote. Your voice begins with your vote.

On Tuesday, June 18th, there is a special election to choose who will represent you in the Florida House of Representatives District 7. The candidates are Democrat Ryan Terrell and Republican Jason Shoaf. Polling stations will remain open from 7 am to 7 pm. To find your polling place, visit dos.myflorida.com/elections/for-voters/check-your-voter-status-and-polling-place. Or you can call the voter assistance hotline at (866) 308-6739.

We hope to see you at the polls this Tuesday.

Sincerely,

Page Gardner
President
The Voter Participation Center

If you wish to be removed from our mailing list, email this code: FL9J73198 to unsubscribe@voterparticipation.org.

This mailing has been paid for by the Voter Participation Center (VPC). VPC is a non-government, nonprofit, and nonpartisan 501(c)(3) research organization. www.voterparticipation.org.

Figure E5: Example Mailers for Gloating Villain Treatment, Experiment 2

The Voter Participation Center
800 Ocala Rd. Ste 300 #356
Tallahassee FL 32304

Nonprofit Org
US Postage
PAID
TPG

2 P2 T2 1 5 **********AUTO**MIXED AADC 320

VPC19_004 ◆◁▷◆ ♻ FL9J61045

Page S. Gardner
The Voter Participation Center
800 Ocala Rd. Ste 300 #356
Tallahassee FL 32304

Voting Report Card for

Dear ▇▇

On **Tuesday, June 18,** voters in Florida State House District 38 will have the opportunity to vote for a new state representative.

This report provides you with a helpful summary of how often you vote and how your voting participation compares with other voters in State House District 38. The candidates are Democrat Kelly Smith and Republican Randy Maggard.

Being a voter is important. Thank you for voting in 2018, and we hope to see that you have voted in District 38 this upcoming election.

Cast your ballot and participate in the Special Election on **Tuesday, June 18.** If you need information on the candidates, visit www.Vote411.org. Polling stations will remain open from 7 am to 7 pm.

Voting record for
▇▇▇▇▇▇ *

2019 Special Election: Vote
2018 General Election: Did Not Vote
2016 General Election: Did Not Vote
2014 General Election: Did Not Vote
2012 General Election: Did Not Vote

Your Participation | Average of
| All Voters

Your voting score is:
BELOW AVERAGE

No one can know how you vote, but whether or not you vote is a matter of public record. Thank you for participating in the election process, and we hope that you will cast your ballot on **Tuesday, June 18.**

Sincerely,

Page S. Gardner

Page Gardner
President
The Voter Participation Center

P.S. To better understand why people do or do not vote, we may call you after the election to discuss your voting experience. Don't forget to bring a valid photo ID. For details, please visit dos.myflorida.com/elections/for-voters/special-elections/.

* This data comes from publicly available state voter files.

If you wish to be removed from our mailing list, email this code: FL9J61045 to unsubscribe@voterparticipation.org.

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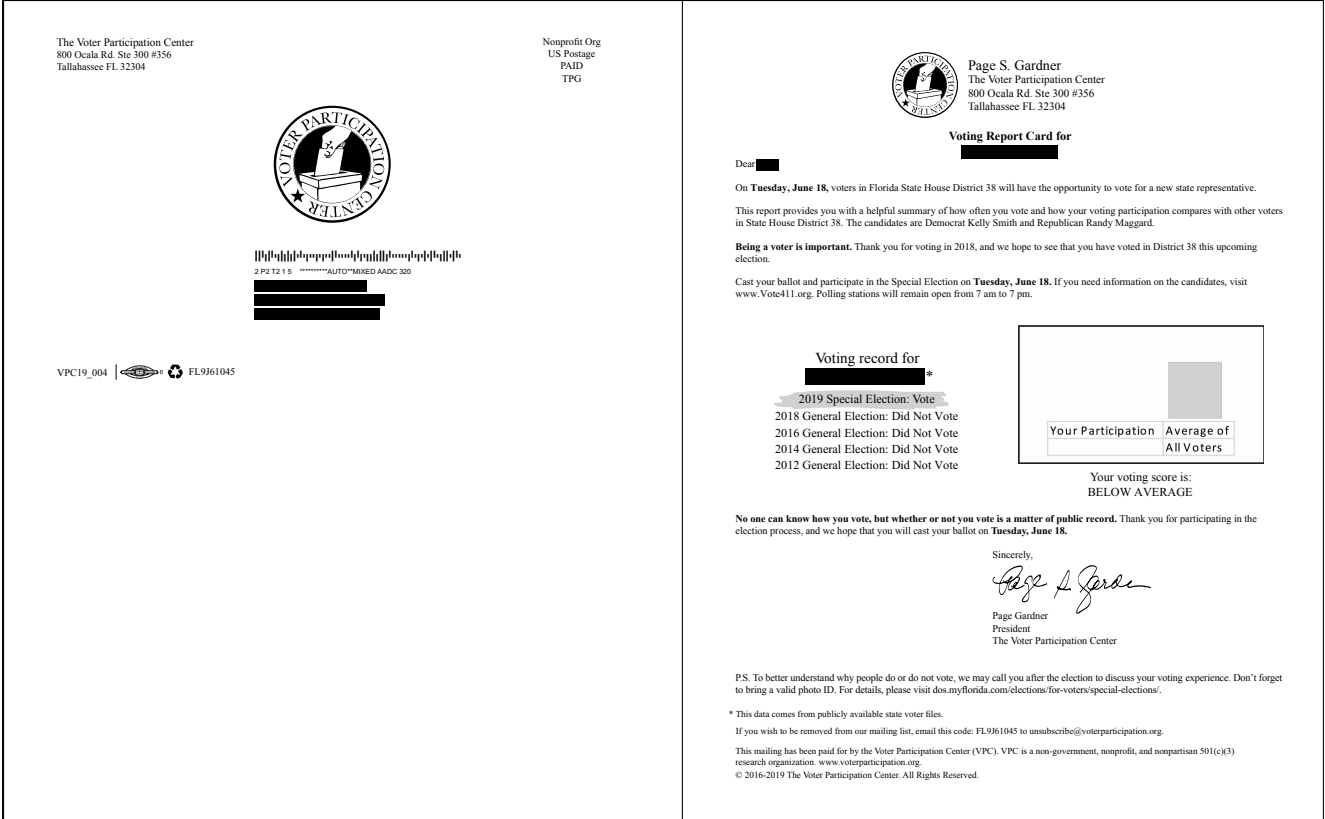
Figure E6: Example Mailers for Report Card Treatment, Experiment 2

E.3 Survey Questionnaires

The survey questionnaire for Experiment A is shown. The survey questionnaires for the pilot and Experiment B follow the exact same pattern in asking about partisan heroes/villains and their feelings towards them, but with different covariate questions.

Block: consent

consent You are invited to participate in a research study that will take approximately 5-7 minutes. You will be asked to answer some questions about yourself and your views. Your participation in this survey is completely voluntary, and you may choose to end your participation at any time. All of your identifying information and choices will be kept confidential. There are no known risks associated with this study beyond those associated with everyday life.

If you have any questions about this research, its procedures, or its risks and benefits, you may contact the researchers (XXX@XXX.edu). If you are not satisfied with how this study is being conducted, or if you have any concerns, complaints, or general questions about your rights as a participant, please contact the XXX Human Subjects Committee (XXX@XXX.edu) (XXX-XXX-XXXX). You may also write to the XXX Human Subjects Committee: XXX, XXX City, XXX State, XXX Zip Code.

If you would like to participate, simply select the "I agree to participate button" below, then click the ">>" button to start the survey.
- I agree to participate (1)
- I do not agree to participate (2)

Block: covariates block 1

birthyr In what year were you born?
- Select one (1)

race Which of these categories do you identify with? Mark all that apply.
- White (1)
- Hispanic, Latino, or Spanish (2)
- Black or African American (3)
- Asian (4)
- American Indian or Alaska Native (5)
- Middle Eastern or North African (6)
- Native Hawaiian or Other Pacific Islander (7)
- Some Other Race, Ethnicity, or Origin (8)

gender What is your gender?
- Male (1)
- Female (2)
- Other _____ (3)

educ What is the highest level of education you have attained?
- Less than high school (1)

- High school graduate, GED, or equivalent (2)
- Some college (3)
- 2 year college degree (4)
- 4 year college degree (5)
- Post-graduate degree (6)

Block: block 1 - who/why - question 1

who1 Think about someone you truly [can't stand/respect] in politics today. Who is that person?

- _____

why1 Why [can you not stand/do you respect] that person?

- _____
  _____
  _____

Block: block 1 - who/why - question2

who2 Think about someone you truly [can't stand/respect] in politics today. Who is that person?

- _____

why2 Why [can you not stand/do you respect] that person?

- _____
  _____
  _____

Block: block 2 - feelings 1

f1show1a Now, think about that person you truly [can't stand/respect] in politics today.
f1show2a Now, think about that person you truly [can't stand/respect] in politics today. Imagine how [disappointed/happy] they'll be if people like you [vote/do not vote].
f1show3a Now, think about that person you truly [can't stand/respect] in politics today. Imagine how [disappointed/happy] they'll be if people like you [vote/do not vote].
feel1 If you [vote/do not vote], how will that person's reaction make <u>you</u> feel?
I will feel. . . 0 - Not at all . . . 6 - Very much
- Angry
- Happy
- Indifferent/Nothing (Experiment A only)
- Guilty
- Smug/Defiant
- Disappointed (Experiment A only)
- Proud
- Ashamed

Block: block 2 - feelings 2

f2show1a Now, think about that person you truly [can't stand/respect] in politics today.

f2show2a Now, think about that person you truly [can't stand/respect] in politics today. Imagine how [disappointed/happy] they'll be if people like you [vote/do not vote].

f2show3a Now, think about that person you truly [can't stand/respect] in politics today. Imagine how [disappointed/happy] they'll be if people like you [vote/do not vote].

feel1 If you [vote/do not vote], how will that person's reaction make <u>you</u> feel?
I will feel. . . 0 - Not at all . . . 6 - Very much
- Angry
- Happy
- Indifferent/Nothing (Experiment A only)
- Guilty
- Smug/Defiant
- Disappointed (Experiment A only)
- Proud
- Ashamed

Block: covariates - block 2

party Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or what?
- Republican (1)
- Democrat (2)
- Independent (3)
- Other (4)
- No preference (5)
- Don't know (6)

party_str_dem (display logic: if **party** is 2) Would you call yourself a strong Democrat or not a very strong Democrat?
- Strong Democrat (1)
- Not a very strong Democrat (2)

party_str_rep (display logic: if **party** is 1) Would you call yourself a strong Republican or not a very strong Republican?
- Strong Republican (1)
- Not a very strong Republican (2)

party_ind (display logic: if **party** is not 1 or 2) Do you think of yourself as closer to the Republican or Democratic Party?
- Republican (1)
- Democrat (2)
- No preference (3)
- Don't know (4)