British Journal of Political Science (2025), **55**, e104, 1–22
doi:10.1017/S0007123425000298

British Journal of Political Science

ARTICLE

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

Gregory A. Huber[1], Alan S. Gerber[1], Albert H. Fang[1] and John J. Cho[2]

[1]Department of Political Science, Yale University, New Haven, CT and [2]Law School and Graduate School of Business, Stanford University, Stanford, CA
Corresponding author: Gregory A. Huber; Email: gregory.huber@yale.edu

(Received 25 May 2024; revised 9 January 2025; accepted 10 March 2025)

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 (for example, 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 behaviours such as voting.

Keywords: voter turnout; emotions; anger; field experiments

Introduction

Emotions are a powerful force guiding human behaviour, and politics is an emotion-laden environment. In contemporary USA, 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, for example, Valentino et al. 2011; Weber 2013), 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 (taking joy in someone else's misfortune), has also been used to explain the desire to support candidates who would adopt policies antithetical to that hated outgroup (Webster et al. 2024).

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

Prior analyses of observational data reveal a positive correlation between reported anger and reported (for example, Valentino et al. 2009) or measured (for example, Phillips and Plutzer 2023) participation, while experimental studies that induce emotional reactions provide evidence linking contemporaneous emotional states to intended participation (for example, 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 emotions like anger can cause people to vote at increased rates because we lack field experiments linking emotion-inducing treatments to future voting. 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, that might both cause voting and anger. Experimental studies 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, moving beyond campaign communications, we also ask: How can one harness political anger and productively target it to voting? How can our current and anticipated emotional reactions be used to guide our political choices and behaviours?

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 future 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 in the future when considering the joy that not voting brings to their opponent. Moreover, voting will be a means to resolve that anger and achieve schadenfreude by 'getting back' at that opponent. Overall, the treatment guides a choice that is distant from the stimuli through anticipated emotional states.

This discussion has so far largely 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 behavioural effects than positive emotions because negative emotions induce action (see, for example, Valentino et al. 2011; 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 that 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 per cent, 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 per cent, making it just as effective as the social comparison mailing in this context.

In three subsequent survey experiments, we explore the emotional mechanisms underlying this relative 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

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

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 angrier on average, and thwarting this villain by voting was most effective in reducing such feelings of anger. The villain treatments are also associated with greater anticipated feelings of smugness following voting, showing they make voting a potential mechanism to achieve schadenfreude.

The broader implication of our work is to demonstrate that emotion-inducing treatments can lead to changes in future behaviour. Our treatments link anticipated anger or happiness to the act of turning out. Although emotions are fleeting states, it appears possible to harness feelings toward an outgroup (a villain) 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 both feeling angry if they do not vote and to feel smug if they do so. These anticipated emotions (which are distinct from anticipatory or current 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.

Induced Anger, Gloating Villains, and Political Action

Anger as a Motivating Emotion

Emotions are broadly thought to shape political behaviour, in part because negative (rather than positive) emotions induce information search and disrupt standing behavioural patterns according to Affective Intelligence Theory (AIT) (Marcus and MacKuen 1993). Different negative emotions, however, appear to cause distinct behavioural 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, for example, Valentino, Gregorowicz and Groenendyk 2009; Valentino et al. 2011). By contrast, anger is induced by frustration of a desired goal and can 'propel someone toward action' in response to that impediment (Huddy et al. 2008, 206). Importantly, anticipated emotions (labeled 'affective forecasting' in the psychology literature, see, for example, Wilson and Gilbert 2003) may also shape future behaviours, 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 et al., 2008).[1]

Therefore, a key question is whether political stimuli can induce anger and whether such anger can shape future political behaviour. 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. We note that some work reports multiple studies and therefore is listed in multiple panels of the Table.

[1]It is important to distinguish between 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 a future event will cause one to feel in the *future moment* (Feil et al. 2022).

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

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 et al. (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 cues
Phillips and Plutzer (2023)	Validated turnout	Emotional response to something in politics or the news	Ryan (2012)	Information seeking (field experiment)	Political advertisements
Valentino et al. (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 scale	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 et al. (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.

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 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.[2] In an analysis of longitudinal survey data, Valentino et al. (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 (rather than self-measured propensity for political participation), but that these effects are not present when general anger and fear are measured. 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 behaviours (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 as 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 behaviours (see Panel B of Table 1). Most of this earlier work focuses on information seeking, rather than political participation or candidate choice (for a helpful summary of past studies, see Groenendyk 2011). Writing about information seeking, Valentino et al. (2008) report 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 the threat of a Kerry defeat causes increases in both anger and anxiety, but that only the change in the latter is associated with greater information searching. By contrast, Ryan (2012) is one of the only studies to use results from a *field experimental* design, in which the outcome is engagement with (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 (by revoking health care coverage in Experiment 1 and damaging the economy in Experiment 2) 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

[2]However, when they disaggregate 'cheap' (that is, low-cost activities like talking to other people) and costly participation (that is, 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.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

actions (for example, wearing a campaign button or donating money). 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 behaviours outside of the survey context? While individuals may report an interest in campaign involvement, such interest may not reflect actual behavioural outcomes that may be costly. This concern is compounded when emotional inducements are seeking to shape behaviour 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 effectively induce specific emotional states in isolation, actual stimuli might induce multiple and potentially offsetting emotional reactions (for example, 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 behavioural 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 behavioural choices without also activating alternative mechanisms that could also shape participatory choices. We take up this question in the next subsection.

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 behaviourally consequential way? 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, 1,096). In the case of seeking to increase political participation, how can one use anger (or any other emotion) 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. 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) create a 'solution' to that angry feeling, which is turning out to vote. We develop each of these three parts of our argument in turn.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

Political opponents as sources of anger: In contemporary USA, many individuals already have strong, negative feelings about politics (Iyengar et al. 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 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.[3] These are the political opponents (that is, 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).[4] 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 et al. 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-valenced 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 behaviour. 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 whom we dislike and who hold values opposite to our own, their well-being and happiness are themselves evidence of injustice. 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 valenced 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 misfortune or joy of ingroup members are aligned (Ben-Ze'ev 2001; Ouwerkerk et al. 2018).

Importantly, it is not simply that individuals experience oppositely valenced emotions to what an outgroup member is feeling that undergirds 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, for example, Smith and van Dijk 2018; Hoogland et al. 2015), but we anticipate that only considering the former (gluckshmerz) will induce feelings of anger. But also note that foiling gluckshmerz may achieve schadenfreude, a source of smug victory. Not only does

[3]See Appendix E for this analysis.

[4]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 E that when thinking about these 'heroes', individuals tend to recall members of their partisan ingroup.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

this mean one's opponent doesn't get to gloat at our defeat, but we can also rejoice in their unhappiness at our win.

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 behaviour, 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 because anger requires a relevant target to shape choices, so in this case, voting must be a way to resolve anger.[5]

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. This 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. Psychological research finds that those who are angry are more likely to feel motivated to confront the cause of their anger (Frijda et al. 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 (that is, voting or not), people anticipate or imagine their emotional reaction in light of how they make that decision (see Gleicher et al. (1995), who labels this 'prefactual' thinking, and Baumgartner et al. (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 (that is, gloating) over one not having voted, therefore, can both make one angry now (an anticipatory response) and also shape one's forecast of being angry later if one does not vote (an anticipated response).[6]

Our assumption is that for an anticipated emotion to affect a future choice, it must do so by changing the way an individual thinks about that future choice. We theorize that this is a cognitive appraisal that takes place in light of anticipated emotional states. This forecasting is likely important because current emotions are fleeting and otherwise not going to be felt in the future without a cognitive process linking them to future choices. We remain agnostic as to whether forecast emotions are also felt in the current moment, although such current feelings might be part of a cognitive process by which individuals ponder how future emotional states will be linked to their choices.

Stepping back, the argument we advance here is that political anger is particularly likely to shape future behaviour 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 behaviour 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 the anger we feel toward the outgroup.

Field Experimental Tests to Establish Behavioural 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

[5]More generally, negative feelings without a relevant outlet might never become anger. Anger is seen as a motivating emotion that leads us to confront threats or impediments. By contrast, anxiety, which is similarly negatively valenced, arises when we cannot identify a productive outlet for our negative feelings (Valentino et al. 2008).

[6]A future emotion affecting a current emotion may reflect 'spillover' from a future forecast or simply the fact that one feels that emotion now, too. 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 advocates a policy hurting an outgroup partisan are more likely to vote (see, for example, Webster et al. 2024).

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

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)

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.

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.[7] 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.[8]

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 interest to the civic group (n = 3,500 each) not analyzed here.[9]

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 behaviour (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 reaction of the external referent that the respondent's 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,

[7]This field experiment was deemed exempt by the IRB at Yale University.

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

[9]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.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

the disappointed hero as the Disappointed Hero, the happy villain as the Gloating Villain, and the disappointed villain as the Foiled Villain.[10]

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 valenced 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 behaviour (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 five days prior to Election Day (November 4, 2014). Each mailing was a folded 8.5 by 11-inch sheet with the outside asking the individual to think about someone the individual respected or couldn'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 reaction to the respondent's behaviour 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 F. 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).[11]

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 ($p < 0.01$). The baseline turnout in the election for the untreated Control group is 26.9 per cent, meaning that the Gloating Villain treatment increased turnout by 6.5 per cent 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 ($p < 0.1$) compared to the control group. We take up the question of what this finding implies for additional testing of this message in the Discussion section. 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 ($p < 0.05$), it is not statistically distinguishable from the Foiled Villain ($p = 0.25$) or the Happy Hero ($p = 0.45$) treatment estimates.

[10]We note that the 'Happy Hero' message, if effective, may be more attractive to campaigns and practitioners than the villain-related messages because it does not invoke the spectre of the hated other, thereby avoiding complaints that it stokes polarization.

[11]Model specifications for all of our analyses are OLS regression with robust (Huber/White) standard errors unless otherwise specified. To avoid 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).

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

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. Baseline of untreated Control group (versus the 4 experimental treatment groups), Male (versus Female and Gender Unknown), and White (versus Black and Race Unknown/Other). Along with the dummy variable 'Age Unknown' indicating when the age covariate has missing values, we replace the missing values in 'Age (imputed)' with the mean age.

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 programme was implemented and paid for by the Voter Participation Center.[12] Unlike in Experiment 1, randomization in this experiment took place at the household level. The VPC's programme 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

[12]This field experiment was deemed exempt by the IRB at Yale University.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

registered to vote, were ages 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).[13]

The second experiment simplified the treatment arms by keeping the best-performing treatment from Experiment 1, the Gloating Villain treatment, and compared 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 (the Mississippi field experiment). The comparison treatment was a social comparison mailing, which was the standard VPC GOTV mailing at the time. This 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 effective at increasing turnout (see, for example, Dellavigna et al. 2017; Gerber et al. 2008; Panagopoulos 2010). Examples of each treatment mailing appear in Appendix F. Our outcome measure is a binary measure of turnout in the June 2019 Special Election. Once again, 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. Once again, 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 ($p < 0.001$), which is an 11 per cent effect given the baseline turnout in the control group is 12.6 per cent. 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 ($p < 0.001$). There are modest differences 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 behavioural effectiveness of the Gloating Villain treatment and also provide evidence about the comparative effectiveness of this novel treatment.

Survey Experimental Evidence to Assess Emotional Mechanisms

Experiments A and B

The preceding field experimental tests demonstrate the efficacy of the Gloating Villain treatment in increasing participation, both in general and compared to treatments invoking heroes or disappointed villains. We posited that this treatment might be particularly effective because it induces future feelings of anger, but we have not empirically validated this assumption (or that voting may ameliorate that anger, perhaps by allowing one to get back at an adversary). Additionally, we have not ruled out the possibility that the treatment induces other emotional responses that may also be linked to voting.

[13]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 again that the randomization was successful.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

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. Baseline of untreated Control group (versus the Gloating Villain and Report Card treatment groups), Male (versus Female and Gender Unknown), White (versus Asian, Black, Hispanic, and Other), Male/Gender Unknown (versus Female), and House District 7 (versus House District 38).

To test these assumptions, we fielded three survey experiments, labelled A, B, and C below, in which we identified and measured emotional reactions to different treatments. In the first two survey experiments, we measured the emotions individuals anticipated feeling after reading the treatments from the first field experiment while contemplating that they had either voted or not. This analysis allows us to estimate both average anticipated 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 the third survey experiment, we measured contemporaneous (anticipatory) and anticipated emotional reactions to the Gloating Villain treatment compared to a control treatment, along with three other anger-inducing treatments (Work Villain, Political Anger reflection task, Non-Political Anger reflection task; see below for details). The results of Experiment C are summarized below, but complete details of the implementation and sampling are reported in Appendix F.3.2.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

In the first two surveys, after obtaining informed consent, respondents provided basic demographic information.[14] 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.

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.[15] 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 labelled 7-point scale.[16] In Experiment B, we removed the indifferent and disappointed emotions because 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 in a survey fielded in June 2017, and Experiment B was included in 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 ($n = 503$).[17] 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 anticipated emotional reaction that each treatment induced, we present average assessments of each emotional state by treatment, grouping both envisioned voting and not. 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 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 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

[14]All three surveys were deemed exempt by the IRB at Yale University.

[15]This order was held constant within the respondent.

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

[17]This survey excluded those who did not consent. Respondents were paid $0.50 for this survey, which took approximately 6 minutes to complete.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

Table 5. Mean Levels of Anticipated 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
	(**0.138**)	(0.135)	(0.139)	(0.143)	(0.131)	(0.129)	(0.133)	(0.139)
Foiled Villain	1.780	1.524	1.496	1.799	**2.236**	**2.114**	2.094	1.969
	(0.141)	(0.133)	(0.131)	(0.138)	(**0.147**)	(**0.139**)	(0.144)	(0.142)
Disappointed Hero	1.268	**2.086**	**2.005**	**2.277**	1.527	0.905	1.945	1.955
	(0.114)	(**0.140**)	(**0.146**)	(**0.149**)	(0.115)	(0.090)	(0.142)	(0.144)
Happy Hero	0.826	1.567	1.641	1.652	1.522	0.693	**2.681**	**2.641**
	(0.090)	(0.122)	(0.130)	(0.126)	(0.113)	(0.078)	(**0.147**)	(**0.148**)
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, and then positive. In each column, the treatment that induces the highest level of emotion is bolded.

Table 6. Mean Levels of Anticipated Emotions 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
	(**0.067**)	(0.066)	(**0.065**)	(0.061)	(0.066)	(0.065)
Foiled Villain	2.086	1.875	1.779	**1.926**	2.239	2.134
	(0.061)	(0.061)	(0.060)	(**0.058**)	(0.065)	(0.063)
Disappointed Hero	1.468	**2.050**	1.972	1.081	1.962	1.956
	(0.052)	(**0.061**)	(0.060)	(0.044)	(0.061)	(0.062)
Happy Hero	1.227	1.619	1.658	0.989	**2.854**	**2.748**
	(0.049)	(0.057)	(0.057)	(0.042)	(**0.067**)	(**0.068**)
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.

in the Gloating Villain treatment is 0.17 units larger than the next largest average in the Foiled Villain condition ($p = 0.32$), while in Experiment B the same difference is .15 units ($p = 0.06$).[18]

Second, anger is the only emotion for which the Gloating Villain treatment is consistently associated with the greatest anticipated emotional state, demonstrating its relatively targeted effectiveness. 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 0.01, $p = 0.92$). For positive emotions, the Foiled Villain is associated with the greatest feelings of defiance/smugness in both studies, although the Gloating Villain treatment is close to this average in both experiments (1.83 units in the Gloating Villain versus 2.11 units in the Foiled Villain in Experiment A, and 1.86 units versus 1.93 units in Experiment B). Finally, the Happy Hero is associated with the highest levels of happiness and pride in both studies.

[18]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. In the pilot survey, individuals provided their emotions in open-ended text responses. Anger is never mentioned in the Hero conditions, and only rarely in the Foiled Villain treatments (4.8 per cent if the respondent is asked about not voting and 0.5 per cent if they are asked about voting). However, in the Gloating Villain treatment, it is mentioned 20 per cent of the time when the respondent is asked about not voting and 4.5 per cent of the time when asked about voting.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

Table 7. Mean Effects of Voting Minus Not Voting on Levels of Anticipated Emotions 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
	(0.197)	(0.233)	(0.221)	(0.244)	(0.183)	(0.229)	(0.234)	(0.241)
Foiled Villain	−0.661	−1.346	−1.748	−1.205	−0.173	**1.441**	1.591	1.764
	(0.263)	(0.241)	(0.241)	(0.268)	(0.195)	**(0.224)**	(0.285)	(0.246)
Disappointed Hero	−0.155	−1.900	−1.936	−1.700	−0.055	−0.264	2.073	2.109
	(0.167)	(0.225)	(0.233)	(0.241)	(0.124)	(0.130)	(0.241)	(0.241)
Happy Hero	−0.704	**−1.919**	**−2.244**	**−2.030**	**−0.319**	0.007	**2.948**	**2.911**
	(0.145)	**(0.207)**	**(0.214)**	**(0.205)**	**(0.129)**	(0.113)	**(0.232)**	**(0.237)**
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, and 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 Levels of Anticipated Emotions 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
	(0.109)	(0.107)	(0.109)	(0.099)	(0.116)	(0.114)
Foiled Villain	−0.598	−1.097	−1.339	**0.501**	1.165	1.262
	(0.103)	(0.103)	(0.104)	**(0.088)**	(0.110)	(0.109)
Disappointed Hero	−0.479	−1.287	−1.339	−0.150	1.787	1.858
	(0.074)	(0.101)	(0.097)	(0.056)	(0.102)	(0.100)
Happy Hero	**−0.877**	**−1.602**	**−1.716**	−0.130	**2.414**	**2.449**
	(0.075)	**(0.097)**	**(0.098)**	(0.053)	**(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.

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. 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 emotions and positive estimates 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.[19] Additionally, as with the analysis of the average level of anticipated emotions induced by each treatment, it appears that the Gloating Villain treatment is among the most effective at causing voting to decrease anticipated anger levels and increase feelings of smugness (defiance), with the effect on these emotions somewhat distinct relative to the other treatments. In Experiment A, voting rather than not is associated with a 1.04 unit ($p < 0.001$) decrease in anticipated anger in the Gloating Villain condition, and the next largest effect is a 0.70 ($p < 0.001$) unit decrease in anger in the Happy Hero condition (difference $= 0.33$ units, $p = 0.22$). In Experiment B, while the effect of voting on anger is largest for the Happy Hero

[19]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), not an adversary.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

condition, a 0.88 unit decrease ($p < 0.001$), it is indistinguishable from the 0.86 ($p < 0.001$) 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. For smugness, voting increases feelings of defiance the most in the Foiled Villain treatment, but the effect is again similar in magnitude to the increase in anticipated smugness following voting in the Gloating Villain treatment (1.08 units in the Gloating Villain versus 1.44 in the Foiled Villain in Experiment A, and 0.45 units versus 0.50 units in Experiment B), a proxy measure of how much voting can allow one to 'get back' at an adversary. In the other treatments, by contrast, the effect of voting on anticipated smugness is near 0 or negative.

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 the other positive emotions, the effect of voting increases feelings of happiness and pride the most in the Happy Hero condition.

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 Villain or Foiled Villain treatment in each experiment (see Appendix Tables C3 and C4) and also have the highest levels of smugness following these two treatments.

4.2 Experiment C

In Experiment C, which was conducted in September and October 2024 (additional details reported in Appendix F.3.2), we measured contemporaneous emotions (see Table D2), in addition to the anticipated emotional states (see Table D3 [following voting] and D4 [following not voting]) also measured in Experiments A and B, after exposure to one of five conditions. The survey version of the Gloating Villain treatment remained the same as before, along with four new treatments: A Control (placebo) message about birdfeeding, a non-political Work Villain (asking the person to reflect on someone they cannot stand at work), a Non-Political Anger reflection task, and a Political Anger reflection task.[20] Analyses of data from this experiment reveal four important findings.

First, validating our comparison across treatments in Experiments A and B, we find in Table D3 that compared to the Control and Work Villain treatments, the Gloating Villain treatment increased anticipated anger following voting (0.24 units [$p < 0.01$] compared to the Control and 0.17 units [$p < 0.05$] compared to the Work Villain, one-tailed tests) and smugness (0.27 units [$p < 0.01$] compared to the Control and 0.14 units [$p = 0.08$] compared to the Work Villain, one-tailed tests), meaning the Gloating Villain treatment manipulated these key theorized emotional pathways. The comparison to the Control is informative because it demonstrates emotional effects relative to the baseline, while the comparison to the Work Villain addresses the possibility that it is simply thinking about a hated other that causes the effects we measure.

Second, while our earlier surveys measured only anticipated emotions, here we also measure treatment effects on current emotional states in Table D2. The pattern of the effect on current emotions is similar in these comparisons. The Gloating Villain treatment increased current anger and smugness relative to the Control condition (0.17 units for anger, $p = 0.05$, and 0.3 units for smugness, $p < 0.01$, one-tailed tests). This shows forecast emotional states are also felt now, which we note above may be part of the cognitive process by which individuals forecast future emotional states as guides for later behaviour.

[20]Anger reflection tasks, also called 'emotional recall' are the most commonly used method to experimentally induce anger in past work (see, for example, Phillips and Plutzer 2023; Valentino et al. 2011; Webster 2020).

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

Third, the Gloating Villain treatment's effects appear somewhat targeted at anger and smugness. There are no other statistically significant effects on current emotions in Table D2 (the next largest coefficient is 0.12 units for current guilt, $p = 0.08$, one-tailed test). The only statistically significant estimate for anticipated emotions following voting or not is that respondents report feeling more ashamed following voting (0.21 units [$p = 0.01$] but the effect on anticipated shame following not voting in Table D4 is only 0.01 units [$p = 0.46$], one-tailed tests). Individuals are also somewhat more guilty following voting (0.14 units [$p = 0.07$], one-tailed test). As we discussed above, we cannot rule out the possibility that the treatment affected other emotions that we do not measure, nor that some of these insignificant effects are also materially important. At the same time, among the emotions we do measure, the most likely alternative candidates for emotion effects we find in Experiment C are shame and guilt. But these are most activated by the Happy Hero treatment (see Experiment A and B), which does not increase turnout as much as the Gloating Villain treatment in the first field experiment.

Fourth, compared to the other anger-inducing treatments (Work Villain, Non-Political Anger, and Political Anger), the Gloating Villain is *not* the only treatment that can induce current or anticipated anger (following voting or not voting). Table D3 shows that the Political Anger reflection task increases current and forecast anger the most, while the Gloating Villain treatment increased anger more than the Non-Political Anger treatment. But the Gloating Villain treatment stands out compared to the other anger-inducing treatments because it also generates the highest level of anticipated smugness following voting (0.22 units [$p = 0.01$] compared to Non-Political Anger treatment, and 0.12 unit effect [$p = 0.12$] compared to the Political Anger treatment, one-tailed tests).[21] As we hypothesize above, a key element of harnessing anger for political action is likely linking voting to resolving that anger, perhaps by 'getting back at' a villain, making the feeling of smugness uniquely induced by the Gloating Villain treatment an important finding. Furthermore, even if the emotional reflection task is most effective at increasing anger in an online setting, this may be much more difficult to implement in the real world than the Gloating Villain treatment since it requires potential voters to contemplate and write down the things that anger them.

Cumulatively, these survey experiments highlight the targeted effect of the Gloating Villain treatment, relative to the other field experimental treatments, on anticipated anger. The Gloating Villain treatment also appears relatively effective in inducing anticipated feelings of smugness following voting. Given anger's hypothesized motivating effects, this means that the Gloating Villain treatment appears uniquely able to trigger anticipated anger and also to link the resolution of that anger to the act of voting (that is, voting changes anticipated levels of anger and results in feeling smug). Experiment C demonstrates the emotional effects of the Gloating Villain treatment relative to a control condition and also provides evidence that, compared to other anger-inducing treatments, the Gloating Villain message is more effective in inducing feelings of anticipated smugness following voting.

Discussion and Conclusion

Politics and political communications rely heavily on emotional appeals. Anger is a potentially powerful explanation for political behaviour, but isolating its causal force and measuring the relative effects of appeals channelling 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

[21]In Table D2, the Gloating Villain treatment also induced the highest level of current smugness.

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

outgroup member's 'gloating' at one having stayed home on Election Day will be particularly effective at channelling 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 three survey experiments to measure the effect of the treatments on respondents' current and anticipated emotions. This evidence shows that the Gloating Villain treatment has the hypothesized emotional effects: It induces the highest levels of anger among the four treatment conditions and also causes individuals to anticipate that voting, rather than staying home, will most reduce their future anger. Additionally, like the Foiled Villain condition, the Gloating Villain treatment makes people anticipate feeling smug following voting, a potential marker of schadenfreude. The third survey experiment shows the effects of the Gloating Villain treatment on anger and smugness arise relative to a control condition, and also that compared to other anger-inducing treatments, the Gloating Villain message is relatively distinct in its ability to generate anticipated smugness.

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, heretofore, has never been shown that it could be used outside of the lab or survey setting to generate temporally distant behavioural changes in turnout. 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 affect these 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 towards 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, when combined with a relevant targeted behavioural 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. This ability to create persistent behaviour 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 behavioural 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 (which could occur following the political anger reflection tasks we test in Experiment C), two alternative behavioural patterns might instead emerge. One is that anger could become anxiety, a potentially demobilizing emotion, because 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. Notably, most of our theorizing about anger focuses on its immediate effects, whereas less attention has been given to how anger shapes subsequent future behaviours.

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'

https://doi.org/10.1017/S0007123425000298 Published online by Cambridge University Press

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 (that is, our emotions personalize the choice to participate beyond an abstract choice). However, we can get back at them (feel smug) if we do vote.

In light of these findings and speculations, we note the 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 our first field experiment, we estimate that this intervention increases turnout by about 1 percentage point, which, if confirmed in subsequent experimentation, is a relatively large effect for a single mailer. 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. It would be valuable to test whether each treatment is robustly effective, especially as the 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 harness existing feelings by asking 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 communications do not. But it remains unresolved whether stronger emotional inducements would be more or less effective, as there may be an optimal amount of anger. 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 effect, undercutting treatment efficacy. This constitutes an important avenue for future study. More generally, these sorts of questions remain ripe for understanding how political communication can affect the decision to vote and participate in other ways through anticipated emotions.

Data availability statement. Replication data for this article can be found in Harvard Dataverse at: https://doi.org/10.7910/DVN/SOTDEV.

Acknowledgements. The authors gratefully acknowledge the helpful comments and suggestions by Ted Brader, John Dovidio, and the editor and reviewers.

Financial support. This data was collected with the financial support of the Institution for Social and Policy Studies and the Center for the Study of American Politics at Yale University.

Competing interests. None.

References

Aristotle (1926) Art of Rhetoric. In Freese JH (ed.), *Loeb Classical Library 193*, Cambridge, Massachusetts: Harvard University Press.

Aytaç S E and Stokes SC (2018) *Why Bother?: Rethinking Participation in Elections and Protests*. Cambridge, UK: Cambridge University Press.

Banks AJ (2014) The Public's Anger: White Racial Attitudes and Opinions Toward Health Care Reform. *Political Behaviour* **36**(3), 493–514.

Baumgartner H, Pieters R and Richard RP (2008) Future-Oriented Emotions: Conceptualization and Behavioural Effects. *European Journal of Social Psychology* **38**(4), 685–696.
Ben-Ze'ev A (2001) *The Subtlety of Emotions*. Cambridge, Massachusetts: MIT Press.
Brader T (2005) Striking a Responsive Chord: How Political Ads Motivate and Persuade Voters by Appealing to Emotions. *American Journal of Political Science* **49**(2), 388–405.
Carver CS and Harmon-Jones E (2009) Anger Is an Approach-Related Affect: Evidence and Implications. *Psychological Bulletin* **135**(2), 183–204.
Costa M, Frater HK, Barales-Lopez M, Bhalla N, Cho JJ, Christie KE, Jun C, Paul TC and Wagner EM (2022) Do Elite Appeals to Negative Partisanship Stimulate Citizen Engagement? *The Forum* **20**(1), 135–153.
Dellavigna D, List JA, Malmendier U and Rao G (2017) Voting to Tell Others. *The Review of Economic Studies* **84**(1), 143–181.
Druckman JN and Levendusky MS (2019) What Do We Measure When We Measure Affective Polarization? *Public Opinion Quarterly* **83**(1), 114–122.
Feil K, Weyland S, Fritsch J, Wäsche H and Jekauc D (2022) Anticipatory and Anticipated Emotions in Regular and Non-regular Exercisers – A Qualitative Study. *Frontiers in Psychology* **13**(929380), 1–15.
Frijda NH, Kuipers P and ter Schure E (1989) Relations among Emotion, Appraisal, and Emotional Action Readiness. *Journal of Personality and Social Psychology* **57**(2), 212–228.
Gerber AS, Green DP and Larimer CW (2008) Social Pressure and Voter Turnout: Evidence from a Large-Scale Field Experiment. *American Political Science Review* **102**(1), 33–48.
Gleicher F, Boninger DS, Strathman A, Armor D, Hetts J and Ahn M (1995) With an Eye Toward the Future: The Impact of Counterfactual Thinking on Affect, Attitudes, and Behaviour. In Roese NJ and Olson JM (eds), *What Might Have Been: The Social Psychology of Counterfactual Thinking*. New York: Psychology Press, pp. 283–304.
Groenendyk E (2011) Current Emotion Research in Political Science: How Emotions Help Democracy Overcome Its Collective Action Problem. *Emotion Review* **3**(4), 455–463.
Hoogland CE, Schurtz DR, Cooper CM, Combs DJY, Brown EG and Smith RH (2015) The Joy of Pain and the Pain of Joy: In-group Identification Predicts Schadenfreude and Gluckschmerz Following Rival Groups' Fortunes. *Motivation and Emotion* **39**(2), 260–281.
Huber GA, Gerber AS, Fang AH and Cho JJ (2025), Replication Data for: Field Experiments Invoking Gloating Villains to Increase Voter Participation: Anger, Anticipated Emotions, and Voting Turnout. https://doi.org/10.7910/DVN/SOTDEV, Harvard Dataverse, V1.
Huddy L, Feldman S and Cassese E (2008) On the Distinct Political Effects of Anxiety and Anger. In Marcus GE, Neuman WR and MacKuen M (eds), *The Affect Effect: Dynamics of Emotion in Political Thinking and Behaviour*. University of Chicago Press, pp. 202–230.
Iyengar S, Sood G and Lelkes Y (2012) Affect, Not Ideology: A Social Identity Perspective on Polarization. *Public Opinion Quarterly* **76**(3), 405–431.
Iyengar S and Krupenkin M (2018) The Strengthening of Partisan Affect. *Political Psychology* **39**(S1), 201–218.
Kingzette J (2021) Who Do You Loathe? Feelings toward Politicians vs. Ordinary People in the Opposing Party. *Journal of Experimental Political Science* **8**(1), 75–84.
Ladd LJ and Lenz GS (2008) Reassessing the Role of Anxiety in Vote Choice. *Political Psychology* **29**(2), 275–296.
Ladd JM and Lenz GS (2011) Does Anxiety Improve Voters' Decision Making? *Political Psychology* **32**(2), 347–361.
Litvak PM, Lerner JS, Tiedens LZ and Shonk K (2010) Fuel in the Fire: How Anger Impacts Judgment and Decision-Making. In Potegal M, Stemmler G and Spielberger C (eds), *International Handbook of Anger: Constituent and Concomitant Biological, Psychological, and Social Processes*. New York, NY: Springer, pp. 287–310.
Magni G (2017) It's the Emotions, Stupid! Anger about the Economic Crisis, Low Political Efficacy, and Support for Populist Parties. *Electoral Studies* **50**, 91–102.
Marcus GE and MacKuen MB (1993) Anxiety, Enthusiasm, and the Vote: The Emotional Underpinnings of Learning and Involvement During Presidential Campaigns. *American Political Science Review* **87**(3), 672–685.
Ouwerkerk JW, van Dijk WW, Vonkeman CC and Spears R (2018) When We Enjoy Bad News about Other Groups: A Social Identity Approach to out-Group Schadenfreude. *Group Processes & Intergroup Relations* **21**(1), 214–232.
Panagopoulos C (2010) Affect, Social Pressure and Prosocial Motivation: Field Experimental Evidence of the Mobilizing Effects of Pride, Shame and Publicizing Voting Behaviour. *Political Behaviour* **32**(3), 369–386.
Phillips JB and Plutzer E (2023) Reassessing the Effects of Emotions on Turnout. *The Journal of Politics* **85**(3), 1094–1106.
Rathje S, Van Bavel JJ and van der Linden S (2021) Out-Group Animosity Drives Engagement on Social Media. *Proceedings of the National Academy of Sciences* **118**(26), e2024292118.
Ryan TJ (2012) What Makes Us Click? Demonstrating Incentives for Angry Discourse with Digital-Age Field Experiments. *The Journal of Politics* **74**(4), 1138–1152.
Schuessler AA (2000) *A Logic of Expressive Choice*. Princeton, NJ: Princeton University Press.
Smith RH and van Dijk WW (2018) Schadenfreude and Gluckschmerz. *Emotion Review* **10**(4), 293–304.

Valentino NA, Gregorowicz K and Groenendyk EW (2009) Efficacy, Emotions and the Habit of Participation. *Political Behaviour* **31**(3), 307–330.
Valentino NA, Brader T, Groenendyk EW, Gregorowicz K and Hutchings VL (2011) Election Night's Alright for Fighting: The Role of Emotions in Political Participation. *The Journal of Politics* **73**(1), 156–170.
Valentino NA, Hutchings VL, Banks AJ and Davis AK (2008) Is a Worried Citizen a Good Citizen? Emotions, Political Information Seeking, and Learning via the Internet. *Political Psychology* **29**(2), 247–273.
Vasilopoulos P, Marcus GE, Valentino NA and Foucault M (2019) Fear, Anger, and Voting for the Far Right: Evidence From the November 13, 2015 Paris Terror Attacks. *Political Psychology* **40**(4), 679–704.
Wang C-H (2013) Why Do People Vote? Rationality or Emotion. *International Political Science Review* **34**(5), 483–501.
Watson D (2009) Locating Anger in the Hierarchical Structure of Affect: Comment on Carver and Harmon-Jones. *Psychological Bulletin* **135**(2), 205–208.
Weber C (2013) Emotions, Campaigns, and Political Participation. *Political Research Quarterly* **66**(2), 414–428.
Webster SW (2020) *American Rage: How Anger Shapes Our Politics*. Cambridge, UK: Cambridge University Press.
Webster SW, Glynn AN and Motta MP (2024) Partisan Schadenfreude and Candidate Cruelty. *Political Psychology* **45**(2), 259–277.
Webster SW, Connors EC and Sinclair B (2022) The Social Consequences of Political Anger. *The Journal of Politics* **84**(3), 1292–1305.
Weisbuch M and Ambady N (2008) Affective Divergence: Automatic Responses to Others' Emotions Depend on Group Membership. *Journal of Personality and Social Psychology* **95**(5), 1063–1079.
Wilson TD and Gilbert DT (2003) Affective forecasting. *Advances in Experimental Social Psychology* **35**(35), 345–411.

Cite this article: Huber GA, Gerber AS, Fang AH, and Cho JJ (2025) Field Experiments Invoking Gloating Villains to Increase Voter Participation: Anger, Anticipated Emotions, and Voting Turnout. *British Journal of Political Science* 1–22. https://doi.org/10.1017/S0007123425000298